A WORLD CATALOGUE OF CHIRONOMIDAE (DIPTERA)
PART 4. FOSSIL CHIRONOMIDAE

Patrick J. Ashe, Declan A. Murray & James P. O'Connor

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Front and back covers

The illustrations used on the front and back covers show *Eoriethia ursipes* Giłka, Zakrzewska & Andersen in Eocene Baltic amber (Gulf of Gdańsk, Poland) from the collection of Christel and Hans Werner Hoffeins (CCHH) of Hamburg, Germany. The new species was described in Zakrzewska, M., Andersen, T. & Giłka W. (2023) Mimes of the past: Eocene midges of the tribe Pseudochironomini (Chironomidae, Diptera) reveal their peculiarities. *PLoS ONE* **18**(12): e0295841. <https://doi.org/10.1371/journal.pone.0295841>

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Frontispiece

Dr Patrick (Paddy) Ashe
1954-2022

A WORLD CATALOGUE OF CHIRONOMIDAE (DIPTERA)
PART 4. FOSSIL CHIRONOMIDAE

by

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PREFACE

At the beginning of the present millennium Patrick Ashe conceived the idea of compiling *A World Catalogue of Chironomidae* (*Diptera*) to complement his earlier published work *A catalogue of chironomid genera and subgenera of the world including synomyms* (Ashe, 1983) that had been part of his doctoral studies in University College Dublin mentored by D. A. Murray (Ashe, 1979). He later co-authored the Family Chironomidae chapter in the *Catalogue of Palaearctic Diptera* with his colleague, Peter Cranston (Ashe and Cranston, 1990). Patrick envisaged that the new comprehensive World Catalogue could be published in five parts: **Part 1** to deal with genera and species in the nine Subfamilies Buchonomyiinae, Chilenomyiinae, Podonominae, Aphroteniinae, Tanypodinae, Usambaromyiinae, Diamesinae, Prodiamesinae and Telmatogetoninae; **Part 2**, dealing with the Subfamily Orthocladiinae, **Part 3**, with the Subfamily Chironominae, **Part 4** with fossil Chironomidae and **Part 5** Supplement with a summary of Parts 1 – 4 and a cumulative Taxonomic Index.

In collaboration with James P. O'Connor, Part 1 of the catalogue was completed in 2009 (Ashe and O'Connor, 2009) and Part 2 in 2012 (Ashe and O'Connor, 2012). In the introduction section of Part 2 a revised time frame for completion of the remaining volumes was proposed and that the volume dealing with fossil Chironomidae, Part 4, would be published before Part 3. In the years following publication of Part 2 unavoidable delays hindered progress in this work, further impeded by the COVID pandemic. Prior to October 2021 Patrick had continued to gather background taxonomic information and draft sections of text for Parts 3 and 4 of the *World Catalogue.* Regrettably Patrick became ill in the autumn of 2021, was hospitalised in December that year and sadly he died six months later on 19 June 2022.

In the weeks prior to his untimely death, realising he would be unable to complete the Catalogue but aware of the scientific value of the taxonomic data he had assembled for the remaining volumes, he expressed a wish (to DM) that the data be made available for the chironomid research community and that, at least, his work on the fossil volume be published. Following his passing in June 2022, with the kind cooperation of the Ashe family, particularly his brother Fergus, the authors were given access to Patrick's computer, files and documents in his home office. Draft versions of sections of text, in printed and electronic format, that he had prepared for the fossil volume were located. The authors have compiled Part 4 of the catalogue from these files. It has been a demanding task, as neither author considers themselves specialists on fossil chironomids. We acknowledge there may be some inadvertent errors but publication of this work will make available the important information assembled by Patrick during his years of intense and diligent research on the Chironomidae.

D. A. Murray & J. P. O'Connor, 31 July 2024

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Abstract

Nomenclature and distribution information is provided for 343 species-level fossil taxa of Chironomidae as Part 4 of "A World Catalogue of Chironomidae (Insecta: Diptera)". Details are given for 190 species-level taxa (151 described and 39 undescribed) in 107 genera (46 fossil and 61 extant) in ten of the thirteen recognized subfamilies. Because of uncertain subfamily assignment an additional 153 species-level fossil taxa (149 described and 4 undescribed) in 58 genera (47 fossil, 11 extant) are treated as "Unplaced fossil Chironomidae". Two subfamilies †Aenneinae (5 spp.) and †Cretodiamesinae (1 sp.) are known as fossil taxa only. Fossil species are recognised in eight extant subfamilies: Buchonomyiinae (4 spp.), Aphroteniinae (1 sp.), Podonominae (28 spp.), Tanypodinae (27 spp.), Diamesinae (5 spp.), Prodiamesinae (6 spp.), Orthocladiinae (47 spp.) and Chironominae (56 spp.). Four valid fossil genera (10 spp.) are treated as †*incertae sedis* since available information for subfamily placement is inadequate. Fossil species are thus far unknown in the subfamilies, Chilenomyiinae, Telmatogetoninae and Usambaromyiinae. Location details for known fossil species types, as cited in original publications, are given by zoogeographical region. A comprehensive bibliography of relevant publications is provided with actual dates of publication where possible. The year of first publication for some genera and species is amended.

Key words: World, Catalogue, fossil, Diptera, Chironomidae.

Abreviations: † = fossil taxon; Mya = million years ago; Ma = mega anum (one million years); Superscript ^{PA} = comment by the late Patrick Ashe; Superscript ^{DM} = comment by D. Murray; Superscript ^{HT} = personal comment to P. Ashe by Hong-Qu Tang; ~ = approximately; sp. = species (singular); spp. = species (plural).

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Introduction

The Chironomidae (non-biting midges) is a species-rich family of dipteran insects with a cosmopolitan distributution. More than 7,500 species, extant and fossil, are recognised in over 500 genera (Gilka *et al*., 2022), but many species remain undescribed as Cranston (1995) estimated that there are likely to be more than 10,000 species. The immature stages of most species occur in freshwater and, to a lesser extent, in moist semi terrestrial habitats and in brackish and marine coastal waters (Pinder, 1995). The majority of larvae are detritus feeders and play a significant role in breakdown of organic matter and nutrient recycling. A minority of species have larvae that are carnivorous. Chironomids are a source of food, in their different life cycle stages, for a variety of predators in aquatic and some terrestrial habitats (Berg, 1995). Larvae and pupae form a link in aquatic ecosystem food chains between primary producers and fish, amphibians and ultimately human consumers. Adult chironomids on the wing are consumed by birds and bats.

Larvae of different species exhibit adaptation to a range of pH, oxygen saturation, temperature and salinity conditions that makes possible their occupation of a variety of ecological habitats and niches governed by prevailing biotic and abiotic environmental parameters. While some species require pristine conditions for survival and may rapidly succumb to harsh environments, others can tolerate varying degrees of environmental stress. Consequently, assessments of the composition of chironomid communities are frequently undertaken to ascertain present day aquatic environmental conditions (Lindegaard, 1995).

Studies on fossil Chironomidae yield practical additional information on palaeoenvironmental conditions in various geochronological phases of the Earth's history (Schlee and Glockner, 1978; Wichard and Weitschat, 1996; Grund, 2006; Stebner *et al*., 2017; Peñalver *et al*., 2022).

Chironomidae and Geochronology

Chironomidae are abundant in the fossil record and have been found in geologic deposits from the Upper Triassic Epoch up to more recent Pleistocene times. To facilitate comprehension of the terminology applied to various periods in time in which fossils of Chironomidae have been documented during Earth's history, an outline of the geochronological glossary, as defined by the International Commission on Stratigraphy, is given in Tables 1 and 2 with age ranges in millions of years (Mya) based on the *Fossil Works* International Chronostratigraphic Chart (Cohen *et al*., 2013) and the IUGS chart v2023/09 (<http://www.fossilworks.org> accessed April 2024). Expressions such as "Upper" or "Late" and "Lower" or "Early" are commonly used in reference to "older" or "younger" chronological periods respectively of the Earth's history. The terms may be used interchangeably, occasionally causing confusion in comprehension of individual geological time periods. For example, the Cretaceous Period spans

a time-scale of approximately 80 million years and two chronological divisions of the Cretaceous are recognized: the "older" division, dated at ~145 - 100 Mya, may be termed "Lower Cretaceous Period" or, alternatively, "Early Cretaceous Period". Likewise, the more recent division, from ~66 - 100 Mya, may be termed the "Upper Cretaceous Period" or the "Late Cretaceous Period". Similarly, the Triassic Period division from 201 - 242 Mya, may be termed "Upper Triassic" or "Late Triassic". The terms "Lower" and "Upper" are used throughout this catalogue following protocol of the International Chronostratigraphic Chart of the International Union of Geological Sciences (Cohen *et al*., 2013). Many fossil records are documented by named "Interval" or "Stage" subdivisions within Periods, such as "Late Rhaetian" in the Upper Triassic Period, or "Early Barremian" in the Lower Cretaceous Period and these interval/stage divisions are shown in Tables 2a and 2b.

TABLE 1. Time scale of Earth's geological Periods, Eochs and ages/duration in the Palaeozoic, Mesozoic and Caenozoic Eras based on the International Commission on Stratigraphy Chronostratigraphic Chart, v 2022/10.

ERA	**Period**	**Epoch**	**Age (Mya)**
CAENOZOIC	Quarternary	Holocene	0 - 0.0117
		Pleistocene	0.0117 - 2.58
	Neogene	Pliocene	2.58 - 5.33
		Miocene	5.33 - 23.03
	Palaeogene	Oligocene	23.03 - 33.90
		Eocene	33.9 - 56.20
		Palaeocene	56.2 - 66.0
MESOZOIC	Cretaceous	Upper	66.0 - 100.5
		Lower	100.5 - 145.0
	Jurassic	Upper	145.0 - 161.5
		Middle	161.5 - 174.7
		Lower	174.7 - 201.4
	Triassic	Upper	201.4 - 237.0
		Middle	237.0 - 247.2
		Lower	247.2 - 251.9
PALAEOZOIC	Permian	Upper	251.9 - 259.5
		Middle	259.5 - 273.6
		Lower	273.6 - 298.9
	Carboniferous		298.9 - 360.0

TABLE 2a. Time scale of Caenozoic Era Geological Periods, Epochs, named stages, Divisions and age span based on the International Commission on Stratigraphy Chronostratigraphic Chart, v 2022/10.

ERA	PERIOD	Epoch	Stage	Division	Age (Mya)
CAENOZOIC	**Quarternary**	Holocene	Present		Present
		Holocene	Meghalayan	Upper	00 - 0.0042
		Holocene	Northgrippian	Mid	0.0042 - 0.0082
		Holocene	Greenlandian	Lower	0.0082 - 0.0117
		Pleistocene	Tarantian	Upper	0.0117 - 0.129
		Pleistocene	Chibanan	Mid	0.129 - 0.774
		Pleistocene	Calabrian	Mid	0.774 - 1.80
		Pleistocene	Gelasian	Lower	1.8 - 2.58
	Neogene	Pliocene	Piacenzian	Upper	2.58 - 3.6
		Pliocene	Zanclean	Lower	3.6 - 5.33
		Miocene	Messinian	Upper	5.33 - 7.24
		Miocene	Tortonian	Upper	7.24 - 11.63
		Miocene	Serravallian	Mid	11.63 - 13.82
		Miocene	Langhian	Mid	13.82 - 15.97
		Miocene	Burdigalian	Lower	15.97 - 20.44
		Miocene	Aquitanian	Lower	20.43 - 23.03
	Palaeogene	Oligocene	Chattian	Upper	23.03 - 27.82
		Oligocene	Rupelian	Lower	27.82 - 33.9
		Eocene	Priabonian	Upper	33.9 - 37.71
		Eocene	Bartonian	Mid	37.71 - 41.2
		Eocene	Lutenian	Mid	41.2 - 47.8
		Eocene	Ypresian	Lower	47.8 - 56.0
		Palaeocene	Thanetian	Upper	56.0 - 59.2
		Palaeocene	Selandian	Mid	59.2 - 61.6
		Palaeocene	Danian	Lower	61.6 - 66.0

TABLE 2b. Time scale of Mesozoic Era geological Periods, Epochs, named Stages, Divisions and age span based on the International Commission on Stratigraphy Chronostratigraphic Chart, v 2022/10.

ERA	PERIOD	Epoch	Stage	Division	Age (Mya)
MESOZOIC	Cretaceous	Upper	Maastrichian	Upper	66.0 - 72.1
		Upper	Campanian	Upper	72.1 - 83.6
		Upper	Santonian	Upper	83.6 - 86.3
		Upper	Coniacian	Upper	86.3 - 89.8
		Upper	Turonian	Upper	89.8 - 93.9
		Upper	Cenomanian	Upper	93.9 - 100.5
		Lower	Albian	Lower	100.5 - 113.0
		Lower	Aptian	Lower	113 - 121.4
		Lower	Barremian	Lower	121.4 - 129.4
		Lower	Hauterivian	Lower	129.4 - 132.6
		Lower	Valanginian	Lower	132.6 - 139.8
		Lower	Berriasian	Lower	139.8 - 145.0
	Jurassic	Upper	Tithonian	Upper	145.0 - 149.2
		Upper	Kimmeridgian	Upper	149.2 - 154.8
		Upper	Oxfordian	Upper	154.8 - 161.5
		Mid	Callovian	Mid	163.5 - 166.1
		Mid	Bathonian	Mid	161.5 - 165.3
		Mid	Bajocian	Mid	165.3 - 170.9
		Mid	Aalenian	Mid	170.9 - 174.7
		Lower	Toarcian	Lower	174.7 - 184.2
		Lower	Pilensbachian	Lower	184.2 - 192.9
		Lower	Sinemurian	Lower	192.9 - 199.5
		Lower	Hettangian	Lower	199.5 - 201.4
	Triassic	Upper	Rhaetian	Upper	201.4 - 208.5
		Upper	Norian	Upper	208.5 - 227.0
		Upper	Carnian	Upper	227.0 - 23.07
		Mid	Ladinian	Mid	237.0 - 242.0
		Mid	Anisian	Mid	242.0 - 247.2
		Lower	Olenekian	Lower	247.2 - 251.2
		Lower	Induan	Lower	251.2 - 254.1

Chironomidae in the fossil record

Fossils of multicellular organisms occur in Palaeozioc Era sedimentary deposits from 600 Mya but the first fossils of primitive ectognathous wingless hexapod insects are reported from the more recent Palaeozoic Era, during the Silurian/Devonian Period, 396 - 407 Mya, from records of some Collembola and Dipleura by Engel and Grimaldi (2004). The subsequent evolution of wings was a major advancement contributing to the success of insects and

Krzemiński and Evenhuis (2000) suggested that the two winged Diptera evolved during the Permian Period, 252 - 298 Mya. In studies of fossil insects prior to the mid 1980s, the oldest dipteran fossils were documented from the the Upper Triassic (201.3 - 208.5 Mya) in Australia and North America (Krzemiński, 1992). The fossil dipteran Diachineuran species *Grauvogelia arzvilleriana* described by Krzemiński *et al*. (1994) from 'Gres a Voltzia'sedimentary deposits of the Vosges Mountain Range, France, was later acknowledged as "the oldest undisputed record of a fossil dipteran" from *circa* 240 Mya during the Middle Triassic Period of the Mesozoic Era. Adults of an additional five species were later described from the same fossil series by Krzemiński and Krzemińska (2003) as well as culicomorphan larvae and pupae that were described by Lukashevich *et al*. (2010). Fossil larval, nymphal or pupal stages that provide supplementary information on insect evolution are not uncommon in the fossil record. Evidence of an earlier origin of dipteran insects was recently provided by Peñalver *et al*. (2022) from their discovery of exceptionally well preserved fossil larvae with features of the extant Family Anisopodidae (Diptera, Nematocera) described as *Protoanisolarva juarezi* Peñalver *et al*. from Lower/Mid Triassic Period (~247.2 - 251.2 Mya) sedimentary deposits at Mallorca.

In the same Mallorcan fossil series an ootaxon egg-cluster of *Clavapartus latus* was described, with the comment that "it is likely to have been produced by chironomids" (Peñalver *et al.*, loc. cit.). This observation indicates a presence of chironomids in the dipteran fauna during the Anisian Stage of the Middle Triassic Epoch (~247 - 251 Mya). Ashe and O'Connor (2012) had suggested that "the Chironomidae evolved during the Mesozoic Era, in the Lower Epoch of the Triassic Period, 245 - 250 Mya, possibly associated with favourable conditions in the aftermath of the Permian - Triassic extinction event (circa 252 Mya)" and they did not rule out a possible even earlier origin in the Upper Permian Period of the Palaeozoic Era. The oldest definitively known fossil chironomid species is *Aenne triassica* Krzemiński & Jarzembowski discovered in Mesozoic Era, Upper Triassic Rhaetian Stage (201.3 - 208.5 Mya), limestone compression fossils at Glostershire, England (Krzemiński and Jarzembowskii, 1999). Fossils of Chironomidae are documented throughout the following Mezozoic Era, Jurassic (145.0 – 201.3 Mya) and Cretaceous (66.0 - 145.0 Mya) Periods, and in Caenozoic Era Palaeogene (23.03 - 55.0 Mya), Neogene (2.58 - 23.03 Mya) and Quarternary (0.00 - 2.58 Mya) Periods but are particularly abundant during the Palaeogene Eocene Epoch (33.9 - 56.0 Mya).

Outline of the catalogue

As Part 4 of a "*World Catalogue of Chironomidae* (*Diptera*)" this volume provides information on the known species-level fossil Chironomidae, assigned to fossil and extant genera, that has been compiled from a review of published work. The late Patrick Ashe assembled the bulk of the information prior to November 2021 but some additional data is added from more recent publications [DM]. The catalogue contains nomenclature and distribution

information for 343 species-level fossil taxa, arranged in two categories, designated as "Placed" for taxa assigned to subfamily and as "Unplaced" for fossil Chironomidae with uncertain subfamily pacement.

Details are given for 190 species-level taxa in 107 genera (46 fossil and 61 extant) that are "placed" in ten of the thirteen recognized subfamilies of Chironomidae, 151 of these species are described and 39 are recognised as valid undescribed species-level taxa. For taxa in the Unplaced fossil category details are given of 153 species-level taxa (149 described, 4 undescribed) in 58 genera (47 fossil, 11 extant). These taxa are treated as valid in many fossil works and, since type material exists in most cases, they are not regarded as *nomina dubia* and are retained in the genera to which they were originally, or subsequently, assigned.

Records of other taxa, family, subfamily, tribe, genera, species or species groups that are synonyms, nomina dubia, invalid or unavailable are listed separately and are not included in numerical tabulations. Some fossil taxa originally believed to belong to, or be closely related, to Chironomidae (with a chironomid nomenclatural suffix such as *– tendipes*, e.g. *Architendipes* Rohdendorf) are excluded from tabulations. The status of these taxa, and family to which they most likely belong, is noted where possible. Some records of chironomids in Copal (recent fossil resin from tropical trees) or as larval pseudofossil taxa, from palaeolimnological studies of lake sediments deposited during the last 15,000 years are given but are not included in numerical tabulations, although some taxa have been formally named from subfossil remains in the genus *Corynocera* Zetterstedt

A numerical summary of fossil taxa in the ten of the 13 currently recognized subfamilies of Chironomidae treated in the catalogue is given in (Table 3). With the numbers of genera and species-level fossil taxa in parentheses, these subfamilies are: †Aenneinae (2, 5), Buchonomyiinae (3, 4), Aphroteniinae (1, 1), Podonominae (8, 28), Tanypodinae (16, 27), †Cretodiamesinae (1, 1), Diamesinae (4, 5), Prodiamesinae (5, 6), Orthocladiinae (35, 47) and Chironominae (26, 56). Four valid fossil genera, †*Haematotanypus* (1 sp.), †*Jurochlus* (6 spp.), †*Langtonius* (1 sp.) and †*Libanochletes* (2 spp.) share character states with the subfamilies Podonominae or Tanypodinae and these are treated as Subfamily *Incertae sedis* (4, 10) at subfamily level. The subfamily †Cretodiamesinae Kalugina was recently proposed in Ashe *et al*. (2018) for the tribe †Cretodiamesini Kalugina, originally assigned to the subfamily Diamesinae for the monotypic †*Cretodiamesa taimyrica* Kalugina (Kalugina, 1976). Since the status of the subfamily †Ulaiinae (Kalugina, 1993) is considered uncertain (it may be a senior synonym of †Aenneinae) it is treated here as nomen dubium while the four genera †*Ulaia* with five species and the three monotypic genera †*Ulaimailia*, †*Ulaimailonia* and †*Ulaimailoniella* are treated as valid unplaced Chironomidae and included in numerical tabulations of the unplaced fossil taxa in Table 3. There are no fossil records for three subfamilies, Chilenomyiinae, Usambaromyiinae

and Telmatogetoninae, but it is possibile that the inadequately described genus †*Bythomyia* Zhang 1989, treated here as "unplaced", may belong to the Telmatogetoninae.

TABLE 3. Numbers of extant and fossil genera and named and unnamed fossil-level species of Chironomidae in Subfamilies and corresponding total numbers of "unplaced fossil taxa" and the combined overall total number of fossil taxa.

		Genera			**Species**		
Subfamily		**Extant**	**Fossil**	**Total**	**Named**	**Unnamed**	**Total**
†Aenneinae			2	2	5		5
Buchonomyiinae		1	2	3	4		4
Aphroteniinae			1	1	1		1
Podonominae		1	7	8	28		28
†*Insertae Sedis*			4	4	10		10
Tanypodinae		10	6	16	16	11	27
†Cretodiamesinae			1	1	1		1
Diamesinae		4	1	5	4	1	5
Prodiamesinae		2	3	5	6		6
Orthocladiinae		26	9	35	35	12	47
Chironominae		16	10	26	41	15	56
Placed taxa Total		61	46	107	151	39	190
Unplaced taxa Total		11	47	58	149	4	153
Overall Total		**72**	**93**	**165**	**300**	**43**	**343**

Zoogeography and Geochronology of fossil Chironomidae

The majority of the 343 records documented in this catalogue are of species-level fossil taxa reported from the Palaearctic Region in which there are records of 285 taxa (Table 4). From the total of 151 taxa assigned to subfamilies there are varying numbers in each of ten subfamilies and in the artificial taxon *Incertae sedis*. The remaining 134 records from the Palaearctic Region are listed as "unplaced". Most records of fossil taxa are for the Orthocladiinae (44) with decreasing numbers in the Chironominae (35), Podonominae (27) and Tanypodinae (17) while there are fewer than six in each of the remaining subfamilies. Thus far there are records of 22 fossil taxa from the Nearctic Region, 16 in the Oriental Region, 15 in the Neotropical Region and 6 in the Australian Region. Records from the Neotropical Region have been recently augmented from investigations in southern Argentina (Vera *et al*., 2023).

Chironomid fossil taxa have been documented in different phases of the Earth's dynamic geochronological history for more than 200 million years. Details of these records are given in the main catalogue and an introductory outline is given below, summarized by subfamily in

Tables 5 – 11 for fossil taxa placed in subfamilies and in Table 12 for the unplaced fossil taxa. Following each subfamily heading the numbers of genera (in bold font) and species are given in parentheses and, where species morphotypes are recognised, numbers are included preceded by the + symbol.These tables provide a synopsis of entries in the catalogue and facilitate association of geological age and zoogeographic region with incidence of documented fossil taxa.

TABLE 4. Numbers of species-level fossil taxa of Chironomidae recorded in five Zoogeographic Regions

Subfamily	**NT**	**NE**	**PA**	**OR**	**AU**	**Tot**
†Aenneinae			5	0		5
Buchonomyiinae			2	2		4
Aphroteniinae			1			1
Podonominae			27	1		28
†*Incertae Sedis*			10			10
Tanypodinae	4	2	17		4	27
†Cretodiamesinae			1			1
Diamesinae	1	1	3			5
Prodiamesinae			6			6
Orthocladiinae	2		44	1		47
Chironominae	7	4	35	9	1	56
Placed species total	14	7	151	13	5	190
Unplaced species total	1	14	134	3	1	153
Overall Total	**15**	**21**	**285**	**16**	**6**	**343**

Subfamily †AENNEINAE

The Subfamily †Aenneinae, considered the basal subfamily and sister-group of the remaining Chironomidae, is known from five fossil species described in two fossil genera in the Palaearctic Region - †*Aenne,* with two species and †*Cretaenne* with three species (Table 5). The subfamily was established for the species †*Aenne lasina* Ansorge, described from Lower Jurassic Torcian clays (174.1 - 182.7 Mya) from the vicinity of Grimmen, Pomerania, Germany (Ansorge, 1999). However, a second species, †*A. triassica* Krzemiński & Jarzembowski, described from compression fossils discovered at Gloucestershire, United Kingdom that were formed during the Rhaetian Stage of the Upper Triassic Period (201.3 - 208.5 Mya.), is the oldest known representative of the family Chironomidae (Krzemiński and Jarzembowski, 1999). More recent fossil records of †*Cretaenne rasnicyni* Lukashevich & Przhiboro (Upper Jurassic, ~145 - 152 Mya) are also recognized from compression wing fossils while †*C. kobeyssii* Azar,

Veltz & Nel and †*C. inexpectata* Azar, Veltz & Nel, are known from adults preserved in Lower Cretaceous Lebanese amber, ~125.0 - 129 Mya. (Azar, Veltz and Nel, 2008). According to Cranston (cited in Grimaldi and Engel, 2005: 504), †*A. lasina* had biting mandibles. Additional fossils are known from Lebanese amber inclusions and Azar and Nel (2010: 198) noted that at least nine taxa, genera and species, of †Aenneinae are undescribed.

TABLE 5. Subfamilies †Aenneinae, Buchonomyiinae and Aphroteniinae: Geochronological and Zoogeographical Region occurrence of fossil taxa (abbreviations - U =Upper, M = Middle, L = Lower).

SUBFAMILY Genus, species	**Period**	**Stage**	**Age (Mya)**	**Region**
†AENNEINAE (**2,** 5)				
†AENNE				
†liasina	Jurassic (L)	Toarcian	174.1 - 182.7	PA
†triassica	Triassic (U)	Rhaetian	201.3 - 208.5	PA
†CRETAENNE				
†inexpectata	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†kobeyssii	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†rasnicyni	Jurassic (U)	Tithonian	145.0 - 152.1	PA
BUCHONOMYIINAE (**3,** 4)				
BUCHONOMYIA				
†succinea	Eocene (U)	Preabonian	33.9 - 40.0	PA
†DUNGEYELLA				
†gavini	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†FURCOBUCHONOMYIA				
†pankowskii	Cretaceous (U)	Cenomian	98.17 - 99.41	OR
†saetheri	Cretaceous (U)	Cenomian	98.17 - 99.41	OR
APHROTENIINAE (**1,** 1)				
†ELECTROTENIA				
†brundini	Cretaceous (U)	Santonian	83.6 - 86.3	PA

Subfamily BUCHONOMYIINAE

Three genera are known in the subfamily Buchonomyiinae (Table 5), the fossil genus †*Dungeyella* Jarzembowski, Azar & Nel with one species in Palaearctic Lower Cretaceous Wealden amber (125 - 129.4 Mya.) and †*Furcobuchonomyia* Baranov, Góral & Ross, with two species in Oriental Upper Cretaceous Burmese amber (99.4 - 129.41 Mya). In the extant genus *Buchonomyia* Fittkau, one fossil species, †*Buchonomyia succinea* Seredszus & Wichard, is known from Palaearctic Eocene Baltic amber (33.9 - 40 Mya) and three extant species are known - *B. thienemanni* Fittkau (Palaearctic Region), *B. burmanica* Brundin & Sæther (Oriental Region) and *B. brundini* Andersen & Sæther (Neotropical Region).

Based on molecular evidence Cranston *et al*. (2012) suggested that the Buchonomyiinae may have diverged from other Chironomidae during the Mesozoic Era, about 227 - 237 Mya, in the Carnian Stage of the Upper Triassic Epoch. With such a long and continuous history it is reasonable to speculate that the subfamily was likely to have had a broader distribution in the past and it is to be expected that additional fossil discoveries may be discovered and records would not be surprising from the Nearctic, Afrotropical and Australasian Regions.

All stages of the extant *B. thienemanni* are known and described - egg-mass and eggs (Ashe and Murray, 1983), 1st instar larva (Ashe, 1986), 4th instar larva (Ashe, 1995; Cranston and Ashe, 2013), pupa (Murray and Ashe, 1981), adult male (Fittkau, 1955) and adult female (Murray and Ashe, 1986). Immatures of *B. thienemanni* occur in the middle to lower courses of streams and large rivers where larvae are almost certainly ectoparasitic on Trichoptera (Ashe, 1995; Ashe and O'Connor, 2002). A similar ecology in the Eocene of Europe could be suggested for the fossil †*B. succinea*.

Subfamily APHROTENIINAE

Two tribes are recognized in the Aphroteniinae, the monotypic fossil tribe †Electroteniini with one genus and species, †*Electrotenia brundini* Kalugina (Table 5) known from Palaearctic Region Upper Cretaceous (83.6 - 86.3 Mya) amber inclusions in the Taimyr Peninsula of northern Siberia (Kalugina, 1980), and the extant tribe Aphroteniini (no fossil taxa) with three genera and eight species. Since extant taxa are distributed in southern continents (formerly part of Gondwana) in the Neotropical (Argentina, Chile), Afrotropical (South Africa) and Australasian (Australia) Zoogeographic Regions (Ashe and O'Connor, 2009) it is likely that geochrolological studies on deposits in these regions will yield records of fossil Aphroteniinae.

Subfamily CHILENOMYIINAE

Fossil species are unknown in the Subfamily Chilenomyiinae (Brundin 1983), which is represented by one extant genus with a single included species, *Chilenomyia paradoxa* Brundin from Chile in the southern Neotropical Region.

Subfamily PODONOMINAE

Fossils of 28 species in eight genera, seven of which are fossil genera, are known in the Subfamily Podonominae (Table 6). Twenty six species are described in the seven fossil genera while two fossil species, placed in the extant genus *Lasiodiamesa*, are known from Eocene

TABLE 6. Subfamiliy Podonominae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age (Mya)	Region
PODONOMINAE (**8,** 28)				
†BURMOCHLUS				
†madmaxi	Cretaceous (U)	Cenomanian	98.17 - 99.41	OR
†GLUSHKOVELLA				
†pallida	Jurassic (U)	Tithonian	145.0 - 152.1	PA
LASIODIAMESA				
†eocenica	Eocene (U)	Preabonian	33.9 - 40.0	PA
†sinefoliis	Eocene (U)	Preabonian	33.9 - 40.0	PA
†LUANPINGITES				
†flavus	Jurassic (M/U)	Oxford/Callovian	157.3 - 166.1	PA
†ORYCTOCHLUS				
†affinis	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
†brundini	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†contiguus	Cretaceous (L)	Aptian	113 - 121.4	PA
†kaluginae	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†longilobus	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
†minor	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
†minutus	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
†mirificus	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†placidus	Cretaceous (L)	Hauterivian	129.4 - 132.9	PA
?†toarciensis	Jurassic (L)	Toarcian	174.1 - 182.7	PA
†vulcanus	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
†PALAEOBOREOCHLUS				
†inornatus	Eocene (U)	Preabonian	33.9 - 40.0	PA
†PARABOREOCHLUS				
†bisaetiger	Eocene (U)	Preabonian	33.9 - 40.0	PA
†PODONOMIUS				
†blepharis	Jurassic (U)	Kimm/Oxford	151.2 - 164.5	PA
†macromastix	Jurassic (U)	Kimm/Oxford	151.2 - 164.5	PA
?†minimus	Jurassic (M)	Bathonian/Bajocian	166.1 - 170.3	PA
?†robustus	Jurassic (U)	Kimm/Oxford	152.1 - 163.5	PA
?†rotundatus	Jurassic (M)	Bathonian/Bajocian	166.1 - 170.3	PA

TABLE 6 (Continued). Subfamiliy Podonominae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

?†simplex	Jurassic (M)	Bathonian/Bajocian	166.1 - 170.3	PA
†splendidus	Jurassic (U)	Oxfordian	152.1 - 163.5	PA
†tugnuicus	Jurassic (U)	Oxfordian	152.1 - 163.5	PA
†tumidus	Jurassic (L)	Toarcian	174.1 - 182.7	PA
?†undulatus	Jurassic (M)	Bathonian/Bajocian	166.1 - 170.3	PA

Baltic Amber inclusions (~33.9 - 40.0 Mya), †*L. eocenica* Seredszus & Wichard and †*L. sinefoliss* Seredszus & Wichard. The earliest records, †*Oryctochlus toarciensis* Ansorge and †*Podonomius tumidus* Ansorge, are documented as compression fossils in the Lower Jurassic, Torcian Stage (~174 - 183 Mya) of the Mesozoic Era (Ansorge, 1999). Other species are documented from successive epochs from the Mesozoic Era to the Eocene Epoch in the Palaeogene Period of the Caenozoic Era. Twenty one fossil species are documented from the Jurassic Period, two in the Lower Jurassic, four in the Mid Jurassic and fifteen in the Upper Jurassic. Apart from the monotypic †*Burmochlus* (†*B. madmaxi* Giłka, Zakrzewska & Makarchenko), in Oriental Region Upper Cretaceous, Cenomanian Stage, Burmese amber (~98 - 99 Mya) (Gilka *et al*., 2019), other fossil Podonomine records are from the Palaearctic Region.

Subfamily TANYPODINAE

Records of 27 species-level fossil taxa are documented in the Subfamily Tanypodinae, 16 described and 11 undescribed, placed in 16 genera, eleven extant and five fossil (Table 7). The earliest records of Tanypodinae are from the Barremian Stage, Mesozoic Era, Lower Cretaceous Period (~100 - 145 Mya) in Palaearctic Lebanese amber in which four species are described, one each in the fossil genera †*Cretapelopia*, †*Libanopelopia*, †*Wadelius* and †*Ziadeus* (Veltz, Azar and Nel (2007). One species in the fifth fossil genus, †*Eoprocladius* is known, †*E. hoffeinsorum* described from Caenozoic Eocene Baltic Amber (33.9 - 41.2 Mya) by Szadziewski, Sontag and Dominiak (2018). Fossil species morphotypes of an adult male and two generically unplaced, unnamed tanypodine pupae, were briefly described and illustrated by Jell and Duncan (1986: 173-177) from the Lower Cretaceous (Barremian-Aptian Stage 113 - 121.4 Mya) deposits of Koonwarra, South Gippsland, Australia. Seventeen of the 27 fossil tanypodine species are documented from the Palaearctic Region, four in Lower Cretaceous Epoch (125 - 129 Mya) deposits and 13 from Eocene fossils (33.9 - 41.2 Mya). The remaining four species belong to extant genera - two undescribed species level taxa were recently reported by Baranov and Haug (2022), one each in *Psectrotanypus* and *Conchapelopia* from the Nearctic Region. Two fossil Miocene Epoch (~16 - 21 Mya), species are documented from the Neotropical Region, †*Ablabesmyia electrohispaniolana* Grund, 2005 of uncertain sub-generic

status, and an undescribed species of *Tanypus* from Dominican amber (Grund, 2006). A third undescribed, generically unplaced species-level taxon was recently reported from Upper Cretaceous Maastrichtian deposits (~66 - 72 Mya) in the Neotropical Region of Southern Argentina (Vera *et al.*, 2023).

TABLE 7. Subfamily Tanypodinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	**Period**	**Stage**	**Age (Mya)**	**Region**
TANYPODINAE (**16,** 16 + 11)				
ABLABESMYIA (Karelia)				
Subg. **KARELIA**				
†**eocenica**	Eocene (L)	Ypresian	47.8 - 56.0	PA
?Subg (UNKNOWN)				
†**electrohispaniolana**	Miocene	Burdigalian	15.97 - 20.44	NT
†sp.: Zelentsov *et al.*	Eocene (U/M)	Preabonian	33.9 - 41.2	PA
APSECTROTANYPUS				
†**peculiaris**	Eocene (U/M)	Preabonian/Bartonian	33.9 - 41.2	PA
BRUNDINIELLA				
†**glabrata**	Eocene (L)	Ypresian	47.8 - 56.0	PA
†**patriciae**	Eocene (L)	Ypresian	47.8 - 56.0	PA
†**soumyia**	Eocene (L)	Ypresian	47.8 - 56.0	PA
COELOTANYPUS				
†**electronicus**	Eocene (L)	Ypresian	47.8 - 56.0	PA
†**validus**	Eocene (U/M)	Preabonian/Bartonian	33.9 - 41.2	PA
CONCHAPELOPIA				
†sp.: Baranov & Haug	Eocene (M)	Lutenian	41.2 - 47.8	NE
†**CRETAPELOPIA**				
†**salomea**	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†**EOPROCLADIUS**				
†**hoffeinsorum**	Eocene (U/M)	Preabonian/Bartonian	33.9 - 41.2	PA

TABLE 7 (continued). Subfamily Tanypodinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age (Mya)	Region
†LIBANOPELOPIA				
†cretacica	Cretaceous (L)	Barremian	125.0 - 129.4	PA
MACROPELOPIA				
†sp.: Zelentsov *et al*.	Eocene (U/M)	Preabonian/ Bartonian	33.9 - 41.2	PA
MONOPELOPIA				
†sp.: Grund	Miocene	Burdigalian	15.97 - 20.44	NT
NILOTANYPUS				
†prieuri	Eocene (L)	Ypresian	47.8 - 56.0	PA
PROCLADIUS				
Subg. HOLOTANYPUS				
†enigmaticus	Eocene (L)	Ypresian	47.8 - 56.0	PA
Subg (UNKNOWN)				
†maillardi	Eocene (L)	Ypresian	47.8 - 56.0	PA
†sp.: Baranov, Haug & Kaulfuss	Miocene (L)	Aquitanian	20.43 - 23.03	AU
PSECTROTANYPUS				
†sp.: Baranov & Haug	Eocene (M)	Lutenian	41.2 - 47.8	NE
TANYPUS				
†sp.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT
†WADELIUS				
†libanicus	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†ZIADEUS				
†kamili	Cretaceous (L)	Barremian	125.0 - 129.4	PA
?GENUS unknown				
†sp.: Jell & Duncan	Cretaceous (L)	Barremian	125.0 - 129.4	AU
†sp.1: Jell & Duncan	Cretaceous (L)	Barremian	125.0 - 129.4	AU
†sp.2: Jell & Duncan	Cretaceous (L)	Barremian	125.0 - 129.4	AU
†sp.: Vera *et al* - morphotype 4	Cretaceous (U)	Maastrichtian	66.0 - 72.0	NT

"Subfamily" INCERTAE SEDIS

Four valid fossil genera, with one species in each of the genera †*Haematotanypus* and †*Langtonius*, two species in †*Libanochilites* and six species in †*Jurochlus*, are treated as †*incertae sedis* since the information available is insufficient for definite subfamily placement (Table 8). The taxa included, all in the Palaearctic Region, display various features typical of both Podonominae and Tanypodinae and discovery of additional fossil material should help resolve their subfamily placement. The fossil genus †*Libanochiltes*, with two species described from the Lower Cretaceous of Lebanon was originally assigned to the Podonominae by Brundin (1976) and later transferred to the Tanypodinae by Azar *et al*. (2008) based on the posession of pectinate tibial spurs and the presence of crossvein MCu on the wing. However, based on molecular data, Cranston *et al*. (2012) raised the possibility again for inclusion of †*Libanochilites*, in the subfamily Podonominae, while Baranov *et al*. (2019) note that it is not yet possible to provide a comprehensive interpretation of features to assign it to an existing subfamily thus, it is considered here as a valid genus in the category subfamily †Incertae sedis.

Subfamily USAMBAROMYIINAE

There are no fossil records for the subfamily Usambaromyiinae with the monotypic *Usambaromyia nigrala* Andersen & Sæther, thus far only known from the type-locality in the Tanga region of the West Usambara Mountains, Tanzania in the Afrotropical Region (Andersen and Sæther, 1994).

Subfamily †CRETODIAMESINAE

The fossil subfamily †*Cretodiamesinae* (Table 8) is represented by a single species †*Cretodiamesa taimyrica* Kalugina described by Kalugina (1976) based on three specimens (two males, one female) in Palaearctic Region Upper Cretaceous Taimyr amber (83.6 - 86.3 Mya) from northern Siberia. Kalugina (loc. cit.) placed the species in a new tribe †Cretodiamesini in the subfamily Diamesinae. The tribe was raised to subfamily †Cretodiamesinae by Ashe *et al*. (2018) based on diagnostic features including the markedly different male antenna and rearwardly directed gonostyli fused to the gonocoxites but in a different manner to the type of fusion between gonostyli and gonocoxites in the Chironominae. The †Cretodiamesinae was considered to have the basal position in the semifamily Chironomoinae, i.e. †Cretodiamesinae + Telmatogetoninae + Diamesinae + Prodiamesinae + Orthocladiinae + Chironominae (Ashe *et al*. (2018, p. 233)).

Subfamily TELMATOGETONINAE

Fossil species are as yet unknown for the Telmatogetoninae in which two genera are

recognised, *Telmatogeton* Schiner and *Thalassomya* Schiner, the former with species on record from all eight zoogeographical regions whereas records of *Thalassomya* have not yet been documented from Antarctica. Larvae in these two genera are predominantly marine but freshwater species are on record from two widely separated localities, five species of *Telmatogeton* are documented from freshwater habitats on Hawaiian Islands (Wirth, 1947, 1949) and a freshwater species of *Thalassomya* is reported from Kenya (Oliveira, 2000). Tang *et al.* (2022) suggest that the subfamily evolved during the Lower Cretaceous (101 - 128 Mya) and that separation of *Telmatogeton* from *Thalassomya* occurred in the mid Cretaceous at 69 Mya (56 - 82 Mya).

TABLE 8. Genus group †Incertae sedis and subfamily †Cretodiamesinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY, Genus, species	**Period**	**Stage**	**Age (Mya)**	**Region**
INCERTAE SEDIS (**4,** 10)				
†HAEMATOTANYPUS				
†libanicus	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†JUROCHLUS				
†adustus	Cretaceous (L)	Barremian	125.0 - 129.4	PA
†limbatus	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†lineatus	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†rigor	Jurassic (U)	Kimmeridgian /Oxfordian	152.1 - 163.5	PA
†sibiricus	Jurassic (U)	Kimmeridgian /Oxfordian	152.1 - 163.5	PA
†trivittatus	Jurassic (U)	Kimmeridgian /Oxfordian	152.1 - 163.5	PA
†LANGTONIUS				
†cynaricaudatus	Cretaceous (L)	Valangian/ Berriasian	132.9 - 145.0	PA
†LIBANOCHILTES				
†eocenicus	Eocene (U)	Priabonian	33.9 - 56.0	PA
†neocomicus	Cretaceous (L)	Barremian	125.0 - 129.4	PA
SUBFAMILY Genus, species				
†CRETODIAMESINAE (**1,** 1)				
†CRETODIAMESA				
†taimyrica	Cretaceous (U)	Santonian	83.6 - 86.3	PA

Subfamily DIAMESINAE

Fossil Diamesinae are known from the Nearctic, Neotropical and Palaearctic Regions (Table 9). Four fossil species were known until recently, one in each of four genera, three extant and one fossil, in the Nearctic and Palaearctic Regions. A fifth species-level taxon was recently reported from the Neotropical Region, with the discovery of larval mouthparts of a fossil species, tentatively assigned to the genus *Paraheptagyia*, in Upper Cretaceous (66 - 72 Mya) deposits in Pategonia, Argentina by Vera *et al*. (2023). The oldest known member of the Subfamily Diamesinae, †*Eugenodiamesa makarchenkoi* (tribe †*Eugenodiamesini*) was described by Lukashevich and Przhiboro (2015) based on a single compression fossil pupa in the Palaearctic Region, Lower Cretaceous Tsagan Tsab Formation, Mongolia (132.9 - 145 Mya).The remaining three fossil species are in extant genera from the Eocene Period, two as Lower Eocene Ypresian Stage (47.8 - 56.0 Mya) species in the Palaearctic Region, one each in the genera *Lappodiamesa* and *Pagastia* and one species in the genus *Diamesa* in Upper Eocene Priabonian stage amber (33.9 - 37.8 Mya) in the Nearctic Region.

Subfamily PRODIAMESINAE

Six fossil species of Prodiamesinae have been described in five genera (Table 9), one each in the extant genera *Monodiamesa* and *Prodiamesa*, two in the fossil genus †*Libanodiamesa* and one each in the fossil genera †*Cretadiamesa* and †*Paicheleria*. Species in the fossil genera have been described from Lower Cretaceous Palaearctic amber (125.0 - 129.4 Mya) while the two fossil species in the extant genera are documented from the Eocene Epoch amber, *Monodiamesa* in the Lower Eocene (47.8 - 56.0 Mya) and *Prodiamesa* in the Upper/Mid Eocene (33.9 - 40.0 Mya). Records of fossil Prodiamesinae are from the Palaearctic Region only.

Subfamily ORTHOCLADIINAE

Forty seven species-level fossil taxa of Orthocladiinae are known, 35 are described in 33 genera, of which nine are fossil genera: †*Acutiforcipia*, †*Chasmatonotoides*, †*Flexicrus*, †*Lebanorthocladius*, †*Myanmaro*, †*Parachasmatonotus*, †*Ploegia*, †*Pseudochasmatonotus* and †*Spinorthocladius* (Table 10). An additional ten undescribed fossil species are known, one each in the genera *Antillocladius*, *Brillia*, *Cricotopus*, *Heterotrissocladius*, *Hydrosmittia*, *Limnophyes*, *Metriocnemus*, *Orthocladius*, *Parachaetocladius* and *Smittia*. Two fossil larval species are documented from the Neotropical (Vera *et al*., 2023). The monotypic †*Myanmaro primus*, is known from Upper Cretaceous Cenomanian Stage (93.9 - 100.5 Mya) Burmese Amber in the Oriental Region (Gilka *et al*., 2019). Fossil records of other Orthocladiinae are from the Palaearctic Region, the majority in Eocene Amber while the oldest fossil Orthocladiinae, †*Lebanorthocladius furcatus* is described from Lower Cretaceous (~125 - 129 Mya) Palaearctic

Lebanese amber (Veltz *et al*., 2007). Fossililized larval mouthparts of Orthocladiinae, possibly in the extant genera *Bothryocladius*, *Cricotopus* and *Parapsectrocladius* have recently been reported in the Neotropical Region from southern Argentina with evidence that the modern clades of Chironomidae were already a dominant feature there by the end of the Cretaceous (Vera *et al*., 2023).

TABLE 9. Subfamilies Diamesinae and Prodiamesinae:- Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	**Period**	**Stage**	**Age (Mya)**	**Region**
DIAMESINAE (**5,** 4 +1)				
DIAMESA				
†extincta	Eocene (U)	Priabonian	33.9 - 37.8	NE
†EUGENODIAMESA				
†makarchenkoi	Cretaceous (L)	Valangian /Berrasian	132.9 - 145	PA
LAPPODIAMESA				
†deploegi	Eocene (L)	Ypresian	47.8 - 56.0	PA
PAGASTIA				
†menieri	Eocene (L)	Ypresian	47.8 - 56.0	PA
PARAHEPTAGYIA				
†sp.: Vera *et al*.- morphotype 3	Cretaceous (U)	Maastrichtian	66.0 - 72.0	NT
SUBFAMILY Genus, Species				
PRODIAMESINAE (**5,** 6)				
†CRETADIAMESA				
†arieli	Cretaceous (L)	Barremian	125 -129.4	PA
†LIBANODIAMESA				
†deploegi	Cretaceous (L)	Barremian	125 - 129.4	PA
†simpsoni	Cretaceous (L)	Barremian	128	PA
MONODIAMESA				
†guglielmia	Eocene (L)	Ypresian	47.8 - 56.0	PA
†PAICHELERIA				
†magnifica	Cretaceous (L)	Barremian	125 - 129.4	PA
PRODIAMESA				
†indeserta	Eocene (U/M)	Priabonian /Bartonian	33.9 - 40.0	PA

TABLE 10. Subfamily Orthocladiinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age (Mya)	Region
ORTHOCLADIINAE (**33,** 35+10)				
†ACUTIFORCIPIA				
†crusnotabile	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†cuspilonga	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†fittkaui	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
ANTILLOCLADIUS				
†sp.: Baranov & Perkovsky	Eocene, M	Lutetian	41.2 - 47.8	PA
BRILLIA				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
BRYOPHAENOCLADIUS				
†beuki	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†circumclusus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
CHAETOCLADIUS				
Subg. **CHAETOCLADIUS**				
†incurvus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†petruleviciusi	Eocene, L	Ypresian	47.8 - 56.0	PA
†CHASMATONOTOIDES				
†deharvengi	Eocene, L	Ypresian	47.8 - 56.0	PA
†longiantennata	Eocene, L	Ypresian	47.8 - 56.0	PA
CORYNONEURA				
†eocenica	Eocene, L	Ypresian	47.8 - 56.0	PA
CRICOTOPUS				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†FLEXICRUS				
†palaeobalticus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
HETEROTRISSOCLADIUS				
†naibuchi	Eocene, M	Lutetian	41.2 - 47.8	PA
†paleolacustris	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
HYDROBAENUS				
†torpidus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
HYDROSMITTIA				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
KRENOSMITTIA				
†paleofontana	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA

TABLE 10 (continued). Subfamily Orthocladiinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age (Mya)	Region
†LEBANORTHOCLADIUS				
†furcatus	Cretaceous, L	Barremian	125.0 - 129.4	PA
LIMNOPHYES				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
METRIOCNEMUS				
Subg. **METRIOCNEMUS**				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†MYANMARO				
†primus	Cretaceous U	Cenomian	93.9-100.5	OR
ORTHOCLADIUS				
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
PARACHAETOCLADIUS				
†balticus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†sp.: Zelentsov *et al*.	Eocene, U/M	Priabonian/Bartonian	33.9 - 41.2	PA
†PARACHASMATONOTUS				
†oesiensis	Eocene (L)	Ypresian	47.8 - 56.0	PA
PARAMETRIOCNEMUS				
†electri	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
PARAPHAENOCLADIUS				
†evenhuisi	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†nadezhdae	Eocene (M)	Lutetian	41.2 - 47.8	PA
†PLOEGIA				
†occulata	Eocene (L)	Ypresian	47.8 - 56.0	PA
PSECTROCLADIUS				
†trigonatus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†PSEUDOCHASMATONOTUS				
†furcatus	Eocene (L)	Ypresian	47.8 - 56.0	PA
PSEUDORTHOCLADIUS				
Subg. **PSEUDORTHOCLADIUS**				
†perantiquus	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†zherikhini	Eocene (M)	Lutetian	41.2 - 47.8	PA
PSEUDOSMITTIA				
†kodrulae	Eocene (M)	Lutetian	41.2 - 47.8	PA
RHEOSMITTIA				
†pertenuis	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†seni	Eocene, U/M	Ypresian	47.8 - 56.0	PA

TABLE 10 (continued). Subfamily Orthocladiinae: Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age (Mya)	Region
SMITTIA				
†**sukachevae**	Eocene (M)	Bartonian/Lutetian	38.0 - 47.9	PA
†sp.: Zelentsov *et al.*	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
†**SPINORTHOCLADIUS**				
†**enigmaticus**	Eocene (L)	Ypresian	47.8 - 56.0	PA
TOKUNAGAIA				
†**azari**	Eocene (L)	Ypresian	47.8 - 56.0	PA
TOKYOBRILLIA				
†**succinea**	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
ZALUTSCHIA				
†**electra**	Eocene, U/M	Priabonian/Bartonian	33.9 - 40.0	PA
?BOTHRYOCLADIUS				
†sp.: morphotype 1 Vera *et al.*	Cretaceous U	Maastrichtian	66.0 - 72.0	NT
INCERTAE SEDIS				
†sp.: Vera *et al.*:morphotype 2	Cretaceous U	Maastrichtian	66.0 - 72.0	NT

Subfamily CHIRONOMINAE

Fifty six fossil species-level taxa of Chironominae are known (Table 11). The majority, 35 are documented from the Palaearctic Region with nine in the Oriental, seven in the Neotropical four in the Nearctis and one in the Australasian Region. The oldest fossil representative of the subfamily is the recently documented (Gilka *et al*., 2021) †*Palaeocentron krzeminskii* Gilka, Zakrzewska, Lukashveich & Cranston, in the tribe Pseudochironomini, from Oriental Region, mid-Cretaceous Cenomanian/Albanian Stage Burmese/Myanmar amber (93.9 - 113 Mya). There are 41 fossil species described in 26 genera (10 fossil, 16 extant) in the subfamily Chironominae, including two new fossil genera in the tribe Pseudochironomini described from Baltic Amber inclusions by Zakrzewska *et al*. (2023). Fourteen species are documented in the ten fossil genera: with number of species in parentheses, these are: †*Archistempellina* (3), †*Corneliola* (1), †*Eomicromimus* (2), †*Eonandeva* (2), †*Eoriethia* (1), †*Gujaratomyia* (1), †*Hintelmaniella* (1), †*Mesoacentron* (1), †*Palaeocentron* (1) and †*Prolipiniella* (1). The remaining fossil species of Chironominae are placed in 16 extant genera. An additional 15 undescribed species are recognized in these genera.

TABLE 11. Subfamily Chironominae:- Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	**Period**	**Stage**	**Age Mya**	**Region**
CHIRONOMINAE (**24,** 38 +15)				
†ARCHISTEMPELLINA				
†bifurca	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
†falcifera	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
†perkovskyi	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
CHIRONOMUS				
†kirklandi	Pleistocene/Pliocene	Gelasian/ Zanclean	1.8 - 5.33	NE
†sp.: Baranov *et al.*	Miocene (L)	Aquitanian	20.43 - 23.0	AU
CLADOPELMA				
†sp.: Zelentsov *et al*.	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
†CORNELIOLA				
†avia	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
DICROTENDIPES				
†sp.: Grund	Miocene (L)	Burdigalian	15.9 - 20.4	NT
†EOMICROMIMUS				
†polliciformis	Eocene (M)	Lutetian	40 - 45	PA
†serpens	Eocene (M)	Lutetian	40 - 45	PA
ENDOCHIRONOMUS				
†eocenicus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†EONANDEVA				
†helva	Eocene (M)	Lutetian	40 - 45	PA
†latistyla	Eocene (M)	Lutetian	40 - 45	PA
†EORIETHIA				
†ursipes	Eocene (M)	Lutetian	40 - 45	PA
†GUJARATOMYIA				
†miripes	Eocene (L)	Ypresian	47.8 - 56.0	OR
†HINTELMANIELLA				
†noncatafracta	Eocene (M)	Lutetian	46.2	NE

TABLE 11 (continued). Subfamily Chironominae:- Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age Mya	Region
MEGACENTRON				
†eocenicus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†MESOACENTRON				
†kaluginae	Cretaceous (U)	Santonian	83.6 - 86.3	PA
MICROTENDIPES				
†eocenicus	Eocene (L)	Ypresian	50 - 53	PA
NANDEVA				
†pudens	Eocene (L)	Ypresian	50.0 - 53.0	PA
†PALAEOCENTRON				
†krzeminskii	Cretaceous (U/L)	Albanian/ Cenomian	93.9 - 113	OR
PARATENDIPES				
†separata	Eocene (L)	Ypresian	47.8 - 56.0	PA
PHAENOPSECTRA				
†meunieri	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
POLYPEDILUM				
†sp.: Grund	Miocene (L)	Burdigalian	15.97 - 20.4	NT
†PROLIPINIELLA				
†magnifica	Eocene (L)	Ypresian	47.8 - 56.0	PA
PSEUDOCHIRONOMINI				
?GENUS unknown				
†sp.: Gilka *et al*.	Cretaceous (L)	Santonian	66.0 - 100.5	PA
RHEOTANYTARSUS				
†alliciens	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
†hoffeinsorum	Eocene (M)	Bartonian/ Lutetian	40.0 - 45.0	PA
†lacustris	Eocene (M)	Lutetian	46.2	NE
STEMPELLINA				
†exigua	Eocene (U/M)	Priabonian/ Bartonian	33.9 - 40.0	PA
†stebneri	Eocene (L)	Ypresian	54	OR
?†sp.: Martini	Oligocene (U)	Chattian	23.03 - 28.1	PA

TABLE 11 (continued). Subfamily Chironominae:- Geochronological and Zoogeographical Region occurrence of fossil taxa.

SUBFAMILY Genus, species	Period	Stage	Age Mya	Region
STEMPELLINELLA				
†**bicorna**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†**electra**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**fibra**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**gilkai**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**ivanovae**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†**pollex**	Eocene (L)	Ypresian	54	OR
STENOCHIRONOMUS				
†sp.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT
TANYTARSUS				
†**congregabilis**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†**crocota**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**fereci**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†**forfex**	Eocene (L)	Ypresian	54	OR
†**glaesarius**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**protogregarius**	Eocene (M)	Bartonian/Lutetian	40.0 - 45.0	PA
†**ramus**	Eocene (L)	Ypresian	54	OR
†**serafini**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†**szadziewskii**	Eocene (U/M)	Priabonian/Bartonian	33.9 - 40.0	PA
†sp.: Baranov and Haug	Eocene (M)	Lutetian	46	NE
†sp. 1.: Gilka & Zakrzewska	Eocene (L)	Ypresian	54	OR
†sp. 2.: Gilka & Zakrzewska	Eocene (L)	Ypresian	54	OR
†sp. 3.: Gilka & Zakrzewska	Eocene (L)	Ypresian	54	OR
XESTOCHIRONOMUS				
†sp. 1.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT
†sp. 2.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT
†sp. 3.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT
†sp. 4.: Grund	Miocene (L)	Burdigalian	15.97 - 20.44	NT

Unplaced Subfamily taxa

A total of 153 species-level taxa are included in this section of the catalogue, summarized in (Table 12), of which 149 species are described in 58 genera (47 fossil and 11 extant). The majority of records, 135, are from Palaearctic region fossils, 15 are from the Nearctic, three from the Oriental Region and one each from Australasia and Neotropical Regions. All taxa listed in this section are retained in the genera to which they were originally, or subsequently, assigned. Recent studies on fossil insect remains in the Chorillo deposits, near El Calafate in the

Patagonian region of southern Argentina (NT), revealed well preserved chironomid larval head mouthparts representing the first records in the southern hemisphere of Maastrichtian Upper Cretaceous Chironomidae (Vera *et al*., 2023). Insufficient remains were available for species definition nor was it possible to assign the fossilized mouthparts to genus but they were diagnosed as belonging to either subfamily Diamesinae or Orthocladiinae. The record of †*Potamoceroides giardi* Munier-Chalmas in Ferroniére 1901 from alluvial deposits near the River Loire, France, is documented as the only fossil record from the Lower Holocene. Further details of these and records of other unplaced taxa are provided in the Catalogue text and Notes sections.

TABLE 12. Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species (**58,** 149, +4)	**Period**	**Stage**	**Age (Mya)**	**Region**
†ALITENDIPES				
†melainus	Eocene (L)	Ypresian	47.8 - 56.0	PA
AMBERASPINUS				
†orientalus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†ASIATENDIPES				
†labrosus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†ASUBA				
†brodiei	Cretaceous (L)	Berriasian	139.8 - 145	PA
†BEACONITES				
†filiformis	Miocene (U/L)	Messinian/Aquitanian	5.33 - 23.03	PA
†BEIFANGITENDIPES				
†limnetes	Eocene (L)	Ypresian	47.8 - 56.0	PA
†BIBIONITES				
†priscus	Cretaceous (L)	Berriasian	139.8 - 145	PA
†BYTHOMYIA				
†oryctes	Miocene (M)	Serravalian	11.63 - 15.9	PA
CAMPTOCLADIUS				
†flexuosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†sinuosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†CHIRONOMITES				
†?adhaerens	Cretaceous (U)	Cenomian	94.3 - 99.7	PA
†unionis	Cretaceous (U)	Cenomian	94.3 - 99.7	PA
†CHIRONOMOPSIS				
†arrogans	Cretaceous (L)	Berriasian	139.8 - 145	PA
†extincta	Cretaceous (L)	Berriasian	139.8 - 145	PA
†gracilis	Cretaceous (L)	Barremian	122 - 125	PA

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
CHIRONOMUS				
†abietarius	Eocene (U/M)	Priabonian/Bartonian	33.9 - 37.7	PA
†almelanderi	Eocene (L)	Priabonian	33.9 - 37.7	NE
†aquisextanus	Oligocene (U)	Chattian	23.03-28.1	PA
†bituminosus	Oligocene (U)	Chattian	23.03-28.4	PA
†brevirostris	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†caliginosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†depletus	Eocene (M/L)	Lutenian/Yprsian	46.2 - 50.3	NE
†elegantulus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†gaudini	Miocene (M)	Serravalian	11.6 - 12.7	PA
†inglorius	Eocene (L)	Lutetian/Yprsian	44.0 - 49.0	PA
†lacunus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†lacus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†meticulosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†meyeri	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†microcephalus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†obsoletus	Miocene (M)	Totronian/Serravalian	11.6 - 12.7	PA
†oeningensis	Miocene (M)	Totronian/Serravalian	11.6 - 12.7	PA
†paludosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†patens	Eocene (L)	Lutetian/Yprsian	46.2 - 50.3	NE
†pausatus	Eocene (U/M)	Priabonian	33.9 - 37.8	NE
†pliocenicus	Pleiocene (U)	Piacenzian	2.58 - 3.6	PA
†primaevus	Eocene (U)	Priabonian	33.9 - 37.8	NE
†primitivus	Eocene (U)	Priabonian	33.9 - 37.8	PA
†pristinus	Eocene (U)	Priabonian	33.9 - 37.8	NE
†proterus	Eocene (U)	Priabonian	33.9 - 37.8	NE
†requiescens	Eocene (U)	Priabonian	33.9 - 37.8	NE
†scudderiellus	Eocene (U)	Priabonian	33.9 - 37.8	NE
†septus	Eocene (L)	Lutetian/Yprsian	46.2 - 50.3	NE
†sepultus	Miocene (L)	Burdigalian	15.97 - 20.44	PA
†serresi	Oligocene (U)	Chattian	23.03 - 28.40	PA
†subobscurus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†tenebricosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†tenebrosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†uliginosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
†umbraticus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†umbrosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†vagabundus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†venerabilis	Pleiocene (U/L)	Piacenzian/Zanclean	2.58 - 5.33	AU
†CLAVICORNIUS				
†lobotes	Eocene (L)	Ypresian	57.8 - 56.0	PA
CLINOTANYPUS				
†vagans	Miocene (M)	Serravalian	11.6 - 15.97	PA
†COELOCHIRONOMA				
†xantha	Cretaceous (L)	Albian /Barremian	100 - 129.4	PA
†CRICOTOPIELLA				
†rostrata	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
CRICOTOPUS				
†abiegnus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†alluvionis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†ambiguus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†amniculus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†antiquus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†coniferus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†crassicornis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†delicatus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†dilapsus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†exstinctus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†insolitus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†minutissimus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†minutulus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†minutus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†nemorivagus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†paganus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†permutabilis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†pulchellus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†pygmaeus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†robustus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†saltuosus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†variabilis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†DARA				
†fossilis	Cretaceous (L)	Berrisian	139.8 - 145	PA

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
†EOPODONOMUS				
†nymphalis	Jurassic (U)	Callovian	161.5 - 165.3	PA
EURYCNEMUS				
†appendiculatus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†hyalinus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†pilosellus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†stagnum	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†tenellus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†vulgaris	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†FURVITENDIPES				
†minimus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†FUSHUNITENDIPES				
†eocenicus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†longipalpulatus	Eocene (L)	Ypresian	47.8 - 56.0	PA
†GURVANOMYIA				
†magna	Cretaceous (L)	Aptian	113 - 125	PA
†moderata	Cretaceous (L)	Aptian	113 - 125	PA
?†rohdendorfi	Cretaceous (L)	Barremian	125 - 129	PA
†HUABEITENDIPES				
†wuqiensis	Cretaceous (L)	Valanginian	133 -136.4	PA
†JENTZSCHIELLA				
†jentzschi	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†JUROPELOPIA				
†fittkaui	Jurassic (U)	Kimmeridgian	155.7 - 161.2	PA
†LATITENDIPES				
†platamodes	Eocene (L)	Ypresian	47.8 - 56.0	PA
†LIAOTENDIPES				
†longifemerales	Eocene (L)	Ypresian	47.8 - 56.0	PA
†LIAUNINGIUS				
†robustus	Cretaceous (L)	Aptian	113.0 - 125.0	PA
†MAILONIA				
†pallida	Jurassic (U)	Oxfordian	150.8 - 161.2	PA
†MANLAYAMYIA				
†dabeigouensis	Cretaceous (L)	Hauterivian/ Valanginian	129.4 - 139.8	PA

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
†litorina	Cretaceous (L)	Aptian	113 - 125	PA
METRIOCNEMUS				
†cretatus	Cretaceous (U)	Campanian	80	NE
†sp.: Poinar *et al.*	Cretaceous (U)	Campanian	79	NE
†MOGSONOMUS				
†tophus	Jurassic (M)	Kimmeridgian	152.1	PA
†NOMOCHIRUS				
†sampelayoi	Miocene (L)	Burdigalian/ Aquitanian	16.0 - 23.0	PA
ORTHOCLADIUS				
†sp.: Statz	Oligocene (L)	Chattian	23.0 - 28.4	PA
†ORUSA				
†barba	Cretaceous (L)	Barremian	125.0 - 129.4	OR
†PACHYURONYMPHA				
†karatauensis	Jurassic (U/M)	Oxfordian/Callovian	155.7 - 164.7	PA
†PALAEOTANYPUS				
†filiformis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†POTAMOCEROIDES				
†giardi	Holocene (L)	Greenlandian	0 - 0.0116	PA
†PROTOBIBIO				
†jurassicus	Jurassic (U)	Oxfordian/Callovian	155.7 - 164.7	PA
†orientalis	Cretaceous (L)	Aptian	113.0 - 125.0	PA
†SENDELIA				
†mirabilis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†SHINLUSTIA				
†irae	Cretaceous (L)	Aptian/Barremian	113 - 125	PA
†SINASPINUS				
†amblopteres	Eocene (L)	Ypresian	47.8 - 56.0	PA
†stenopteres	Eocene (L)	Ypresian	47.8 - 56.0	PA
†SINORYCTOCHLUS				
†insolitus	Jurassic (U)	Tithonian/Oxfordian	145 0 - 163.5	PA
SPANIOTOMA				
†conservata	Cretaceous (U)	Campanian	80	NE

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
†veta	Cretaceous (U)	Campanian	80	NE
†SPINITENDIPES				
†uracanthodes	Eocene (L)	Ypresian	50.0 - 53.0	PA
†TANYPODITES				
†gorchonensis	Cretaceous (L)	Tithonian/Oxfordian	150.8 - 161.2	PA
TANYPUS				
†antiquus	Miiocene/Oligocene	Aquitanian/Chattian	23.03 - 28.10	PA
†compactus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†eridanus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†fusiformis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†longicornis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†obscura	Oligocene (L)	Rupelian	28.1 - 29.44	PA
†pagasti	Oligocene (L)	Rupelian	28.1 - 29.44	PA
†palaemon	Oligocene (L)	Rupelian	28.1 - 29.44	PA
†parvus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†perditus	Oligocene (L)	Rupelian	28.1 - 29.44	PA
†porrectus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†subrotundatus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†thienemanni	Oligocene (L)	Rupelian	28.1 - 29.44	PA
TANYTARSUS				
†insularis	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†maritimus	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†wulpii	Eocene (U/M)	Priabonian/Bartonian	33.9 - 41.2	PA
†sp.: (Palmer)	Miocene (L)	Burdigalian	15.97 - 20.43	NE
†TENDIPOPSIS				
†colorata	Cretaceous (L)	Aptian/Barremian	113 - 125	PA
†TENUIGASTRULUS				
†trichodes	Eocene (L)	Ypresian	47.8 - 56.0	PA
†TINACTUM				
†solusum	Cretaceous (L)	Barremian	125.0 - 129.4	OR
†TOPHOCLADIUS				
†stygialis	Jurassic (M)	Callovian	163.5 - 174.1	PA

TABLE 12 (continued). Geochronological and Zoogeographical Region occurrence of Unplaced (i.e. not formally assigned to a subfamily) fossil genera and species of Chironomidae.

Genus, species	Period	Stage	Age (Mya)	Region
†				
†**communis**	Jurassic (U)	Tithonian	145.0 - 152.1	PA
†**kangilica**	Cretaceous (L)	Hautervian	129.4 - 132.9.	PA
†**magna**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**montana**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**reducta**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**ULAIMAILIA**				
†**vetula**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**ULAIMAILONIA**				
†**mixta**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**ULAIMAILONIELLA**				
†**fusiformis**	Jurassic (U)	Kimmeridgian/ Oxfordian	152.1 - 161.2	PA
†**VIDUATA**				
†**otiosa**	Cretaceous (L)	Barremian	125.0 - 129.4	OR
?**Genus** unknown				
†sp.: Vera *et al*., morphotype 5	Cretaceous (U)	Maastrichtian	66.0 - 72.0	NT

Geochronologic summary of fossil records of Chironomidae

A summary of the occurrences of the 343 fossil chironomid taxa documented in the catalogue, is given in Table 13 showing the numbers of taxa records for each subfamily, and overall numbers, in the geochronological periods from the Mesozoic Era, Upper Triassic Epoch throughout the Caenozoic Quarternary Period to the Holocene Epoch of the present time. Fossil records of †Aenneinae are known only in the Mesozoic Era from the Upper Triassic, Rhaetian Stage, (201.3 - 208.5 Mya) until the Lower Cretaceous, Barremian Stage, (121.4 - 129.4 Mya). Podonominae were first documented in the Tarcian Stage of the Lower Jurassic (~174 - 183 Mya), were dominant in records during the Upper Jurassic (~152 - 163 Mya), but at the Jurassic Cretaceous boundary (~145 Mya) records decreased markedly (Ansorge, 1999: 432) as fossil

records of Tanypodinae and Prodiamesinae became more abundant in the Lower Cretaceous (72.2 - 145 Mya). It is a matter of conjecture whether or not the decline of Podonominae was associated with an extinction event or if they were out-competed by more adaptable taxa. Fossil records of Orthocladiinae and Chironominae are first documented from the lower / upper Cretaceous and became co-dominant in the Caenozoic. The majority of fossil records are from the Caenozoic Eocene Epoch in which there are records of 199 fossil species level taxa, 112 placed and 87 unplaced. The 43 taxa in each of the subfamilies Orthocladiinae and Chironominae, along with 15 in the Tanypodinae, constitute the bulk of the total of 112 records of valid placed taxa documented in the Eocene. Members of these subfamilies remain the dominant taxa of the extant chironomid fauna at the present time.

TABLE 13. Summary numbers of fossil species-level taxa of Chironomidae documented in this catalogue as placed (by subfamily) and unplaced in (A) Periods of the Mesozoic Era and (B) Epochs of the Caenozoic Era and the combined overall total number of taxa in both Eras (sub-fossil taxa and taxa in Copal not included).

A. Mesozoic Era

	MESOZOIC ERA					
Period	**Tri U**	**Ju L**	**Ju M**	**Ju U**	**Cr L**	**Cr U**
Subfamily						
†Aenneinae	1	1		1	2	
Buchonomyiinae					1	2
Aphroteniinae						1
Podonominae		2	4	15	2	1
†Incertae sedis				5	4	
Tanypodinae					7	1
†Cretodiamesinae						1
Diamesinae					1	1
Prodiamesinae					4	
Orthocladiinae					1	3
Chironominae						3
Sum of placed taxa	1	3	4	21	22	13
Unplaced taxa			2	13	22	7
Total	**1**	**3**	**6**	**34**	**44**	**20**

Abbreviations: Tri = Triassic; Ju = Jurassic; Cr = Cretaceous; L = Lower; M = Middle; U = Upper.

TABLE 13 (continued). Summary numbers of fossil species-level taxa of Chironomidae documented in this catalogue as placed (by subfamily) and unplaced in (A) Periods of the Mesozoic Era and (B) Epochs of the Caenozoic Era and the combined overall total number of taxa in both Eras (sub-fossil taxa and taxa in Copal not included).

B. Caenozoic Era - (and overall total numbers).

	CAENOZOIC ERA							
Epoch	**Pal**	**Eo**	**Oligo**	**Meio**	**Pleio**	**Pleis**	**Holo**	**Total**
Subfamily								
†Aenneinae								**5**
Buchonomyiinae		1						**4**
Aphroteniinae								**1**
Podonominae		4						**28**
†Incertae sedis		1						**10**
Tanypodinae		15		4				**27**
†Cretodiamesinae								**1**
Diamesinae		3						**5**
Prodiamesinae		2						**6**
Orthocladiinae		43						**47**
Chironominae		43	1	8		1		**56**
Sum of placed taxa	0	112	1	12		1		**190**
Unplaced taxa	0	86	8	12	2		1	**153**
Total	0	198	9	24	2	1	1	**343**

Abbreviations: Pal = Palaeocene; Eo = Eocene; Oligo = Oligocene; Meio = Meiocene; Pleio = Pleiocene; Pleis = Pleistocene; Holo = Holocene.

Holocene records in Copal and as sub-fossils

Records of Chironomidae in the present Holocene epoch since the last glacial period 11,700 years ago (0.0117 Mya), as inclusions in Copal and as sub-fossils, are summarized in Table 14. Four species were described, one fom Brazil, ♣*Chironomus leucomelas* Gistl, 1831 that is treated here as a nomen dubium, and three species in the genus *Chironomus* described by Meunier (1912) from Madagascar/Tanzania in the Afrotropical Region. Because the original descriptions lack details for accurate generic or subfamily placement these species are retained in *Chironomus* until their status can be resolved by re-examination of the types. Named species from Copal may represent extant living species and some are very likely to be synonyms of known species.

The majority of subfossil chironomids represent extant species whose remains, predominantly but not exclusively chitenous larval head capsules, are found primarily in Holocene to Upper Pleistocene freshwater sediments. The most common type of study involves use of a light weight core sampler (Murray, 1976) to obtain vertical lake sediment cores from which identification of chironomid larval headcapsules, and occasionally adult exoskeletal remains, in sequentially deposited sediments may be related to environmental changes that have occurred throughout the history of the lake. Two species are known in the genus *Corynocera*: *C. ambigua*, recognized as sub-fossils and as extant species in Nearctic and Palaearctic regions and ♠*C. duffi* known as subfossil only from the Australasian Region in New Zealand.

TABLE 14. Occurrence of taxa of Chironomidae in the subfamily Chironominae in the Holocene Epoch documented in Copal.

A - CHIRONOMIDAE - CHIRONOMINAE in Copal			
Genus species	**Period**	**Stage Region**	**Age (Mya)**
CHIRONOMUS			
♣**haustus**	Holocene (U/L)	Greenlandian AF	0.0 - 0.0117
♣**inclusus**	Holocene (U/L)	Greenlandian AF	0.0 - 0.0117
♣**meunieri**	Holocene (U/L)	Greenlandian AF	0.0 - 0.0117
B - Subfossil CHIRONOMIDAE CHIRONOMINAE			
CORYNOCERA			
♠**ambigua**	Holocene	Greenlandian NE, PA	0.0 - 0.0117
♠**duffi**	Holocene	Greenlandian AU	0.0 - 0.0117

Fossil taxa of uncertain status – ? Chironomidae or excluded from Chironomidae

Thirteen species level fossil taxa in ten genera have been doubtfully associated with Chironomidae (Table 15). Three species, in two fossil genera known from Palaearctic China, have some features that suggest possible inclusion with Chironomidae: the monotypic genus †*Priscotendipes* Zhang and the genus †*Protendipes* Rohdendorf with two species. According to Ansorge (1999) †*Protendipes dasypterus* Rohdendorf is possibly a species of Tanypodinae (Ansorge, 1999) but there is some doubt about the status of †*Prototendipes huabensis* Zhang and †*Priscotendipes mirus* Zhang as they perhaps belong to the family Limoniidae (H. Tang, *pers. comm*. to P. Ashe).

The remaining fossil taxa of uncertain status, ten species in eight genera, are treated as "excluded from Chironomidae" in the catalogue. These fossil species are assigned to genera in four extant subfamilies: Family Anisopodidae, with two genera, †*Sinotendipes* Hong & Wang, 1990 and *Sylvicola* Harris 1780; Family Chaoboridae with one genus †*Chironomaptera* Ping, 1928; Family Ptychopteridae with two monotypic genera †*Architendipes* Rohdendorf 1962 and †*Palaeotendipes* Rohdendorf, 1962; Family †Serendipidae with the genus †*Serendipa* Evenhuis, 1992 (two species) and the monotypic genus †*Thamnitendipes* Hong & Wang 1990. All three species in the Family †Serendipidae are considered as "not midge but Psychodidae" according to H. Tang (*pers. comm*. to P. Ashe). The status of †*Cecidomium grandaevum* is also uncertain as the incomplete description based on "wing of a small Dipterous insect" by Westwood (1854) who stated that in was "allied to *Chironomus* or *Cecidomyia*". The taxon †*Chironomites lacustris* Frič, in Frič and Bayer, 1900 is deemed questionable in Chironomidae and is now considered a nomen nudum [PA.]

TABLE 15. Fossil taxa: (A) questionably placed, (B) possibly placed in the Family Chironomidae and (C) fossil taxa excluded from the Family Chironomidae.

(A) TAXA QUESTIONABLY PLACED in Chironomidae				
GENUS, Species	**Period**	**Stage**	**Age (Mya)**	**Region**
†CHIRONOMITES				
†lacustris	Cretaceous (U)	Cenomanian	93.9 - 100.5	PA
(B) TAXA POSSIBLY in Chironomidae				
GENUS Species	**Period**	**Stage**	**Age (Mya)**	**Region**
†PRISCOTENDIPES				
†mirus	Jurassic (U)	Tithonian/Oxfordian	145 - 163.5	PA
†PROTENDIPES				
†dasypterus	Jurassic (U/M)	Kimmeridgian/Callovian	152 -165.3	PA
†huabensis	Jurassic (U/M)	Oxfordian/Callovian	157.3 - 163.5	PA
(C) TAXA EXCLUDED from Chironomidae				
Family GENUS Species	**Period**	**Stage**	**Age (Mya)**	**Region**
Family ANISOPODIDAE				
†SINOTENDIPES				
†tuanwangensis	Cretaceous (L)	Aptian	113 - 121.4	PA
SYLVICOLA				
†priscus	Cretaceous (L)	Berriasian	139.8 - 145	PA
Family CHAOBORIDAE				
†CHIRONOMAPTERA				
†vesca	Cretaceous (L)	Aptian	113 - 121.4	OR / PA
†shouchangensis	Cretaceous (L)	Aptian	113 - 121.4	OR
Family PTYCHOPTERIDAE				
†ARCHITENDIPES				
†tshernovskiji	Triassic (U)	Rhaetian	201.4 - 208.5	PA
†PALAEOTENDIPES				
†alexii	Triassic (U)	Rhaetian	201.4 - 208.5	PA
Family †SERENDIPIDAE				
†SERENDIPA				
†laiyangensis	Cretaceous (L)	Aptian	113 - 121.4	PA
†tuanwangensis	Cretaceous (L)	Aptian	113 - 121.4	PA
†THAMNITENDIPES				
†vegetabilis	Cretaceous (L)	Aptian	113 - 121.4	PA
? Unplaced FAMILY				
†CECIDOMIUM				
†grandaevum	Cretaceous (L)	Berriasian	139.8 - 145	PA

CATALOGUE OF FOSSIL CHIRONOMIDAE (DIPTERA)

The catalogue includes taxonomic names, sourced from published literature, of fossil Chironomidae (available and unavailable according to the Zoological Code) and records of unnamed fossil taxa. Presentation style follows the general format of Parts 1 and 2 of the World Catalogue of Chironomidae (Ashe and O'Connor, 2009, 2012) but fossil taxa are indicated by a dagger symbol "†" placed before the taxon name of the fossil, whether it is subfamily, genus, species or a fossil species morphotype. Taxa are treated by subfamily in a modified phylogenetic sequence.

Valid subfamily names are given in **BOLD** capitals followed by the author(s) name(s) in CAPITALS, the year of publication, publication type (periodical or book) in *italics*, volume (in bold font if relevant) and page number. This is followed by the type-genus name, author(s) and year. Invalid subfamily names are given in capital *ITALIC* font and placed in synonomy (where possible) or are treated as nomina dubia. Valid tribe names, if recognised in subfamilies, are given in **BOLD** capitals (with synonyms in capital *ITALICS*) under the relevant subfamily name.

Fossil genera, and extant genera (and subgenera within a genus) in which fossil species have been assigned, are arranged alphabetically within subfamily as are species (and subspecies) within a genus. Valid names of fossil species are given in **bold** lower case font (e.g. †**triassica**) while non-bold lowercase italic font (e.g. †*kodrulae*) is used for invalid names that may be synonyms, nomina dubia, nomina nuda, variant spellings or misidentifications. Species names are followed by the author(s) name(s) in capitals, year, periodical or book (full title in italics), volume number (if applicable) in bold and page number.

Where a name-bearing type is a holotype, the type locality, as in the original published description, is given between quotation marks. In publications where type locality information was given in Cryllic lettering the relevant text has been transliterated and is enclosed in double asterisks, i.e. **Cryllic text**. Information published in non-Cryllic lettering in the corresponding work's title, summary or abstract may be included and type-locality data is translated for text of information published in a language that could be transliterated.

Documented occurrence of fossil taxa is given by country and Zoogeographical Region (Ashe and O'Connor, 2009, 2012). Zoogeographic regions are indicated by two-letter codes: AF = Afrotropical, AU = Australasian, NE = Nearctic, NT = Neotropical, OR = Oriental and PA = Palaearctic. [Fossil taxa are thus far undocumented in Antarctic (AN) and Oceanian (OC) regions]. Text entries between the symbols ► ◄ give data on the occurrence of the fossil taxa in the Earth's geochronologogy by Era, Period, Epoch, Stage name (in brackets) and Age (duration) in millions of years (Mya), [See Tables 1, 2a and 2b for overview and glossary of chronological age names] followed by details of fossil type and life cycle stage in brackets e.g.

(adult male or female, pupa, larva). Data on fossil species-level taxa, considered as distinct species but not formally described, is included since it gives auxiliary information on occurrence, diversity and distribution in the fossil record. Species morphotypes are listed by genus or, if available information is inadequate to assign a morphotype to a known genus, the entry is given under the heading "Unidentified GENUS" at the end of the entries for the relevant subfamily.

Species-group, genus-group or family-group names of uncertain taxonomic interpretation, are listed alphabetically under a heading in bold font citing the most appropriate taxon to which they can be assigned e.g. "**Nomina dubia in ORTHOCLADIINAE**".

Species-group, genus-group or family-group names considered unavailable (in the sense of nomenclature) and should not be used as valid, are listed in synonomy where applicable or otherwise are cited alphabetically as nomina nuda amongst the nomina dubia, under a heading, in bold font, citing the most appropriate taxon (genus, tribe subfamily, family) to which the corresponding, not scientifically nameable taxon, appears to belong, e.g. "**Unavailable names in CHIRONOMINAE**". Names considered nomina nuda are unavailable because they contravene one or more articles of the Zoological Code. For each nomen nudum listed, the contravened Zoological Code article(s) is/are cited. In such cases the entry terminates with the words **Nomen nudum** in bold. Named fossil genus-groups or species-groups of uncertain taxonomic interpretation are listed alphabetically in boldface citing the most appropriate taxon (genus, tribe, subfamily, family) to which the corresponding, named taxon might be assigned e.g. **Nomen dubium in CHIRONOMUS**.

A section titled "NOTES" follows the main Catalogue that provides additional information on taxonomic issues for some taxa. The term "**Note**" in bold, at the end of a taxon entry in the catalogue indicates that further information is given in the NOTES section, under the name of the corresponding taxon. Taxa in this section are arranged alphabetically, irrespective of taxon rank. Fossil taxa are indicated by a dagger symbol †, a question mark ? highlights taxa of uncertain placement, extant taxa are unmarked.

Comments on some entries were made by the late Patrick Ashe as he compiled the catalogue, representing his own thoughts/queries as he compiled the text. The majority of his comments have been retained, the text of which is identified by the letters "PA" as superscript at the end of the comment placed between square brackets, i.e. [text of comment ^{PA}]. Similarly Patrick received valued opinions from colleagues, including observations by Professor Hong-Qu Tang, Jinan University, Guangzhou, China, whose personal comments to Patrick are marked by the letters "HT" as superscript following text in square brackets i.e. [text of comment ^{HT}].

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

PLACED FOSSIL CHIRONOMIDAE

(Taxa in fossil and extant genera in subfamilies in which fossil species have been assigned)

FAMILY **CHIRONOMIDAE**

CHIRONOMIDAE NEWMAN, 1834: *Entomological Magazine* **2**: 379 (as "Chironomites"). Type-genus: *Chironomus* Meigen, 1803.

TENDIPEDIDAE GRÜNBERG, 1910: *Süsswasserfauna Deutschlands* **2A**: 11. Type-genus: *Tendipes* Meigen, 1800.

SUBFAMILY †**AENNEINAE**

†**AENNEINAE** ANSORGE, 1999: *Polskie Pismo Entomologiczne* **68**(4): 433. Type-genus: *Aenne* Ansorge, 1999.

Genus †**AENNE** ANSORGE

†**AENNE** ANSORGE, 1999: *Polskie Pismo Entomologiczne* **68**(4): 434. Type species: *Aenne liasina* Ansorge, 1999, by original designation.

†**liasina** ANSORGE, 1999: *Polskie Pismo Entomologiczne* **68**(4): 434 (*Aenne*). Type locality: "Clay pit Klein Lehmhagen in the vicinity of Grimmen (Western Pomerania/NE-Germany)" — Distr.: **PA**: Germany. ►Lower Jurassic (Toarcian), 174.1 - 182.7 Mya, Compression (Adult wings) in laminated limestone concretions◄.

†**triassica** KRZEMIŃSKI & JARZEMBOWSKI, 1999: *Polskie Pismo Entomologiczne* **68**(4): 446 (*Aenne*). Type locality: [Great Britain] "Aust Cliff, Gloucestershire/Avon (UK)" [UK = United Kingdom]. — Distr.: **PA**: Great Britain. ►Upper Triassic (Rhaetian), *circa* 201.3 - 208.5 Mya, Compression (Adult wing) in fine-grained estuarine limestone)◄. [**Note**]

Genus †**CRETAENNE** AZAR, VELTZ & NEL

†**CRETAENNE** AZAR, VELTZ & NEL, 2008: *Systematic Entomology* **33**(4): 688. Type species: *Cretaenne kobeyssii* Azar, Veltz & Nel, 2008, by original designation.

†**inexpectata** AZAR, VELTZ & NEL, 2008: *Systematic Entomology* **33**(4): 691 (*Cretaenne*). Type locality: "Hammana/Mdeyrij, Caza Baabda, Mouhafazit Jabal Loubnan (Mont Lebanon district), Lebanon". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄.

†**kobeyssii** AZAR, VELTZ & NEL, 2008: *Systematic Entomology* **33**(4): 689 (*Cretaenne*). Type locality: "Hammana/Mdeyrij, Caza Baabda, Mouhafazit Jabal Loubnan (Mont Lebanon district). Lebanon". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male and Adult female)◄.

†**rasnicyni** LUKASHEVICH & PRZHIBORO, 2011: *ZooKeys* **130**: 309 (*Cretaenne*). Type locality: "SW Mongolia, Shar Teg". — Distr.: **PA**: Mongolia. ►Upper Jurassic, (Tithonian), 145.0 - 152.1 Mya, Compression (Adult female) in lacustrine large mudstone◄.

SUBFAMILY **BUCHONOMINAE**

BUCHONOMYIINAE BRUNDIN & SÆTHER, 1978: *Zoologica Scripta* **7**(4): 275. Type-genus: *Buchonomyia* Fittkau, 1955.

†*DUNGEYELLINAE* ASHE, MURRAY & O'CONNOR, 2018: *Bulletin of the Irish Biogeographical Society* **42**: 228. Type-genus: *Dungeyella* Jarzembowski, Azar & Nel, 2008. Junior synonym of *Buchonomyiinae* **syn. nov**. [**Note**]

Genus **BUCHONOMYIA** FITTKAU

BUCHONOMYIA FITTKAU, 1955: *Beiträge zur Entomologie* **5**(3/4): 403. Type species: *Buchonomyia thienemanni* Fittkau, 1955, by original designation.

†**succinea** SEREDSZUS & WICHARD, 2003: *Studia Dipterologica* **9**(2): 394 (*Buchonomyia*). Type locality: "aus Baltischem Bernstein" [= from Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus †**DUNGEYELLA** JARZEMBOWSKI, AZAR & NEL

†**DUNGEYELLA** JARZEMBOWSKI, AZAR & NEL, 2008: *Geologica Acta* **6**(3): 287. Type species: *Dungeyella gavini* Jarzembowski, Azar & Nel, 2008, by original designation.

†**gavini** JARZEMBOWSKI, AZAR & NEL, 2008: *Geologica Acta* **6**(3): 287 (*Dungeyella*). Type- locality: [Great Britain] {southern England ... Isle of Wight} "Wealden amber, plant debris bed above Chilton Chine sandstone, Wessex Formation, SW coast of IoW" [IoW = Isle of Wight]. — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Barremian), 125 - 129.4 Mya, Wealden Amber (Adult female)◄; ►Adult male in Baranov *et al.* (2018)◄.

Genus †**FURCOBUCHONOMYIA** BARANOV, GÓRAL & ROSS

†**FURCOBUCHONONONOMYIA** BARANOV, GÓRAL & ROSS, 2017: *Cretaceous Research* **79**: 148. Type species: *Furcobuchonomyia saetheri* Baranov, Góral & Ross, 2017, by original designation.

†**pankowskii** GILKA & ZAKRZEWSKA, 2017: *Dipteron-Wrocław* **33**: 28 (*Furcobuchonomyia*). Type locality: "Aung Bar Amber Mine near Noije Bum hill,

Hukawng Valley, Kachin State, Myanmar". — Distr.: **OR**: Myanmar. ►Upper Cretaceous (Cenomanian), 98.17 - 99.41 Mya, Burmese Amber (Adult male)◄.

†**saetheri** BARANOV, GORAL & ROSS, 2017: *Cretaceous Research* **79**: 148 (*Furcobuchonomyia*). Type locality: "Noije Bum Amber Mine, Kachin State, Myanmar". — Distr.: **OR**: Myanmar. ►Upper Cretaceous (Cenomanian), 98.17 - 99.41 Mya, Burmese Amber (Adult male)◄.

SUBFAMILY **APHROTENIINAE**

APHROTENIINAE BRUNDIN, 1966: *Kungliga Svenska VetenskapsAkademiens Handlingar* **11**(1): 326. Type-genus: *Aphrotenia* Brundin, 1966. [**Note**]

†**ELECTROTENIINI** KALUGINA, 1980: *Acta Universitatis Carolinae Biologica* **1978**: 91. Type-genus: *Electrotenia* Kalugina, 1980. [**Note**]

†*ELECTROTENIINI* KALUGINA, 1974: *Byulleten' Moskovskogo Obshchestva Ispytatelei Prirody* (*Otdel Biologicheskii*) **79**(6): 49 [In Footnote]. Type-genus: *Electrotenia* Kalugina, 1974. Name not made available – post 1930 name with no species included and therefore no fixation of a Type species contrary to Article 13.5 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

Genus †**ELECTROTENIA** KALUGINA

†**ELECTROTENIA** KALUGINA, 1980: *Acta Universitatis Carolinae Biologica* **1978**: 91. Type species: *Electrotenia brundini* Kalugina, 1980, by original designation.

†*ELECTROTENIA* KALUGINA, 1974: *Byulleten' Moskovskogo Obshchestva Ispytatelei Prirody* (*Otdel Biologicheskii*) **79**(6): 49 [In Footnote]. Type species: Not given. Name not made available – post 1930 name with no species included and therefore no fixation of a Type species contrary to Article 13.5 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**brundini** KALUGINA, 1980: *Acta Universitatis Carolinae Biologica* **1978**: 93 (*Electrotenia*). Type locality: [Russia, East Siberia] "Taimyr peninsula, locality Yantardakh" — Distr.: **PA**: Russia (East Siberia). ►Upper Cretaceous (Santonian), 83.6 - 86.3 Mya, Taimyr Amber (Adult male and Adult female)◄.

SUBFAMILY **PODONOMINAE**

PODONOMINAE THIENEMANN & EDWARDS in THIENEMANN, 1937: *Internationale Revue der gesamten Hydrobiologie und Hydrographie* **35**(1/3): 78. Type-genus: *Podonomus* Philippi, 1866.

BOREOCHLINI BRUNDIN, 1966: *Kungliga Svenska VetenskapsAkademiens Handlingar* **11**(1): 96. Type-genus: *Boreochlus* Edwards, 1938.

PODONOMINI THIENEMANN & EDWARDS in THIENEMANN, 1937: *Internationale Revue der gesamten Hydrobiologie und Hydrographie* **35**(1/3): 78. Type-genus: *Podonomus* Philippi, 1866.

†*LUANPINGITINAE* ZHANG, 1986: *Acta Palaeontologica Sinica* **25**(1): 49 (originally as Family Luanpingitidae). Type-genus: *Luanpingites* Zhang, 1986. Synonymised with Podonominae by Ansorge (1999: *Polskie Pismo Entomologiczne* **68**(4): 432).

Genus †**BURMOCHLUS** GIŁKA, ZAKRZEWSKA & MAKARCHENKO

†**BURMOCHLUS** GIŁKA, ZAKRZEWSKA & MAKARCHENKO, 2019: *Cretaceous Research* **106**: 2. Type species: *Burmochlus madmaxi* Giłka, Zakrzewska & Makarchenko, 2019, by original designation.

†**madmaxi** GIŁKA, ZAKRZEWSKA & MAKARCHENKO, 2019: *Cretaceous Research* 1**06**: 2 (*Burmochlus*). Type locality: "Burmese amber . mined in Hukawng Valley, Kachin State, Myanmar". — **OR**: Myanmar. ►Upper Cretaceous (Cenomanian), 98.17 - 99.41 Mya, Burmese Amber (Adult male)◄.

Genus †**GLUSHKOVELLA** KALUGINA

†**GLUSHKOVELLA** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 129. Type species: *Glushkovella pallida* Kalugina, 1993, by original designation. [**Note**] *CLUSHKOVELLA*: incorrect variant original spelling.

†**pallida** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 129 (*Glushkovella*). Type locality: [Russia, East Siberia] [Title, p. 117] **Vostochnogo Zabaikal'ya** [= East Transbaikalia], [p. 129] **Unda**. — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Tithonian), 145.0 - 152.1 Mya, Compression (Larva) in a lacustrine horizon◄.

Genus **LASIODIAMESA** KIEFFER

LASIODIAMESA KIEFFER, 1924: *Bulletin de la Société d'Histoire Naturelle de la Moselle* **30**: 48 (as subgenus of *Syndiamesa* Kieffer, 1918). Type species: *Syndiamsa* (*Lasiodiamesa*) *gracilis* Kieffer, 1924, by original designation.

†**eocenica** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 265 (*Lasiodiamesa*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**sinefoliis** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 54 (*Lasiodiamesa*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus †**LUANPINGITES** ZHANG

†**LUANPINGITES** ZHANG, 1986: *Acta Palaeontologica Sinica* **25**(1): 51. Type species: *Luanpingites flavus* Zhang, 1986, by original designation.

†**flavus** ZHANG, 1986: *Acta Palaeontologica Sinica* **25**(1): 51 (*Luanpingites*). Type locality: {China} [Translated from Chinese] **Xiahuayuan formation, Mentougou, Zhouyingzi village, Baiwan Town, Luanping County, Hebei Province**. — Distr.: **PA**: China (Hebei). ►Upper to Middle Jurassic (Oxfordian to Callovian), 154.8 - 161.5 Mya, Compression (Adult female) in shale◄.

Genus †**ORYCTOCHLUS** KALUGINA

†**ORYCTOCHLUS** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 83. Type species: *Oryctochlus vulcanus* Kalugina, 1985, by original designation. [**Note**]

†**affinis** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 91 (*Oryctochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (Adult male) in a terrestrial horizon◄.

†**brundini** LUKASHEVICH, 2012: *Fauna Norvegica* **31**: 162 (*Oryctochlus*). Type locality: "SW Mongolia, Shar Teg (outcrop 434/2)". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Tithonian), 145.0 - 149.2 Mya, Compression (Pupal exuviae) in lacustrine claystone◄.

†**contiguus** ZHANG, 1991: *Acta Palaaeontologica Sinica* **30**(5): 561 (*Oryctochlus*). Type locality: {China} [Translated from Chinese] **Laiyang formation, Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China. ►Lower Cretaceous (Aptian), 113.0 - 121.4 Mya, Compression (Adult male and Adult female) in lacustrine large shale◄.

†**kaluginae** LUKASHEVICH, 2012: *Fauna Norvegica* **31**: 162 (*Oryctochlus*). Type locality: "SW Mongolia, Shar Teg (outcrop 443/1)". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Tithonian), 145.0 - 149.2 Mya, Compression (Pupa) in lacustrine large mudstone◄.

†**longilobus** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 89 (*Oryctochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia

(East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (Pupa) in a terrestrial horizon◄.

†**minor** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 91 (*Oryctochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (Pupa) in a terrestrial horizon◄.

†**minutus** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 92 (*Oryctochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (Adult female) in a terrestrial horizon◄.

†**mirificus** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 126 (*Oryctochlus*). Type locality: [Russia, East Siberia] [Title, p. 117] **Vostochnogo Zabaikal'ya** [= East Transbaikalia], [p. 126] **Unda**. — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Tithonian), 145.0 - 149.2 Mya, Compression (Pupa) in a lacustrine horizon◄. [**Note**]

†**placidus** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 128 (*Oryctochlus*). Type locality: [Russia, East Siberia] [Title, p. 117] **Vostochnogo Zabaikal'ya** [= East Transbaikalia], [p. 128] **Chitinskaya obl., Chernyshevskii r-n, Olovskaya vpadina** [= Chita Oblast, Chernyshevsky District, Olovskaya cavity]. — Distr.: **PA**: Russia (East Siberia). ►Lower Cretaceous (Hauterivian), 129.4 - 132.9 Mya, Compression (Pupa) in a terrestrial horizon◄.

?†**toarciensis** ANSORGE, 1996: *Neue Paläontologische Abhandlungen* **2**: 85 (as "**?** *Oryctochlus*"). Type locality: "Tongrube Klein Lehmhagen bei Grimmen (Mecklenburg-Vorpommern, Deutschland)" [= clay pit at Klein Lehmhagen near Grimmen (Mecklenburg-Western Pomerania, Germany)]. — Distr.: **PA**: Germany. ►Lower Jurassic (Toarcian), 174.7 - 184.2 Mya, Compression (Adult, sex unknown) in limestone concretion)◄.

†**vulcanus** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 85 (*Oryctochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (Adult male and Adult female) in a terrestrial horizon◄.

Genus †**PALAEOBOREOCHLUS** BARANOV & ANDERSEN

†**PALAEOBOREOCHLUS** BARANOV & ANDERSEN in BARANOV, ANDERSEN, & PERKOVSKY, 2014: *Zootaxa* **3794**(4): 582. Type species: *Palaeoboreochlus inornatus* Baranov & Andersen, 2014, by original designation.

†inornatus BARANOV & ANDERSEN in BARANOV, ANDERSEN, & PERKOVSKY, 2014: *Zootaxa* **3794**(4): 583 (*Palaeoboreochlus*). Type locality: "Ukraine: Pugach open-pit mine, Klesov, Rovno amber". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **PARABOREOCHLUS** THIENEMANN

PARABOREOCHLUS THIENEMANN, 1939: *Zoologischer Anzeiger* **128**(7/8): 166. Type species: *Tanypus minutissimus* Strobl, 1895, by original designation.

†bisaetiger SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 56 (*Paraboreochlus*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **†PODONOMIUS** KALUGINA

†PODONOMIUS KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 101. Type species: *Podonomius tugnuicus* Kalugina, 1985, by original designation.

†blepharis LUKASHEVICH & PRZHIBORO, 2011: *ZooKeys* **130**: 314 (*Podonomius*). Type locality: "SW Mongolia, Shar Teg". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Oxfordian to Kimmerdigian), 164.5 - 151.2 Mya, Compression (Adult female) in siltstone◄.

†macromastix LUKASHEVICH & PRZHIBORO, 2011: *ZooKeys* **130**: 315 (*Podonomius*). Type locality: "SW Mongolia, Shar Teg". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Oxfordian to Kimmerdigian), 164.5 - 151.2 Mya, Compression (Adult female) in siltstone◄.

?†minimus KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 105 (as "? *Podonomius*"). Type locality: [Russia, East Siberia] "Kubekovo". — Distr.: **PA**: Russia (Siberia). ►Middle Jurassic (Bathonian to Bajocian), 166.1 - 170.3 Mya, Compression (Adult, sex unknown) in lacustrine claystone◄.

?†robustus LUKASHEVICH & PRZHIBORO, 2011: *ZooKeys* **130**: 316 (*Podonomius*). Type locality: "SW Mongolia, Shar Teg". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Kimmerdigian to Oxfordian), 152.1 - 163.5 Mya, Compression (Adult female) in siltstone◄.

?†rotundatus KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 104 (as "? *Podonomius*"). Type locality: [Russia, East Siberia] "Kubekovo". —

Distr.: **PA**: Russia (Siberia). ►Middle Jurassic (Bathonian to Bajocian), 166.1 - 170.3 Mya, Compression (Adult wing) in lacustrine claystone◄.

?†simplex KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 104 (as "? *Podonomius*"). Type locality: [Russia, East Siberia] "Kubekovo". — Distr.: **PA**: Russia (Siberia). ►Middle Jurassic (Bathonian to Bajocian), 166.1 - 170.3 Mya, Compression (Adult wing) in lacustrine claystone◄.

†splendidus KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 104 (*Podonomius*). Type locality: [Russia, East Siberia] "Novospasskoe". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Oxfordian), 157.3 - 163.5 Mya, Compression (Adult male and Adult female) in lacustrine siliciclastic rock◄.

†tugnuicus KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 103 (*Podonomius*). Type locality: [Russia, East Siberia] "Novospasskoe". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Oxfordian), 157.3 - 163.5 Mya, Compression (Adult male and Adult female) in lacustrine siliciclastic rock◄.

†tumidus ANSORGE, 1996: *Neue Paläontologische Abhandlungen* **2**: 86 (as "? *Podonomius*"). Type locality: "Tongrube Klein Lehmhagen bei Grimmen (Mecklenburg-Vorpommern, Deutschland)" [= clay pit at Klein Lehmhagen near Grimmen (Mecklenburg-Western Pomerania, Germany)]. — Distr.: **PA**: Germany. ►Lower Jurassic (Toarcian), 174.1 - 182.7 Mya, Compression (Adult female) in limestone concretion◄.

?†undulatus KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 105 (as "? *Podonomius*"). Type locality: [Russia, East Siberia] "Kubekovo". — Distr.: **PA**: Russia (East Siberia). ►Middle Jurassic (Bathonian – Bajocian), 166.1 - 170.3 Mya, Compression (Pupa) in lacustrine claystone◄.

SUBFAMILY **TANYPODINAE**

TANYPODINAE SKUSE, 1889: *Proceedings of the Linnaean Society of New South Wales* (2) **4**: 276 (originally as "Tanypina"). Type-genus: *Tanypus* Meigen, 1803. Senior homonym and synonym of Tanypodinae Kieffer, 1906. [**Note**]

TANYPODINAE KIEFFER, 1906: *Genera Insectorum* **42**: 33 (originally as "Tanypinæ"). Type-genus: *Tanypus* Meigen, 1803. Junior homonym and synonym of Tanypodinae Skuse, 1889.

PELOPIINAE KIEFFER, 1911: *Records of the Indian Museum* **6**(5): 330. Type-genus: *Pelopia* Meigen, 1800.

ANATOPYNIINI FITTKAU, 1962: *Abhandlungen zur Larvalsystematik der Insekten* **6**: 61. Type-genus: *Anatopynia* Fries, 1823.

CLINOTANYPODINI LIPINA, 1928: *Lichinki i kukolki khironomid. Ekologiya i sistematika*: 71 (originally as "Clinotanypi"). Type-genus: *Clinotanypus* Kieffer, 1913. Senior synonym of Coelotanypodini Fittkau, 1962. [**Note**]

COELOTANYPODINI FITTKAU, 1962: *Abhandlungen zur Larval systematik der Insekten* **6**: 62. Type-genus: *Coelotanypus* Kieffer, 1913. Junior synonym of Clinotanypodini Lipina, 1928.

MACROPELOPIINI ZAVŘEL, 1929: *Zprávy komise na přěírodovědecký* v *výzkum Moravy a Slezska*. *Oddělení zoologické* **18**: 46 (originally as "Macropelopiae"). Type- genus: *Macropelopia* Thienemann, 1916. [**Note**]

PENTANEURINI HENNIG, 1950: *Die Larvenformen der Dipteren* 2. Teil: 239. Type-genus: *Pentaneura* Philippi, 1866. Senior synonym of *Ablabesmyiini* Hennig, 1950. [**Note**]

ABLABESMYIINI HENNIG, 1950: *Die Larvenformen der Dipteren* 2. Teil: 239 (originally as "*Ablabesmiini*"). Type-genus: *Ablabesmyia* Johannsen, 1905. Name not made available - first published as a junior synonym contrary to Article 11.6 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. Unavailable junior synonym of Pentaneurini Hennig, 1950. [**Note**]

PROCLADIINI ROBACK, 1971: *Monographs of the Academy of Natural Sciences of Philadelphia* **17**: 148 (originally as subtribe Procladiina). Type-genus: *Procladius* Skuse, 1889.

TANYPODINI SKUSE, 1889: *Proceedings of the Linnaean Society of New South Wales* (2) **4**: 276 (originally as "Tanypina"). Type-genus: *Tanypus* Meigen, 1803. Senior homonym and senior synonym of Tanypodini Kieffer, 1906.

TANYPODINI KIEFFER, 1906: *Genera Insectorum* **42**: 33 (originally as "Tanypinae"). Type-genus: *Tanypus* Meigen, 1803. Junior homonym and junior synonym of Tanypodini Skuse, 1889.

Genus **ABLABESMYIA** JOHANNSEN

ABLABESMYIA JOHANNSEN, 1905: *Bulletin of the New York State Museum* **86**: 135. Type species: *Tipula monilis* Linnaeus, 1758, by subsequent designation of Johannsen (1907: *Entomological News* **18**(9): 400).

KARELIA ROBACK, 1971: see below as subgenus.

Subgenus **KARELIA** ROBACK

KARELIA ROBACK, 1971: *Monographs of the Academy of Natural Sciences of Philadelphia* **17**: 357. Type species: *Tanypus illinoensis* Malloch, 1915, by original designation.

†**eocenica** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 19 (*Ablabesmyia* (*Karelia*)). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber◄.

Subgenerically unplaced species in ABLABESMYIA

†**electrohispaniolana** GRUND, 2005: *Insect Systematics and Evolution* **36**(1): 32 (*Ablabesmyia*). Type locality: [p. 31] "Dominican Republic". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 80 (*Ablabesmyia*). Locality: [p. 79] "in the northwest of Ukraine, in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **APSECTROTANYPUS** FITTKAU

APSECTROTANYPUS FITTKAU, 1962: *Abhandlungen zur Larvalsystematik der Insekten* **6**: 141. Type species: *Tanypus trifascipennis* Zetterstedt, 1838, by original designation.

†**peculiaris** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 59 (*Apsectrotanypus*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Amber (Adult male)◄.

Genus **BRUNDINIELLA** ROBACK

BRUNDINIELLA ROBACK, 1978: *Entomological News* **89**(5/6) 141 (as new name for *Brundinia* Roback, 1978 nec *Brundinia* Tottenham, 1949). Type species: *Anatopynia* (*Psectrotanypus*) *eumorpha* Sublette, 1964, by original designation.

BRUNDINIA ROBACK, 1978: *Proceedings of the Academy of Natural Sciences of Philadelphia* **129**: 168. Type species: *Anatopynia* (*Psectrotanypus*) *eumorpha* Sublette, 1964, by original designation. **Preoccupied**. Junior homonym of *Brundinia* Tottenham, 1949.

†**glabrata** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 11 (*Brundiniella*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal.., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

†**patriciae** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 8 (*Brundiniella*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal.., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

†**soumyia** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 5 (*Brundiniella*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal.., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **COELOTANYPUS** KIEFFER

COELOTANYPUS KIEFFER, 1913: *Records of the Indian Museum* **9**(3): 154. Type species: *Tanypus humeralis* Loew, 1866, by original designation.

†**electronicus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 17 (*Coelotanypus*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal. ., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

†**validus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 60 (*Coelotanypus*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Amber (Adult male)◄.

Genus **CONCHAPELOPIA** FITTKAU

CONCHAPELOPIA FITTKAU 1957: *Archiv fur Hydrobiologie* **53**: 317. Type species: *Tanypus pallidus* Meigen, 1818 by original designation.

†sp.: BARANOV & HAUG, 2022: *Palaeontologia Electronica* **25**(1): a4. Type locality: Kishenehn Formation, Montana, USA. — Distr.: **NE**: USA, Montana. ►Eocene (Lutenian), 46.0 Mya, (Pupae and pharate adults)◄.

Genus †**CRETAPELOPIA** VELTZ, AZAR & NEL

†**CRETAPELOPIA** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 175. Type species: *Cretapelopia salomea* Veltz, Azar & Nel, 2007, by original designation. [**Note**]

†**salomea** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 175 (*Cretapelopia*). Type locality: "LEBANON: *Mont Lebanon district* [*Mouhafazit Jabal Loubnan*]: Hammana/Mdeyrij, Caza Baabda". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄.

Genus †**EOPROCLADIUS** SZADZIEWSKI, SONTAG & DOMINIAK

†**EOPROCLADIUS** SZADZIEWSKI, SONTAG & DOMINIAK, 2018: *Annales Zoologici (Warszawa)* **68**(3): 602. Type species: *Eoprocladius hoffeinsorum* Szadziewski, Sontag & Dominiak, 2018, by original designation.

†**hoffeinsorum** SZADZIEWSKI, SONTAG & DOMINIAK, 2018: *Annales Zoologici (Warszawa)* **68**(3): 604 (*Eoprocladius*).Type locality: [p. 606] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Amber (Adult male and Adult female)◄.

Genus †**LIBANOPELOPIA** VELTZ, AZAR & NEL

†**LIBANOPELOPIA** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 171. Type species: *Libanopelopia cretacica* Veltz, Azar & Nel, 2007, by original designation. [**Note**]

†**cretacica** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 171 (*Libanopelopia*). Type locality: "LEBANON: *South Lebanon district* [*Mouhafazit Loubnan el-Janoubi*]: Caza Jezzine, locality between villages Homsiyyeh, Aazour and Roum". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄. [**Note**]

Genus **MACROPELOPIA** THIENEMANN

MACROPELOPIA THIENEMANN in THIENEMANN & KIEFFER, 1916: *Archiv für Hydrobiologie Supplement* **2**(3): 497. Type species: *Isoplas[t]us bimaculatus* Kieffer, 1909 [= *Tanypus nebulosus* Meigen, 1804], by original designation.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 80 (*Macropelopia*). Locality: [p. 79] "in the northwest of Ukraine, in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **MONOPELOPIA** FITTKAU

MONOPELOPIA FITTKAU, 1962: *Abhandlungen zur Larvalsystematik der Insekten* **6**: 394. Type species: *Tanypus tenuicalcar* Kieffer, 1918, by original designation.

†sp.: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Monopelopia*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

Genus **NILOTANYPUS** KIEFFER

NILOTANYPUS KIEFFER, 1923: *Annales de la Société Entomologique de France* **92**: 191. Type species: *Nilotanypus remotissimus* Kieffer, 1923, by monotypy.

†**prieuri** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 20 (*Nilotanypus*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya Oise Amber (Adult male)◄.

Genus **PROCLADIUS** SKUSE

PROCLADIUS SKUSE, 1889: *Proceedings of the Linnaean Society of New South Wales* (2) **4**: 283. Type species: *Procladius paludicola* Skuse, 1889, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 594).

HOLOTANYPUS ROBACK, 1982: see below as subgenus.

Subgenus **HOLOTANYPUS** ROBACK

HOLOTANYPUS ROBACK, 1982: *Proceedings of the Academy of Natural Sciences of Philadelphia* **134**: 99 (as nom. nov. for Subgenus *Procladius* sensu Roback, 1971, not Skuse 1889, misidentified). Type species: *Tipula culiciformis* Linnaeus, 1767, by original designation.

†**enigmaticus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 15 (*Procladius*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

?Subgenus PROCLADIUS

†**maillardi** (DOITTEAU & NEL, 2007): *Zootaxa* **1404**: 12 (*Djalmabatista*). Type locality: [page 5] "Spamacian, level MP7 of the mammal fauna of Dormaal .. , Farm Le Quesnoy, Chevriere, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄. [**Note**]

†sp.: BARANOV, HAUG & KAULFOSS, 2024: *PeerJ* **12**(4) e17014. Foulden Maar Fossil-Lagerstätte". — Distr.: **AU**: New Zealand. ►Miocene (Aquitanuan), 20.43 - 23.03 Mya, Compression (Pupa)◄.

Genus **PSECTROTANYPUS** KIEFFER

PSECTROTANYPUS KIEFFER, 1909: *Bulletin de la Societe d'Histoire Naturelle de Metz* **26**: 42. Type species *Psectrotanypus brevicalcar* Kieffer, 1909 [=*Tipula varia* Fabricius,

1787], by subsequent designation of Fittkau (1962: *Abhandlungen zur Larvalsystematik der Insekten* **6**: 129).

†sp.: BARANOV & HAUG, 2022: *Palaeontologia Electronica* **25**(1): a4. Type locality: Kishenehn Formation, Montana, USA. — Distr.: **NE**: USA, Montana. ►Eocene (Lutenian), 46.0 Mya, (Pupae and pharate adults)◄.

Genus **TANYPUS** MEIGEN

TANYPUS MEIGEN, 1803: *Magazin für Insektenkunde (Illiger)* **2**: 261. Type species: *Tipula cincta* Fabricius, 1775 sensu Latreille, 1810 [misidentified = *Tanypus punctipennis* Meigen, 1818], by subsequent designation of Latreille (1810): *Considérations générales*: 442.

PELOPIA MEIGEN, 1800: *Nouvelle Classification*: 18. Type species: *Tipula cincta* Fabricius, 1775, sensu Coquillett, 1910 [misidentified = *Tanypus punctipennis* Meigen, 1818], by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 586). Synonymized with *Tanypus* Meigen, 1803, by Hendel (1908: *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien (Abhandlungen)* **58**: 49). *Pelopia* Meigen, 1800, suppressed by ICZN, 1963: *Bulletin of Zoological Nomenclature* **20**: 339 (Opinion 678).

†sp.: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Tanypus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

Nomen dubium in TANYPUS

†*dorminans* (HEYDEN, 1870): *Palaeontographica* **17**(6): 248 (*Chironomus*). Type locality: [Germany] [Title, p. 237] "aus der Braunkohle von Rott im Siebengebirge" [= from the brown coal of Rott in Siebengebirge]. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 28.1 - 29.44 Mya, Compression (Adult female) in yellowish-brown slate◄. [**Note**]

Genus †**WADELIUS** VELTZ, AZAR & NEL

†**WADELIUS** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 177. Type species: *Wadelius libanicus* Veltz, Azar & Nel, 2007, by original designation. [**Note**]

†**libanicus** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 178 (*Wadelius*). Type locality: "LEBANON: *Mont Lebanon district* [*Mouhafazit Jabal Loubnan*]: Hammana/Mdeyrij, Caza Baabda". — Distr.: **PA**: Lebanon. ►Lower Cretaceous

(Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄; ►Adult female in Azar *et al.* (2008)◄.

Genus †**ZIADEUS** AZAR & NEL

†**ZIADEUS** AZAR & NEL, 2010: *Annales de la Societe Entomologique de France* (Nouvelle Série) **46**(1/2): 199. Type species: *Ziadeus kamili* Azar & Nel, 2010, by original designation.

†**kamili** AZAR & NEL, 2010: *Annales de la Societe Entomologique de France* (Nouvelle Série) **46**(1/2): 199 (*Ziadeus*). Type locality: "Hammana/Mdeyrij, Caza Baabda, Mouhafazit Jabal Loubnan (Mont Lebanon district), Lebanon". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male and Adult female)◄. [?Pentaneurini or Macropelopiini [PA]]

Unidentified GENUS in TANYPODINAE

?†sp.: VERA *et al*., 2023: *Communications Biology* (2023) **6**: 1249, 1-11. Locality: El Calafate, Santa Cruz, "Chorillo Formation". — Distr.: **NT**: Southern Argentina. ►Upper Cretaceous (Maastrichtian), 66.0 - 72.0 Mya, as morphotype 4, Specimen no. MPM-Pal 21835-2:Y40/3 (larva, ligula)◄.

†sp.indet: JELL & DUNCAN, 1986: *Memoir of the Association of Australasian Palaeontologists* **3**: 111-205: Locality: Koonwarra Fossil Bed (Korumbarra Group) South Gippsland, Victoria. — Distr.: AU: Victoria, Australia. ►Lower Cretaceous (Barramian), 125.0 - 129.4 Mya, (adult male; Museum Victoria Palaeontology Inventory number NMVP 103282)◄

†sp.1.: JELL & DUNCAN, 1986: *Memoir of the Association of Australasian Palaeontologists* **3**: 111-205: Locality: Koonwarra Fossil Bed (Korumbarra Group) South Gippsland, Victoria. — Distr.: AU: Victoria, Australia. ►Lower Cretaceous (Barramian), 125.0 - 129.4 Mya, (pupa; Museum Victoria Palaeontology Inventory number NMVP 102496)◄

†sp.2.: JELL & DUNCAN, 1986: *Memoir of the Association of Australasian Palaeontologists* **3**: 111-205: Locality: Koonwarra Fossil Bed (Korumbarra Group) South Gippsland, Victoria. — Distr.: AU: Victoria, Australia. ►Lower Cretaceous (Barramian), 125.0 - 129.4 Mya, (pupa; Museum Victoria Palaeontology Inventory number NMVP 103134-6)◄

SUBFAMILY: *INCERTAE SEDIS* (PODONOMINAE or TANYPODINAE)

Taxa display some features of different subfamilies – discovery of additional fossil material should help resolve placement.

Genus †**HAEMATOTANYPUS** AZAR, VELTZ & NEL

†**HAEMATOTANYPUS** AZAR, VELTZ & NEL, 2008: *Systematic Entomology* **33**(4): 693. Type species: *Haematotanypus libanicus* Azar, Veltz & Nel, 2008, by original designation. [?Podonominae female wings of *Haematotanypus* and *Libanochlites* very similar; female last flagellomere elongate, longer than preceding flagellomeres.]

†**libanicus** AZAR, VELTZ & NEL, 2008: *Systematic Entomology* **33**(4): 693 (*Haematotanypus*). Type locality: "Neocomian sandstone, Jouar Es-Souss near Jezzine and usually known as Jezzine outcrop, Caza Jezzine, Mouhafazit Loubnan El Janoubi (South Lebanon district), Lebanon". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult female)◄. [?Podonominae or Tanypodinae [PA]]

Genus †**JUROCHLUS** KALUGINA

†**JUROCHLUS** KALUGINA in KALUGINA & KOV ALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 95. Type species: *Jurochlus sibiricus* Kalugina, 1985, by original designation.

†**adustus** LUKASHEVICH & PRZHIBORO, 2012: *Zootaxa* **3478**: 446 (*Jurochlus*). Type-locality: "Mongolia, East Gobi Aymag, Khutel-Khara (= Hara Hutul), lower Tsagantsab Formation". — Distr.: **PA**: Mongolia. ►Lowermost Cretaceous (Barremian), 125.0 - 129.4 Mya, Compression (?Pupa) in a lacustrine small siliciclastic rock◄. [?Podonominae or Tanypodinae [PA]]

†**limbatus** LUKASHEVICH & PRZHIBORO, 2012: *Zootaxa* **3478**: 439 (*Jurochlus*). Type locality: "SW Mongolia, Gobi-Altai Aymag, Shar Teg (outcrop 443/1)". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Tithonian), 145.0 - 152.1 Mya, Compression (?Pupa) in lacustrine large mudstone◄. [?Podonominae or Tanypodinae [PA]]

†**lineatus** LUKASHEVICH & PRZHIBORO, 2012: *Zootaxa* **3478**: 441 (*Jurochlus*). Type-locality: "SW Mongolia, Gobi-Altai Aymag, Shar Teg (outcrop 443/1)". — Distr.: **PA**: Mongolia. ►Upper Jurassic (Tithonian), 145.0 - 152.1 Mya, Compression (?Pupa) in lacustrine large mudstone◄. [?Podonominae or Tanypodinae [PA]]

†**rigor** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 96 (*Jurochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmerdigian to Oxfordian), 152.1 - 163.5 Mya, Compression (?Pupa) in a terrestrial horizon ??rock??◄. [Redescription in Lukashevich and Przhiboro, 2011: 438] [?Podonominae or Tanypodinae [PA]]

†**sibiricus** KALUGINA in KALUGINA & KOV ALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 95 (*Jurochlus*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia

(East Siberia). ►Upper Jurassic (Kimmerdigian to Oxfordian), 152.1 - 163.5 Mya, Compression (?Pupa) in a terrestrial horizon ??rock??. [Redescription in Lukashevich and Przhiboro, 2011: 436] [?Podonominae or Tanypodinae [PA]]

†**trivittatus** LUKASHEVICH & PRZHIBORO, 2012: *Zootaxa* **3478**: 439 (*Jurochlus*). Type locality: "SW Mongolia, Gobi-Altai Aymag, Shar Teg (outcrop 44311)". — Distr.: PA: Mongolia. ►Upper Jurassic (Kimmerdiian to Oxfordian), 152.1 - 163.5 Mya, Compression (?Pupa) in a terrestrial horizon siltstone◄. [?Podonominae or Tanypodinae [PA]]

Genus †**LANGTONIUS** LUKASHEVICH & PRZHIBORO

†**LANGTONIUS** LUKASHEVICH & PRZHIBORO, 2019: *Paleontological Journal* **52**(12): 1401. Type species: *Langtonius cynaricaudatus* Lukashevich & Przhiboro, 2019, by original designation.

†**cynaricaudatus** LUKASHEVICH & PRZHIBORO, 2019: *Paleontological Journal* **52**(12): 1402 (*Langtonius*). Type locality: "southeastern Mongolia, Dornogovi, 75 km southwest of Sainshand, Khutel Khara (= Hara Hutul). Lower Tsagantsab Formation". — Distr.: **PA**: Mongolia. ►Lower Cretaceous (Valanginian to Berriasian), 132.9 - 145.0 Mya, Compression in interbasalt mudstones (incomplete female pupal abdomen)◄. [?Podonominae or Tanypodinae [PA]]

Genus †**LIBANOCHLITES** BRUNDIN

†**LIBANOCHLITES** BRUNDIN, 1976: *Zoologica Scripta* **5**(3/4): 149. Type species: *Libanochlites neocomicus* Brundin, 1976, by monotypy. [**Note** *Libanochlites neocomicus*]

†**eocenicus** BARANOV, HOFFEINS, HOFFEINS & HAUG, 2019: *Palaeontologia Electronica* **22.2.38A**: 3 (*Libanochlites*). Type locality: "Baltic Sea coast, Samland Peninsula". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Ypresian?), 33.9 - 56 Mya, Amber (Adult male)◄. [?Podonominae or Tanypodinae [PA]]

†**neocomicus** BRUNDIN, 1976: *Zoologica Scripta* **5**(3/4): 149 (*Libanochlites*). Type-locality: "from the Neocomian amber of Lebanon". — Distr.: **PA**: Jordan, Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Amber (Adult female); Adult male in Veltz *et al.* (2007)◄. [?Podonominae or Tanypodinae [PA]]

SUBFAMILY †**CRETODIAMESINAE**

†**CRETODIAMESINAE** KALUGINA, 1976: *Paleontologicheskii Zhurnal* **1976**(1): 87 [(as Cretodiamesini in Kalugina (1976), raised to subfamily rank in Ashe, Murray and O'Connor (2018)]. Type-genus: *Cretodiamesa* Kalugina, 1976. [**Note**]

Genus †**CRETODIAMESA** KALUGINA

†**CRETODIAMESA** KALUGINA, 1976: *Paleontologicheskii Zhurnal* **1976**(1): 88. Type species: *Cretodiamesa taimyrica* Kalugina, 1976, by original designation.

†**taimyrica** KALUGINA, 1976: *Paleontologicheskii Zhurnal* **1976**(1): 89 (*Cretodiamesa*). Type locality: [Russia, East Siberia] **Vostochnyi Taimyr, ust'e r. Maimecha, gora Yantardakh** [= Eastern Taimyr, mouth of the Maymecha River, Yantardakh Mountain]. — Distr.: **PA**: Russia (East Siberia). ►Upper Cretaceous (Santonian), 83.6 - 86.3 Mya, Amber (Adult male and Adult female)◄.

SUBFAMILY **DIAMESINAE**

DIAMESINAE KIEFFER, 1922: *Report of the Scientific Results of the Norwegian Expedition to Novaya Zemlya* **2**: 23 (as "Diamesariae"). Type-genus: *Diamesa* Meigen, 1835.

DIAMESINI KIEFFER, 1922: *Report of the Scientific Results of the Norwegian Expedition to Novaya Zemlya* **2**: 23 (as "Diamesariae"). Type-genus: *Diamesa* Meigen, 1835.

†**EUGENODIAMESINI** LUKASHEVICH & PRZHIBORO, 2015: *Cretaceous Research* **52**(B): 563. Type-genus: *Eugenodiamesa* Lukashevich & Przhiboro, 2015.

†*EUGENODIAMESINI* LUKASHEVICH & PRZHIBORO, 2014: *Cretaceous Research* **52**(B): 563 **[Invalid Online Version]**. Type-genus: *Eugenodiamesa* Lukashevich & Przhiboro, 2014. Name not made available – work not registered in the *Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**. Unavailable senior synonym of *Eugenodiamesini* Lukashevich & Przhiboro, 2015 (above).

Genus **DIAMESA** MEIGEN

DIAMESA MEIGEN in GISTL, 1835: *Faunus* **2**: 66. Type species: *Diamesa cinerella* Meigen, 1835, by monotypy. Senior homonym of *Diamesa* Waltl, 1837 and *Diamesa* Meigen, 1835. [**Note**]

DIAMESA WALTL, 1837: *Isis* (Oken's) **21**(4): 283. Type species: *Diamesa cinerella* Meigen, 1835, by monotypy. **Preoccupied**. Junior homonym of *Diamesa* Meigen, 1835.

†**extincta** MELANDER, 1949: *American Museum Novitates* **1407**: 12 (*Diamesa*). Type locality: [USA] "Florrisant, Colorado". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Adult, sex unknown) in lacustrine shale◄.

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

Genus †**EUGENODIAMESA** LUKASHEVICH & PRZHIBORO

†**EUGENODIAMESA** LUKASHEVICH & PRZHIBORO, 2015: *Cretaceous Research* **52**(B): 563 [**Valid Print Version**]. Type species: *Eugenodiamesa makarchenkoi* Lukashevich & Przhiboro, 2015, by original designation.

†*EUGENODIAMESA* LUKASHEVICH & PRZHIBORO, 2014: *Cretaceous Research* **52**(B): 563 [Invalid Online Version]. Type species: *Eugenodiamesa makarchenkoi* Lukashevich & Przhiboro, 2014, by original designation. Name not made available – work not registered in the *Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**. Unavailable senior synonym of *Eugenodiamesa* Lukashevich & Przhiboro, 2015 (above).

†**makarchenkoi** LUKASHEVICH & PRZHIBORO, 2015: *Cretaceous Research* **52**(B): 565 [**Valid Print Version**] (*Eugenodiamesa*). Type locality: "Khutel Khara; SE Mongolia, Dornogovi, 75 km SW Sainshand". — Distr.: **PA**: Mongolia. ►Lower Cretaceous (Valanginian to Berriasian), 132.9 - 145 Mya, Compression (Pupa) in interbasalt mudstone◄.

Genus **LAPPODIAMESA** SERRA-TOSIO

LAPPODIAMESA SERRA-TOSIO, 1969: *Travaux du Laboratoire d'Hydrobiologie et de Pisciculture de l'Université de Grenoble* **59**/**60**: 140. Type species: *Lappodiamesa brundini* Serra-Tosio, 1969, by original designation.

†**deploegi** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 57 (*Lappodiamesa*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **PAGASTIA** OLIVER

PAGASTIA OLIVER, 1959: *Entomologisk Tidskrift* **80**(1/2): 49. Type species: *Pagastia orthogonia* Oliver, 1959, by original designation.

†**menieri** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 55 (*Pagastia*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **PARAHEPTAGYIA** BRUNDIN

PARAHEPTAGYIA BRUNDIN, 1966: K*ungliga Svenska Vetenskaps Akademiens Handlingar* **11**: 379. Type species: *Heptagyia cinerascens* Edwards, 1931, by original designation.

†sp. morphotype 3.: VERA *et al.*, 2023: *Communications Biology* (2023) **6**: 1249, 1-11. Locality: El Calafate, Santa Cruz, "Chorillo Formation". — Distr.: **NT**: Southern Argentina. ►Upper Cretaceous (Maastrichtian), 66.0 - 72.0 Mya, (larva, isolated menti, Ref specimens: MPM-Pal 21835-9:E34/4, MPM-Pal 21835-19: V34/4.)◄.

SUBFAMILY **PRODIAMESINAE**

PRODIAMESINAE SÆTHER, 1976: *Bulletin of the Fisheries Research Board of Canada* **195**: 10. Type-genus: *Prodiamesa* Kieffer, 1906.

Genus †**CRETADIAMESA** VELTZ, AZAR & NEL

†**CRETADIAMESA** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 186. Type species: *Cretadiamesa arieli* Veltz, Azar & Nel, 2007, by original designation.

†**arieli** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 186 (*Cretadiamesa*). Type locality: "LEBANON: *Mont Lebanon district* [*Mouhafazit Jabal Loubnan*]: Hammana/Mdeyrij, Caza Baabda". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male and Adult female)◄.

Genus †**LIBANODIAMESA** VELTZ, AZAR & NEL

†**LIBANODIAMESA** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 184. Type species: *Libanodiamesa deploegi* Veltz, Azar & Nel, 2007, by original designation.

†**deploegi** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 184 (*Libanodiamesa*). Type locality: "LEBANON: *Mont Lebanon district* [*Mouhafazit Jabal Loubnan*]: Hammana/Mdeyrij, Caza Baabda". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄. [? Prodiamesinae; adult male lacking hypopygium ^{PA}]

†**simpsoni** BARANOV ET AL., 2018 *Cretaceous Research* **95**: 138-145. Type- locality: [Great Britain] {southern England ... Isle of Wight} "Wealden amber, plant debris bed above Chilton Chine sandstone, Wessex Formation, SW coast of IoW" [IoW = Isle of Wight]. — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Barremian), 125 - 129.4 Mya, Wealden Amber (Adult female)◄.

Genus **MONODIAMESA** KIEFFER

MONODIAMESA KIEFFER, 1922: *Bulletin de la Société Entomologique de France* **1921**: 287. Type species: *Prodiamesa bathyphila* Kieffer, 1918, by subsequent designation of Goetghebuer in Goetghebuer and Lenz (1939): *Die Fliegen der Palaearktischen Region* **13d**: 3.

†**guglielmia** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 59 (*Monodiamesa*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal.., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus †**PAICHELERIA** AZAR & NEL

†**PAICHELERIA** AZAR & NEL, 2010: *Annales de la Societe Entomologique de France* (Nouvelle Série) **46**(1/2): 202. Type species: *Paicheleria magnifica* Azar & Nel, 2010, by original designation.

†**magnifica** AZAR & NEL, 2010: *Annales de la Societe Entomologique de France* (Nouvelle Série) **46**(1/2): 202 (*Paicheleria*). Type locality: "Hammana/Mdeyrij, Caza Baabda, Mouhafazit Jabal Loubnan (Mont Lebanon district), Lebanon". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄.

Genus **PRODIAMESA** KIEFFER

PRODIAMESA KIEFFER, 1906: *Genera Insectorum* **42**: 37. Type species: *Diamesa praecox* Kieffer, 1900 [= *Chironomus olivaceus* Meigen, 1818], by original designation.

†**indeserta** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 269 (*Prodiamesa*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Subfamily **ORTHOCLADIINAE**

ORTHOCLADIINAE KIEFFER, 1911: *Records of the Indian Museum* **6**(5): 345 (as "Orthocladiariae"). Type-genus: *Orthocladius* Wulp, 1874. Usage of the name Orthocladiinae validated by Opinion 2206 of the International Commission on Zoological Nomenclature (2008: *Bulletin of Zoological Nomenclature* **65**(3): 229-231). [**Note**]

Genus †**ACUTIFORCIPIA** ASHE & O'CONNOR

†**ACUTIFORCIPIA** ASHE & O'CONNOR, 2019: *Validation of the fossil genus name* †ACUTIFORCIPIA *(Diptera: Chironomidae: Orthocladiinae). Bulletin of the Irish*

Biogeographical Society **43**: 131. Type species: *Acutiforcipia crusnotabile* Seredszus & Wichard in Wichard *et al.* (2009), by subsequent designation.

†*ACUTIFORCIPIA* SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 244. Type species: Not given. Name not made available - not accompanied by the fixation of a Type species contrary to Article 13.3 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**crusnotabile** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 249 (*Acutiforcipia*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**cuspilonga** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 246 (*Acutiforcipia*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**fittkaui** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 252 (*Acutiforcipia*). Type locality: "Baltic Amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **ANTILLOCLADIUS** SÆTHER

ANTILLOCLADIUS SÆTHER, 1981: *Entomologica Scandinavica Supplement* **16**: 4. Type species: *Antillocladius antecalvus* Sæther, 1981, by original designation.

†sp.: BARANOV & PERKOVSKY, 2013: *Terrestrial Arthropod Reviews* **6**: 65 (*Antillocladius*). Locality: {Russia} "Starodubskoye, Dolinsk district, Sakhalinian amber". — Distr.: **PA**: Russia (Far East). ►Eocene (Lutetian), 41.2 - 47.8 Mya, Sakhalinian Amber (Adult male)◄.

Genus **BRILLIA** KIEFFER

BRILLIA KIEFFER, 1913: *Bulletin de la Société d'Histoire Naturelle de Metz* **28**: 34. Type species: *Metriocnemus bifidus* Kieffer, 1909, by original designation.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 80 (*Brillia*). Locality: [p. 79] "in the northwest of Ukraine ..in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **BRYOPHAENOCLADIUS** THIENEMANN

BRYOPHAENOCLADIUS THIENEMANN, 1934: *Encyclopédie Entomologique, B-II, Diptera* **7**: 36. Type species: *Orthocladius muscicola* Kieffer, 1906, by original designation.

†**beuki** BARANOV, ANDERSEN & HAGENLUND, 2015: *Norwegian Journal of Entomology* **62**(1): 54 (*Bryophaenocladius*). Type locality: "LITHUANIA, Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**circumclusus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 77 (*Bryophaenocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **CHAETOCLADIUS** KIEFFER

CHAETOCLADIUS KIEFFER, 1911: *Bulletin de la Société Entomologique de France* **1911**: 182 (as subgenus of *Dactylocladius* Kieffer, 1906). Type species: *Dactylocladius setiger* Kieffer, 1908 [= *Chironomus perennis* Meigen, 1830], by subsequent designation of Goetghebuer in Goetghebuer and Lenz (1942: *Die Fliegen der Palaearktischen Region* **13g**: 57).

Subgenus **CHAETOCLADIUS** KIEFFER

†**incurvus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 62 (*Chaetocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**petruleviciusi** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 27 (*Chaetocladius*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus †**CHASMATONOTOIDES** DOITTEAU & NEL

†**CHASMATONOTOIDES** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 33. Type species: *Chasmatonotoides longiantennata* Doitteau & Nel, 2007, by original designation.

†**deharvengi** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 35 (*Chasmatonotoides*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

†**longiantennata** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 33 (*Chasmatonotoides*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **CORYNONEURA** WINNERTZ

CORYNONEURA WINNERTZ, 1846: *Stettiner Entomologische Zeitung* **7**(1): 12. Type species: *Corynoneura scutellata* Winnertz, 1846, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 528).

†**eocenica** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 22 (*Corynoneura*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal .., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male and Adult female)◄.

Genus **CRICOTOPUS** WULP

CRICOTOPUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus tibialis* Meigen, 1804, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 528). Senior homonym of *Cricotopus* Wulp, 1874 (below). [**Note**]

CRICOTOPUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 132. Type species: *Chironomus tibialis* Meigen, 1804, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 528). **Preoccupied**. Junior homonym of *Cricotopus* Wulp, 1874 (above).

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 80 (*Cricotopus*). Locality: [p. 79] "in the northwest of Ukraine . . . in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus †**FLEXICRUS** SEREDSZUS & WICHARD

†**FLEXICRUS** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 262. Type species: *Flexicrus palaeobalticus* Seredszus & Wichard, 2009, by monotypy.

†**palaeobalticus** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 262 (*Flexicrus*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **HETEROTRISSOCLADIUS** SPÄRCK

HETEROTRISSOCLADIUS SPÄRCK, 1923: *Entomologiske Meddelelser* **14**(2/3): 94. Type species: *Metriocnemus cubitalis* Kieffer, 1911 [? = *Chironomus marcidus* Walker, 1856], by subsequent designation of Goetghebuer in Goetghebuer and Lenz (1940: *Die Fliegen der Palaearktischen Region* **13g**: 6).

†**naibuchi** BARANOV, ANDERSEN & PERKOVSKY, 2015: *Insect Systematics and Evolution* **46**(4): 360 (*Heterotrissocladius*). Type locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". — Distr.: **PA**: Russia (Far East). ►Eocene (Lutetian), 41.2 - 47.8 Mya, Sakhalinian Amber (Adult male)◄.

†*naibuchi* BARANOV, ANDERSEN & PERKOVSKY, 2014: *Insect Systematics and Evolution*: 2 (*Heterotrissocladius*). Locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". Name not made available – work not registered in the *Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**.

†**paleolacustris** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 79 (*Heterotrissocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 80 (*Heterotrissocladius*). Locality: [p. 79] "in the northwest of Ukraine in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **HYDROBAENUS** FRIES

HYDROBAENUS FRIES, 1830: *Kungliga Svenska VetenskapsAkademiens Handlingar* **1829**: 177 (as "*Hydrobœnus*"). Type species: *Hydrobaenus lugubris* Fries, 1830, by original designation. Senior homonym of *Hydrobaenus* Fries, 1831.

HYDROBAENUS FRIES, 1831: *Isis* (Oken's) **15**(12): 1350. Type species: *Hydrobaenus lugubris* Fries, 1831 [= *Hydrobaenus lugubris* Fries, 1830], by original designation. **Preoccupied**. Junior homonym of *Hydrobaenus* Fries, 1830.

†**torpidus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 81 (*Hydrobaenus*). Type locality: [Introduction, p.50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **HYDROSMITTIA** FERRINGTON & SÆTHER

HYDROSMITTIA FERRINGTON & SÆTHER, 2011: *Zootaxa* **2849**: 103. Type species: *Pseudosmittia ruttneri* Strenzke &Thienemann, 1942, by original designation.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 81 (*Hydrosmittia*). Locality: [p. 79] "in the northwest of Ukraine in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **KRENOSMITTIA** THIENEMANN & KRUGER

KRENOSMITTIA THIENEMANN & KRÜGER, 1939: *Zoologischer Anzeiger* **127**(9/10): 257. Type species: *Smittia* (*Epoicocladius*) *gynocera* Edwards, 1937 sensu Thienemann & Krüger, 1939 [misidentified, either = *Spaniotoma* (*Eukiefferiella*) *camptophleps* Edwards, 1929 or = *Smittia* (*Krenosmittia*) *boreoalpina* Goetghebuer, 1944], by original designation.

†**paleofontana** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 64 (*Krenosmittia*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus †**LEBANORTHOCLADIUS** VELTZ, AZAR & NEL

†**LEBANORTHOCLADIUS** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 179. Type species: *Lebanorthocladius furcatus* Veltz, Azar & Nel, 2007, by original designation.

†**furcatus** VELTZ, AZAR & NEL, 2007: *African Invertebrates* **48**(1): 179 (*Lebanorthocladius*). Type locality: "LEBANON: *Mont Lebanon district* [*Mouhafazit Jabal Loubnan*]: Hammana/Mdeyrij, Caza Baabda". — Distr.: **PA**: Lebanon. ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Lebanese Amber (Adult male)◄.

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

Genus **LIMNOPHYES** EATON

LIMNOPHYES EATON, 1875: *Entomologist's Monthly Magazine* **12**: 60. Type species: *Limnophyes pusillus* Eaton, 1875 [= *Chironomus minimus* Meigen, 1818], by monotypy.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 82 (*Limnophyes*). Locality: [p. 79] "in the northwest of Ukraine in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male and Adult female)◄.

Genus **METRIOCNEMUS** WULP

METRIOCNEMUS WULP, 1874: *Tidschriff voor Entomologie* **16**: LXX, LXXI. Type species *Chironomus albolineatus* Meigen, 1818, by subsequent designation of Coquillet (1910: *Proceedings of the United States National Museum* **37**: 569). Senior homonym of *Metriocnemus*, Wulp, 1875.

METRIOCNEMUS WULP, 1875: *Tidschriff voor Entomologie* **17**(5): 136. Type species *Chironomus albolineatus* Meigen, 1818, by subsequent designation of Coquillet (1910: *Proceedings of the United States National Museum* **37**: 569). Preoccupied, Junior homonym of *Metriocnemus*, Wulp, 1874 (above).

Subgenus **METRIOCNEMUS** WULP

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 81 (*Metriocnemus*). Locality: [p. 79] "in the northwest of Ukraine in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male and Adult female)◄.

Genus †**MYANMARO** GIŁKA, MAKARCHENKO, PANKOWSKI & ZAKRZEWSKA

†**MYANMARO** GIŁKA, MAKARCHENKO, PANKOWSKI & ZAKRZEWSKA, 2019: *Zootaxa* **4565**(1): 63. Type species: *Myanmaro primus* Giłka, Makarchenko, Pankowski & Zakrzewska, 2019, by original designation.

†**primus** GIŁKA, MAKARCHENKO, PANKOWSKI & ZAKRZEWSKA, 2019: *Zootaxa* **4565**(1): 63 (*Myanmaro*). Type locality: "Hukawng Valley, Kachin State, Myanmar". — Distr.: **OR:** Myanmar. ►Upper Cretaceous (Cenomanian), 98.17 - 99.41 Mya, Burmese Amber (Adult male)◄.

Genus **ORTHOCLADIUS** WULP

ORTHOCLADIUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus oblidens* Walker, 1856, by subsequent designation of Opinion 2206

by the International Commission on Zoological Nomenclature (2008: *Bulletin of Zoological Nomenclature* **65**(3): 229). Senior homonym of *Orthocladius* Wulp, 1875 (below). [**Note**]

ORTHOCLADIUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 132. Type species: *Chironomus oblidens* Walker, 1856, by subsequent designation of Opinion 2206 by the International Commission on Zoological Nomenclature (2008: *Bulletin of Zoological Nomenclature* **65**(3): 229). **Preoccupied**. Junior homonym of *Orthocladius* Wulp, 1874 (above).

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 82 (*Orthocladius*). Locality: [p. 79] "in the northwest of Ukraine . in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **PARACHAETOCLADIUS** WÜLKER

PARACHAETOCLADIUS WÜLKER, 1959: *Archiv für Hydrobiologie Supplement* **25**(1): 44 (as subgenus of *Chaetocladius* Kieffer, 1911). Type species: *Chaetocladius* (*Parachaetocladius*) *abnobaeus* Wülker, 1959, by monotypy.

†**balticus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 68 (*Parachaetocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 83 (*Parachaetocladius*). Locality: [p. 79] "in the northwest of Ukraine . . . in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus †**PARACHASMATONOTUS** DOITTEAU & NEL

†**PARACHASMATONOTUS** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 29. Type species: *Parachasmatonotus oesiensis* Doitteau & Nel, 2007, by original designation.

†**oesiensis** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 29 (*Parachasmatonotus*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal . . ., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

Genus **PARAMETRIOCNEMUS** GOETGHEBUER

PARAMETRIOCNEMUS GOETGHEBUER, 1932: *Faune de France* **23**: 22 (as subgenus of *Metriocnemus* Wulp, 1874). Type species: *Metriocnemus stylatus* Spärck, 1923, by monotypy.

†**electri** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 66 (*Parametriocnemus*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **PARAPHAENOCLADIUS** THIENEMANN

PARAPHAENOCLADIUS THIENEMANN in SPÄRCK & THIENEMANN, 1924: *Verhandlungen der Internationalen Vereinigung für Theoretiische und Angewandte Limnologie* **2**: 223. Type species: *Metriocnemus ampullaceus* Kieffer, 1923 [= *Chironomus impensus* Walker, 1856], by original designation.

†**evenhuisi** ASHE & O'CONNOR, 2015: *Spixiana* **37**(2): 231 (*Paraphaenocladius*; as nom. nov. for *Paraphaenocladius pusillus* Seredszus & Wichard, 2007, nec *Paraphaenocladius pusillus* Sæther & Wang, 1995). — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†*pusillus* SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 71 (*Paraphaenocladius*). Type locality: [Introduction, p. 50] "Baltic amber". **Preoccupied**. Junior primary homonym of *Paraphaenocladius pusillus* Sæther & Wang, 1995 – the latter is a valid extant species in the genus *Paraphaenocladius*.

†**nadezhdae** BARANOV, ANDERSEN & PERKOVSKY, 2015: *Insect Systematics and Evolution* **46**(4): 364 (*Paraphaenocladius*). Type locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". — Distr.: **PA**: Russia (Far East). ►Eocene (Lutetian), 41.2 - 47.8 Mya, Sakhalinian Amber (Adult male)◄.

†*nadezhdae* BARANOV, ANDERSEN & PERKOVSKY, 2014: *Insect Systematics and Evolution*: 6 (*Paraphaenocladius*). Locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". Name not made available – work not registered in *the Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**.

Genus †**PLOEGIA** DOITTEAU & NEL

†**PLOEGIA** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 37. Type species: *Ploegia occulata* Doitteau & Nel, 2007, by original designation.

†**occulata** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 37 (*Ploegia*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal . . ., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male and Adult female)◄.

Genus **PSECTROCLADIUS** KIEFFER

PSECTROCLADIUS KIEFFER, 1906: *Genera Insectorum* **42**: 26 (as subgenus of *Orthocladius* Wulp, 1874). Type species: *Orthocladius* (*Psectrocladius*) *psilopterus* Kieffer, 1906, by subsequent designation of Kieffer (1906: *Annales de la Société Scientifique de Bruxelles, 2^e partie (Mémoires)* **30**: 356). Senior homonym of *Psectrocladius* Kieffer, 1906 (below).

†**trigonatus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 73 (*Psectrocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. [**NOTE**: this fossil species differs in having a pointed triangular inferior volsella whereas extant species have a rectangular or rounded inferior volsella. Since it was not included in any of the recognised subgenera a new subgenus is probably required for this fossil species [PA]].

Genus †**PSEUDOCHASMATONOTUS** DOITTEAU & NEL

†**PSEUDOCHASMATONOTUS** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 31. Type species: *Pseudochasmatonotus furcatus* Doitteau & Nel, 2007, by original designation.

†**furcatus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 31 (*Pseudochasmatonotus*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya Amber (Adult male)◄.

Genus **PSEUDORTHOCLADIUS** GOETGHEBUER

PSEUDORTHOCLADIUS GOETGHEBUER in GOETGHEBUER & LENZ, 1943: *Die Fliegen der Palaearktischen Region* **13g**: 73 (as subgenus of *Orthocladius* Wulp, 1874). Type species: *Psectrocladius curtistylus* Goetghebuer, 1921, by original designation. The names *Pseudorthocladius* Goetghebuer, 1943 and *Psectrocladius curtistylus* Goetghebuer,

1921, are respectively placed on the Official List of Generic Names in Zoology and the Official List of Specific Names in Zoology by Opinion 2179 of the International Commission on Zoological Nomenclature (2007: *Bulletin of Zoological Nomenclature* **64**(3): 198).

PSEUDORTHOCLADIUS GOETGHEBUER, 1932: *Faune de France* **23**: 93 (as subgenus of *Orthocladius* Wulp, 1874). Type species: Not given. Name not made available – not accompanied by fixation of a Type species contrary to Article 13.3 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

PSEUDORTHOCLADIUS GOETGHEBUER, 1943: see below as subgenus.

Subgenus **PSEUDORTHOCLADIUS** GOETGHEBUER

†**perantiquus** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **A 279**(1/3): 69 (*Pseudorthocladius*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**zherikhini** BARANOV & PERKOVSKY, 2013: *Terrestrial Arthropod Reviews* **6**: 63 (*Pseudorthocladius*). Type locality: "Starodubskoye, Dolinsk district, Russia, Sakhalinian amber". — Distr.: **PA**: Russia (Far East). ►Eocene (Lutetian), 41.2 - 47.8 Mya, Sakhalinian Amber (Adult male)◄.

Genus **PSEUDOSMITTIA** EDWARDS

PSEUDOSMITTIA EDWARDS, 1932: *Entomologist* **65**: 141 (as subgenus of *Smittia* Holmgren, 1869). Type species: *Spaniotoma* (*Smittia*) *angusta* Edwards, 1929, by original designation. [**Note**]

PSEUDOSMITTIA GOETGHEBUER, 1932: *Faune de France* **23**: 126 (as subgenus of *Smittia* Holmgren, 1869). Type species: Not given. Name not made available – not accompanied by fixation of a Type species contrary to Article 13.3 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**kodrulae** BARANOV, ANDERSEN & PERKOVSKY, 2015: *Insect Systematics and Evolution* **46**(4): 367 (*Pseudosmittia*). Type locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". — Distr.: **PA**: Russia (Far East). ►Eocene (Lutetian), 41.2 - 47.8 Mya, Sakhalinian Amber (Adult male)◄.

†*kodrulae* BARANOV, ANDERSEN & PERKOVSKY, 2014: *Insect Systematics and Evolution*: 9 (*Pseudosmittia*). Locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". Name not made available – work not registered in the *Official Register of*

Zoological Nomenclature (*ZooBank*) prior to online publication I contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**.

Genus **RHEOSMITTIA** BRUNDIN

RHEOSMITTIA BRUNDIN in CRANSTON & SÆTHER, 1986: *Journal of Natural History* **20**(1): 33. Type species: *Parakiefferiella* (*Rheosmittia*) *spinicornis* Brundin, 1956, by original designation.

RHEOSMITTIA BRUNDIN, 1956: *Reports from the Institute of Freshwater Research, Drottningholm* **37**: 150 (as subgenus of *Parakiefferiella* Thienemann, 1936). Type species: Not given. Name not made available – not accompanied by the fixation of a Type species contrary to Article 13.3 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**pertenuis** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 75 (*Rheosmittia*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**seni** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 39 (*Rheosmittia*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal . ., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **SMITTIA** HOLMGREN

SMITTIA HOLMGREN, 1869: *Kungliga Svenska VetenskapsAkademiens Handlingar* **8**(5): 47. Type species: *Chironomus brevipennis* Boheman, 1865, by monotypy.

†**sukachevae** BARANOV, ANDERSEN & PERKOVSKY, 2015: *Insect Systematics and Evolution* **46**(4): 370 (*Smittia*). Type locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". — Distr.: **PA**: Russia (Far East). ►Middle Eocene (Bartonian to Lutetian), 38 - 47.9 Mya, Sakhalinian Amber◄.

†*sukachevae* BARANOV, ANDERSEN & PERKOVSKY, 2014: *Insect Systematics and Evolution*: 12 (*Smittia*). Locality: "Russia: Sakhalin Oblast, Dolinsky District, Starodubskoye". Name not made available – work not registered in the *Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**.

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 83 (*Smittia*). Locality: [p. 79] "in the northwest of Ukraine .

. in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male and Adult female)◄.

Genus †**SPINORTHOCLADIUS** DOITTEAU & NEL

†**SPINORTHOCLADIUS** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 25. Type species: *Spinorthocladius enigmaticus* Doitteau & Nel, 2007, by original designation.

†**enigmaticus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 26 (*Spinorthocladius*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **TOKUNAGAIA** SÆTHER

TOKUNAGAIA SÆTHER, 1973: *Canadian Entomologist* **105**(1): 56. Type species: *Spaniotoma* (*Orthocladius*) *kibunensis* Tokunaga, 1939, by original designation.

†**azari** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 43 (*Tokunagaia*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **TOKYOBRILLIA** KOBAYASHI & SASA

TOKYOBRILLIA KOBAYASHI & SASA, 1991: *Japanese Journal of Sanitary Zoology* **42**(2): 73. Type species: *Tokyobrillia tamamegaseta* Kobayashi & Sasa, 1991, by original designation.

†**succinea** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 258 (*Tokyobrillia*). Type locality: "Baltic Amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **ZALUTSCHIA** LIPINA

ZALUTSCHIA LIPINA, 1939: *Trudy Laboratorii Sapropelevykh Otlozhenii Akademii Nauk SSSR* **1**: 106 (in English summary). Type species: *Zalutschia zalutschicola* Lipina, 1939, by monotypy.

†**electra** SEREDSZUS & WICHARD in WICHARD, GRÖHN & SEREDSZUS, 2009: *Wasserinsekten im Baltischen Bernstein – Aquatic Insects in Baltic Amber*: 255 (*Zalutschia*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Uncertain GENUS in ORTHOCLADIINAE

†sp. morphotype 1: VERA *et al*., 2023: *Communications Biology* (2023) **6**: 1249, 1-11. Locality: Chorillo Formation, South Argentina". — Distr.: **NT**: Southern Argentina. ►Upper Cretaceous (Maastrichtian), 66.0 - 72.0 Mya, (larva) Morphotype 1, specimens ref WFMPM-Pal 21835-24: M31/0 and MPM-Pal 21835-3: P46/4.◄. [the morphotype is cited in Vera *et al.* (2023) as possibly belonging to *Bothryocladius* Cranston & Edward, 1999 or *Parapsectrocladius* Cranston, 2000. See **Note** for *Bothryocladius* [DM]]

Unidentified GENUS in ORTHOCLADIINAE

?†sp. morphotype 2: VERA *et al*., 2023: *Communications Biology* (2023) **6**: 1249, 1-11. Locality: El Calafate, Santa Cruz, "Chorillo Formation". — Distr.: **NT**: Southern Argentina. ►Upper Cretaceous (Maastrichtian), 66.0 - 72.0 Mya, Morphotype 2, Specimen no. MPM-Pal 21835-25: V26/3 (larva, mentum). [Vera *et al*. (2023) comment "The shape of the mentum in joint with the inconspicuous ventromental plate, are features typical of an orthoclad (Fig. 1d); however, the mentum lacks similarities with any known living chironomid, thus it is interpreted as Orthocladiinae *incertae sedis*".◄

SUBFAMILY **CHIRONOMINAE**

CHIRONOMINAE NEWMAN, 1834: *Entomological Magazine* **2**: 379 (as "Chironomites"). Type-genus: *Chironomus* Meigen, 1803.

CHIRONOMININI NEWMAN, 1834: *Entomological Magazine* **2**: 379 (as "Chironomites"). Type-genus: *Chironomus* Meigen, 1803.

PSEUDOCHIRONOMINI SÆTHER, 1977 *Bulletin of the Fisheries Research Board of Canada* **197**: i-viii, 1-219. Type-genus: *Pseudochironomus*, Malloch, 1915.

TANYTARSINI ZAVŘEL, 1917: *Rozpravy České Akademie Vděa Umění, Třída 2 (Mathematicko-Přírodnická)* **26**(3): 12 (as "Tanytarsi" in key). Type-genus: *Tanytarsus* Wulp, 1874. Tanytarsini placed on the Official List of Family-Group Names in Zoology by the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616). [**Note**]

TANYTARSINA ZAVŘEL, 1917: *Rozpravy České Akademie Vděa Umění, Třída 2 (Mathematicko-Přírodnická)* **26**(3): 12 (as "Tanytarsi" in key). Type-genus: *Tanytarsus* Wulp, 1874.

TENDIPEDIDAE GRÜNBERG, 1910: *Süsswasserfauna Deutschlands* **2A**: 11 (as "Tendipedidae"). Type-genus: *Tendipes* Meigen, 1800. Junior synonym of Chironominae Newman, 1834.

TENDIPEDIDINI GRÜNBERG, 1910: *Susswasserfauna Deutschlands* **2A**: 11 (as "Tendipedidae"). Type-genus: *Tendipes* Meigen, 1800. Junior synonym of Chironomini Newman, 1834.

CALOPSECTRINI TOWNES, 1945: *American Midland Naturalist* **34**(1): 11. Type-genus: *Calopsectra* Kieffer, 1909. Junior synonym of Tanytarsini Zavřel, 1917.

STEMPELLININA SHILOVA, 1976: *Khironomidy Rybinskogo Vodokhranilishcha*: 63 (as "Stempellini"). Type-genus: *Stempellina* Thienemann & Bause, 1913. [**Note**]
Give priority to *STEMPELLININA over ZAVRELIINA*? [PA]

ZAVRELIINA SÆTHER, 1977: *Bulletin of the Fisheries Research Board of Canada* **196**: 138. Type-genus: *Zavrelia* Kieffer, Thienemann & Bause, 1913. [**Note**]

Genus †**ARCHISTEMPELLINA** GIŁKA & ZAKRZEWSKA

†**ARCHISTEMPELLINA** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 570. Type species: *Archistempellina bifurca* Giłka & Zakrzewska, 2013, by original designation.

†**bifurca** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 571 (*Archistempellina*). Type locality: [Introduction, p. 269] "collected from deposits distributed north of Rovno (Ukraine), in the Pripyat River basin". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

†**falcifera** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 573 (*Archistempellina*). Type locality: [Introduction, p. 269] "collected from deposits distributed north of Rovno (Ukraine), in the Pripyat River basin". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

†**perkovskyi** GIŁKA & ZAKRZEWSKA, 2014: *Geobios* **47**(5): 336 (*Archistempellina*). Type locality: "Rovno region, Ukraine". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus **CHIRONOMUS** MEIGEN

CHIRONOMUS MEIGEN, 1803: *Magazin fur Insektenkunde (Illiger)* **2**: 260. Type species: *Tipula plumosa* Linnaeus, 1758, by subsequent designation of Latreille (1810: *Considerations generales*: 442).

TENDIPES MEIGEN, 1800: *Nouvelle Classification*: 17. Type species: *Tipula plumosa* Linnaeus, 1758, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 612). Synonymized with *Chironomus* Meigen, 1803, by

Hendel (1908: *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien (Abhandlungen)* **58**: 49). *Tendipes* Meigen, 1800, suppressed by ICZN, 1963: *Bulletin of Zoological Nomenclature* **20**: 339 (Opinion 678).

†**kirklandi** SUBLETTE, 1969: *Memoir of the Geological Society of America* **113**: 119 (*Chironomus* (*Chironomus*)). Type locality: "from the Rita Blanca lake beds, near Channing, Texas, Rita Blanca deposits". — Distr.: **NE**: USA (Texas). ►Pleistocene (Gelasian) to Pliocene (Zanclean), 1.80 - 5.333 Mya, Compression (Adult male, Adult female, Pupa and Larva) in lacustrine deposits◄.

†sp.: BARANOV, HAUG & KAULFOSS, 2024: *PeerJ* **12**(4): e17014. Foulden Maar Fossil-Lagerstätte". — Distr.: **AU**: New Zealand. ►Miocene (Aquitanuan), 20.43 - 23.03 Mya, Compression (Pupa)◄.

Genus **CLADOPELMA** KIEFFER

CLADOPELMA KIEFFER, 1921: *Annales de la Société Scientifique de Bruxelles, 1re partie (Comptes Rendus)* **40**: 274. Type species: *Chironomus virescens* Meigen, 1818, by subsequent designation of Harnisch (1923: *Zoologische Jahrbücher, Abteilung Systematik, Ökologie und Geographie der Tiere* **47**: 304).

†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012: *Russian Entomological Journal* **21**(1): 84 (*Cladopelma*). Locality: [p. 79] "in the northwest of Ukraine . . . in Klesov and Dubrovitsa". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

Genus †**CORNELIOLA** GIŁKA & ZAKRZEWSKA

†**CORNELIOLA** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 575. Type species: *Corneliola avia* Giłka & Zakrzewska, 2013, by original designation.

†**avia** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 575 (*Corneliola*). Type locality: [Introduction, p. 269] "collected from deposits distributed north of Rovno (Ukraine), in the Pripyat River basin". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male and Adult female)◄.

Genus **DICROTENDIPES** KIEFFER

DICROTENDIPES KIEFFER, 1913: *Résultats Scientifiques Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale (1911-1912) (Diptères)* **1**: 23. Type species: *Dicrotendipes*

pictipennis Kieffer, 1913 [= *Chironomus septemmaculatus* Becker, 1908], by monotypy. [**Note**]

†sp.: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Dicrotendipes*). Locality: "Dominican amber". — Distr.: **NT**: "Dominican Republic". ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

Genus **ENDOCHIRONOMUS** KIEFFER

ENDOCHIRONOMUS KIEFFER, 1918: *Annales Historico-Naturales Musei Nationalis Hungarici* **16**(1): 69. Type species: *Chironomus alismatis* Kieffer, 1915 [= *Tipula tendens* Fabricius, 1775], by original designation.

†**eocenicus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 44 (*Endochironomus*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus †**EOMICROMIMUS** GILKA, ZAKRZEWSKA & ANDERSEN

†**EOMICROMIMUS** GILKA, ZAKRZEWSKA & ANDERSEN in ZAKRZEWSKA, ANDERSEN, & GILKA, 2023 [27 December 2023]: *PloS ONE* **18**(12): page 3. e0295841. Type species: *Eomicromimus polliciformis* Gilka, Zakrzewska & Andersen, 2023, by original designation

†**polliciformis** GILKA, ZAKRZEWSKA & ANDERSEN, 2023: *PloS ONE* **18**(12): page 3. e0295841. Type locality: Baltic Amber, Gulf of Gdansk. — Distr.: **PA**: Baltic region, Poland. ►Eocene (Priabonian to Bartonian), 45 - 40 Mya, Baltic Amber (Adult male). Holotype adult male, tarsus of right midleg missing◄.

†**serpens** GILKA, ZAKRZEWSKA & ANDERSEN, 2023: *PloS ONE* **18**(12): page 7. e0295841. Type locality: Baltic Amber Gulf of Gdansk. — Distr.: **PA**: Baltic region, Poland. ►Eocene (Priabonian to Bartonian), 45 - 40 Mya, Baltic Amber (Adult male, tarsus of left hind leg in a separate part of the same amber)◄.

Genus †**EONANDEVA** GIŁKA & ZAKRZEWSKA

†**EONANDEVA** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **4044**(4): 578. Type species: *Eonandeva helva* Giłka & Zakrzewska, 2015, by original designation.

†**helva** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **4044**(4): 578 (*Eonandeva*). Type locality: [Title, p. 577] "Baltic amber"; [p. 578] "Gulf of

Gdańsk". — Distr.: **PA**: Poland, Baltic region. ►Eocene (Priabonian to Bartonian), 45 - 40 Mya, Baltic Amber (Adult male)◄.

†**latistyla** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **4044**(4): 581 (*Eonandeva*). Type locality: [Title, p. 577] "Baltic amber"; [p. 581] "Gulf of Gdańsk". — Distr.: **PA,** Poland : Baltic region. ►Eocene (Priabonian to Bartonian), 45 - 40 Mya, Baltic Amber (Adult male)◄.

Genus †**EORIETHIA** GILKA, ZAKRZEWSKA & ANDERSEN in ZAKRZEWSKA, ANDERSEN, & GILKA

†**EORIETHIA** GILKA, ZAKRZEWSKA & ANDERSEN, 2023 [27 December 2023]: *PloS ONE* **18**(12): page 8. e0295841. Type species *Eoriethia ursipes* Gilka, Zakrzewska & Andersen, 2023, monotypy - by original designation.

†**ursipes** GILKA, ZAKRZEWSKA & ANDERSEN, 2023: *PloS ONE* **18**(12): page 8. e0295841. Type locality Baltic amber, Gulf of Gdansk. — Distr.: **PA**, Poland. ►Eocene, Preabonian to Bartonian, 40 - 45 Mya, Baltic Amber. Holotype; Adult male, (distal part of left antenna and tarsomeres 3-5 of both hindlegs missing), Paratype adult male (tarsus of left foreleg missing)◄.

Genus †**GUJARATOMYIA** GIŁKA & ZAKRZEWSKA

†**GUJARATOMYIA** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA, STEBNER, PUCHALSKI, SINGH & GIŁKA, 2018: *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* **107**: 256 (*Gujaratomyia*). Type species: *Gujaratomyia miripes* Giłka & Zakrzewska, 2018, by original designation. [publication date: March 2018 (M. Spies, pers comm [PA])]

†**miripes** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA STEBNER, PUCHALSKI, SINGH & GIŁKA, 2018: *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* **107**: 256 (*Gujaratomyia*). Type locality: "Tadkeshwar mine, Gujarat State, India". — Distr.: **OR**: India (Gujarat). ►Eocene (Ypresian), 54.0 Mya, Cambay Amber (Adult male)◄.

Genus **HINTELMANIELLA** BARANOV & HAUG

†**HINTELMANIELLA** BARANOV & HAUG, 2022: *Palaeontologia Electronica* **25**(1): a4. zoobank.org/74C024CF-E621-4CBB-A8F2-513448143D30. Type species: *Hintelmannialla noncatafracta* Baranov & Haug, 2022, by original designation.

†**noncatafracta** BARANOV & HAUG, 2022: *Palaeontologia Electronica* **25**(1): a4. <https://doi.org/10.26879/1165>. Type locality: Kishenehn Formation, Montana, USA —

Distr.: **NE**: USA, Montana. ►Eocene (Lutenian), 46.0 Mya, (Holotype pupa and associated adult male adult male USNM 624424, pupa USNM 624644 and additional pupae USNM 722339 and 717494)◄.

Genus **MEGACENTRON** FREEMAN

MEGACENTRON FREEMAN, 1961: *Australian Journal of Zoology* **9** Type species *Chironomus erebus* Skuse, 1899, by original designation.

†**eocenicus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 51 (*Megacentron*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **MESOACENTRON** GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON

†**MESOACENTRON** GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021: *Zoological Journal of the Linnaean Society* **194**: 877. Type species: *Mesoacentron kaluginae* Gilka, Zakrzewska, Lukashveich & Cranston, 2021, by original designation.

†**kaluginae** GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021: *Zoological Journal of the Linnaean Society* **194**: 877 (*Mesoacentron*). Type locality: "Yantardakh, Taimyr Peninsula, Russia". — Distr.: **PA**: Russia. ►Late Cretaceous, Kheta Formation, Santonian, 83.6 - 85.3 Mya, Taimyr Amber (Adult male, both fore and left midleg tarsi missing; distal part of antennal flagellum damaged, in a separate amber fragment)◄.

Genus **MICROTENDIPES** KIEFFER

MICROTENDIPES KIEFFER, 1915: *Brotéria, Série Zoológica* **13**: 70. Type species: *Tendipes abbreviatus* Kieffer, 1913 [= *Chironomus chloris* Meigen, 1818], by original designation.

†**eocenicus** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 53 (*Microtendipes*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **NANDEVA** WIEDENBRUG, REISS & FITTKAU

NANDEVA WIEDENBRUG, REISS & FITTKAU, 1998: *Spixiana* **21**(1): 59. Type species: *Nandeva gaucha* Wiedenbrug, Reiss & Fittkau, 1998, by original designation.

†**pudens** GIŁKA, ZAKRZEWSKA, BARANOV, WANG & STEBNER, 2016 [Print version]: *Alcheringa* **40**(3): 391 (*Nandeva*). Type locality: [p. 391] "Fushun amber (China) .. Fushun

mine". — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄.

†*pudens* GIŁKA, ZAKRZEWSKA, BARANOV, WANG & STEBNER, 2016 [Online version]: *Alcheringa* **40**: 2 (*Nandeva*). Locality: [p. 2] "Fushun amber (China). Fushun mine". Name not made available – work not registered in the *Official Register of Zoological Nomenclature* (*ZooBank*) prior to online publication contrary to Article 8.5.3 of the Zoological Code (ICZN, 2012). **Nomen nudum**.

Genus †**PALAEOCENTRON** GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON

†PALAEOCENTRON GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021: *Zoological Journal of the Linnaean Society* **194**: 881. Type species: *Palaeocentron krzeminskii* Gilka, Zakrzewska, Lukashveich & Cranston, 2021 by original designation.

†krzeminskii GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021: *Zoological Journal of the Linnaean Society* **194**: 881. Type locality: Hukawng Valley, Kachin State, Myanmar. — Distr.: **OR**: Burma. ►Mid Cretaceous, probably Albanian-Cenomanian, 93.9 - 113.0 Mya, Amber (Adult male, wings missing)◄. NOTE [DM]

Genus **PARATENDIPES** KIEFFER

PARATENDIPES KIEFFER, 1911: *Bulletin de la Société d'Histoire Naturelle de Metz* **27**: 41. Type species: *Chironomus albimanus* Meigen, 1818, by original designation.

†separata DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 49 (*Paratendipes*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal, Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 48.6 Mya, Oise Amber (Adult male)◄.

Genus **PHAENOPSECTRA** KIEFFER

PHAENOPSECTRA KIEFFER, 1921: *Annales de la Société Scientifique de Bruxelles, 1re partie (Comptes Rendus)* **40**: 274. Type species: *Chironomus leucolabis* Kieffer, 1915 [= *Chironomus flavipes* Meigen, 1818], by subsequent designation of Goetghebuer in Goetghebuer and Lenz (1938: *Die Fliegen der Palaearktischen Region* **13c**: 80). *Phaenopsectra* placed on the Official List of Generic Names in Zoology by the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)), with *Chironomus leucolabis* Kieffer confirmed as the Type species. [**Note**]

†**meunieri** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 82 (*Phaenopsectra*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

Genus **POLYPEDILUM** KIEFFER

POLYPEDILUM KIEFFER, 1912: *Supplementa Entomologica* **1**: 41. Type species: *Polypedilum pelostolum* Kieffer, 1912 [= *Chironomus nubifer* Skuse, 1889], by subsequent designation of Ashe (1981: *Aquatic Insects* **3**(1): 58). [**Note** required re confirmation of Type species in Cranston *et al*. (2016) [PA]]

POLYPEDILUM KIEFFER, 1913: *Bulletin de la Société d'Histoire Naturelle de Metz* **28**: 15. Type species: *Polypedilum emarginatum* Kieffer, 1913, by original designation. **Preoccupied**. Junior homonym of *Polypedilum* Kieffer, 1912 (above).

†sp.: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Polypedilum*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

Genus †**PROLIPINIELLA** DOITTEAU & NEL

†**PROLIPINIELLA** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 46. Type species: *Prolipiniella magnifica* Doitteau & Nel, 2007, by original designation.

†**magnifica** DOITTEAU & NEL, 2007: *Zootaxa* **1404**: 47 (*Prolipiniella*). Type locality: [page 5] "Sparnacian, level MP7 of the mammal fauna of Dormaal . . ., Farm Le Quesnoy, Chevrière, region of Creil, Oise Department (north of France)". — Distr.: **PA**: France. ►Eocene (Ypresian), 47.8 - 56.0 Mya, Oise Amber (Adult male)◄.

Genus **RHEOTANYTARSUS** THIENEMANN & BAUSE

RHEOTANYTARSUS THIENEMANN & BAUSE in BAUSE, 1913: *Archiv für Hydrobiologie Supplement* **2** [Preprint]: 120 (as subgenus of *Syntanytarsus* Thienemann & Bause, 1913). Type species: *Tanytarsus* (*Tanytarsus*) *pentapoda* Kieffer, 1909, by subsequent designation of Goetghebuer in Goetghebuer and Lenz (1954: *Die Fliegen der Palaearktischen Region* **13c**: 132). Senior homonym of *Rheotanytarsus* Thienemann & Bause, 1914 (below).

RHEOTANYTARSUS THIENEMANN & BAUSE in BAUSE, 1914: *Archiv für Hydrobiologie Supplement* **2**(1): 120 (as subgenus of *Syntanytarsus* Thienemann & Bause, 1914). Type species: *Tanytarsus* (*Tanytarsus*) *pentapoda* Kieffer, 1909, by subsequent designation of

Goetghebuer in Goetghebuer and Lenz (1954: *Die Fliegen der Palaearktischen Region* **13c**: 132). **Preoccupied**. Junior homonym of *Rheotanytarsus* Thienemann & Bause, 1913 (above).

†**alliciens** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 579 (*Rheotanytarsus*). Type locality: [Introduction, p. 269] "collected from deposits distributed north of Rovno (Ukraine), in the Pripyat River basin". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

†**hoffeinsorum** GILKA, ZAKRZEWSKA & KRZEMIŃSKI in ZAKRZEWSKA, KRZEMIŃSKI & GILKA, 2016: *Palaeontologica Electronica* 19.2 **18**A: 1-21 (*Rheotanytarsus*). Type-locality: Gulf of Gdansk (Poland). — Distr.: **PA**: Poland. ►Eocene, ~ 40 - 45 Mya, [Bartonian – Lutenian], Baltic Amber (Adult male- tarsi of fore and mid legs missing, wings damaged in part)◄.

†**lacustris** BARANOV & HAUG, 2022: *Palaeontologia Electronica,* **25**(1): a4. <https://doi.org/10.26879/1165>. Type locality: Kishenehn Formation, Montana, USA — Distr. NE: USA, Montana. ►Eocene (Lutenian), 46.0 Mya, (Holotype adult male and associated pupa, USNM 717577; Paratypes pupae USNM 722460, 722479, 624824 and 623669 - and 76 additional pupae)◄.

Genus **STEMPELLINA** THIENEMANN & BAUSE

STEMPELLINA THIENEMANN & BAUSE in BAUSE, 1913: *Archiv für Hydrobiologie Supplement* **2** [Preprint]: 120. Type species: *Tanytarsus* (*Calopsectra*) *bausei* Kieffer, 1911, by monotypy. Senior homonym of *Stempellina* Thienemann & Bause, 1914 (below). [**Note**]

STEMPELLINA THIENEMANN & BAUSE in BAUSE, 1914: *Archiv für Hydrobiologie Supplement* **2**(1): 120. Type species: *Tanytarsus* (*Calopsectra*) *bausei* Kieffer, 1911, by monotypy. **Preoccupied**. Junior homonym of *Stempellina* Thienemann & Bause, 1913 (above).

†**exigua** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 84 (*Stempellina*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Amber (Adult male)◄.

†**stebneri** GILKA & ZAKREZEWSKA in ZAKREZEWSKA in Zakrezekswa *et al*. (2020): *Zoological Journal of the Linnean Society* **189**(4): 1407 (*Stempellina*). Type locality: Gujarat, India. — Distr.: **OR**, India. ►Lower Eocene (Ypresian), ~ 54 Mya, Amber (adult male)◄.

?†sp.: MARTINI, 2015: *Geologica Saxonica* **61**(1): 94 (*Stempellina*). Locality: {Germany} [Title, p. 91] "aus den oberoligozänen Dolinensedimenten von Oberleichtersbach bei Bad Brückenau (südliche Rhön)" [= from the Upper Oligocene sinkhole sediments of Oberleichtersbach near Bad Brückenau (southern Rhön Mountains)]. — Distr.: **PA**: Germany. ►Upper Oligocene (Chattianian), 23.03 – 28.1Ma, Xenosomes (Larval cases) ◄. [**Note**]

Genus **STEMPELLINELLA** BRUNDIN

STEMPELLINELLA BRUNDIN, 1947: *Arkiv för Zoologi* **39**: 87. Type species: *Tanytarsus saltuum* Goetghebuer, 1921, by original designation.

†**bicorna** SEREDSZUS & WICHARD, 2007: *Palaeontographica, Beiträge zur Naturgeschichte der Vorzeit* (*Abteilung A: Paläozoologie – Statigraphie*) **279**(1/3): 86 (*Stempellinella*). Type locality: [Introduction, p. 50] "Baltic amber". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**electra** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **3946**(3): 349 (*Stempellinellai*). Type locality: "Baltic amber, Gulf of Gdansk". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 40.0 - 45.0 Mya, Baltic Amber (Adult male)◄.

†**fibra** GIŁKA, ZAKRZEWSKA & KRZEMIŃSKI, 2016: *Palaeontologica Electronica* **19**(2): 1-21 (*Stempellinella*). Type locality: Gulf of Gdansk. — Distr.:**PA**: Baltic Region. ►Eocene (Bartonian/Lutetian), 40.0 - 45.0 Mya, Baltic Amber (Adult male, left fore and mid leg and tarsus of right leg missing)◄

†**gilkai** ZAKRZEWSKA & JANKOWSKA, 2021 [18 January, 2021]: *Zootaxa* **4908**(4): 506 (*Stempellinella*). Type locality: Baltic Region. — Distr.: **PA**. ►Eocene (Bartonian/Lutetian), 40.0 - 45.0 Mya, Baltic Amber (Adult male)◄.

†**ivanovae** GIŁKA & ZAKRZEWSKA, 2014: *Geobios* **47**(5): 338 (*Stempellinella*). Type locality: "Rovno region, Ukraine". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

†**pollex** GILKA & ZAKRZEWSKA in ZAKRZEWSKA *et al*. (2020): *Zoological Journal of the Linnean Society* **189**(4): 1398-1245 (*Stempellinella*). Type locality: Gujarat, India. — Distr.: **OR**: India. ►Eocene (Lutenian), 41.1 - 47.8 Mya, Cambay Amber (Adult male)◄ [The oldest record of the genus and the only fossil record of *Stempellinella* documented from outside the Baltic and Palaearctic Region]

Genus **STENOCHIRONOMUS** KIEFFER

STENOCHIRONOMUS KIEFFER in KIEFFER & THIENEMANN, 1919: *Entomologische Mitteilungen* **8**(1/3): 44. Type species: *Chironomus pulchripennis* Coquillett, 1902, by subsequent designation of Townes (1945 *American Midland Naturalist* **34**(1): 84). [**Note**]

†sp.: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Stenochironomus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄. [**Note**]

Genus **TANYTARSUS** WULP

TANYTARSUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus signatus* Wulp, 1858, by subsequent designation of the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)) – *Tanytarsus* placed on the Official List of Generic Names in Zoology. Senior homonym of *Tanytarsus* Wulp, 1875 (below). [**Note**]

TANYTARSUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 134. Type species: *Chironomus signatus* Wulp, 1858, by subsequent designation of the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)). **Preoccupied**. Junior homonym of *Tanytarsus* Wulp, 1874 (above).

CALADOMYIA SĀWEDAL, 1981: *Entomologica Scandinavuca* **12**(2): 124. Type species *Caladomyia spixi* Säwedal, 1981 by original designation. Synonymized with *Tanytarsus* by Lin, Stur and Ekrem (2018: *Systematic Entomology* **42**(4): 659-677).

CALOPSECTRA KIEFFER, 1909: *Bulletin de la Société d'Histoire Naturelle de Metz* **26**: 50. Type species: *Tanytarsus* (*Calopsectra*) *gregarius* Kieffer, 1909, by subsequent designation of Kieffer (1921: *Annales dela Société Entomologique de France* **90**: 36). Synonymized with *Tanytarsus* Wulp, 1874, by Edwards (1929: *Transactions of the Entomological Society of London* **77**: 409).

†**congregabilis** GIŁKA & ZAKRZEWSKA in GIŁKA, ZAKRZEWSKA, DOMINIAK & URBANEK, 2013: *Zootaxa* **3736**(5): 581 (*Tanytarsus*). Type locality: [Introduction, p. 269] "collected from deposits distributed north of Rovno (Ukraine), in the Pripyat River basin". — Distr.: **PA**: Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Rovno Amber (Adult male)◄.

†**crocota** GIŁKA, ZAKRZEWSKA & KRZEMIŃSKI in ZAKRZEWSKA, KRZEMIŃSKI & GIŁKA, 2016 *Palaeontologica Electronica* **19**(2) 18A: 1-21 (*Tanytarsus*). Type locality Gulf of Gadansk, Poland. — Distr.: PA, Poland. ►Eocene (Lutenian), 41.1 - 47.8 Mya,

Baltic Amber (Adult male, "entire thorax dorsally, head and legs partially hidden in milky cloud, poorly visible") ◄.

†**fereci** GIŁKA, 2011: *Zootaxa* **3069**: 63 (*Tanytarsus*). Type locality: [Poland] "Baltic amber collected on the coast of the Gulf of Gdańsk". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†**forfex** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA *et al*. (2020): *Zoological Journal of the Linnean Society* 2020, **189**(4): 1402 (*Tanytarsus*) Type locality Tadkeshwar mine, Gujarat State, India. — Distr.: **OR**, India. ►Early Eocene, ~54 Mya, Cambay Amber (Adult male)◄.

†**glaesarius** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **3946**(3): 353 (*Tanytarsus*). Type locality: "Baltic amber, Gulf of Gdansk". — Distr.: **PA**: Baltic Region. ►Eocene (Bartonian to Lutenian), 37.71 - 47.8 Mya, Baltic Amber (Adult male) ◄.

†**protogregarius** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2015: *Zootaxa* **3946**(3): 356 (*Tanytarsus*). Type locality: "Baltic amber, Gulf of Gdansk". — Distr.: **PA**: Baltic Region. ►Eocene (Bartonian to Lutenian), 37.71 - 47.8 Mya, Baltic Amber (Adult male) ◄.

†**ramus** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA *et al*. (2020): *Zoological Journal of the Linnean Society* 2020, **189**(4): 1404 (*Tanytarsus*). Type locality Tadkeshwar mine, Gujarat State, India. — Distr.: **OR**, India. ►Early Lower Eocene, ~54 Mya, Cambay Amber (Adult male)◄.

†**serafini** GIŁKA, 2010: *Acta Geologica Sinica (English Edition)* **84**(4): 715 (*Tanytarsus*). Type locality: "Baltic amber". — Distr.: **PA**: Baltic Region, Ukraine. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male) and Rovno Amber (Adult male)◄. [**Note**: This is the only species of chironomid that has so far been found in Eocene amber from both the Baltic and the Ukraine. Records of other chironomid species common to both ambers can be expected.]

†**szadziewskii** GIŁKA & ZAKRZEWSKA in ZAKRZEWSKA & GIŁKA, 2013: *Polskie Pismo Entomologizne* **82**(4): 398 (as *Caladomyia*). Type locality "Baltic". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†sp.: BARANOV & HAUG, 2022: *Palaeontologia Electronica* **25**(1): a4. <https://doi.org/10.26879/1165>. (?*Tanytarsus*). Type locality: Kishenehn Formation, Montana, USA. — Distr.: **NE**: USA, Montana. ►Eocene (Lutenian), 46.0 Mya, (adult male Holotype: USNM 722523)◄.

†sp. 1: GIŁKA & ZAKRZEWSKA, 2020: *Zoological Journal of the Linnean Society* 2020 **189**: 1407 (*Tanytarsus*). Locality Gujarat State, India. Distr. — **OR**: India. ►Early Eocene, ~54 Mya, Cambay Amber (Adult male) BSIP Tad-533◄.

†sp. 2: GIŁKA & ZAKRZEWSKA, 2020: *Zoological Journal of the Linnean Society* 2020 **189**: 1407 (*Tanytarsus*). Locality Gujarat State, India. Distr. — **OR**: India. ►Early Eocene, ~54 Mya, Cambay Amber (Adult male) BSIP Tad-833a◄.

†sp. 3: GIŁKA & ZAKRZEWSKA, 2020: *Zoological Journal of the Linnean Society* 2020 **189**: 1407 (*Tanytarsus*). Locality Gujarat State, India. Distr. — **OR**, India. ►Early Eocene, ~54 Mya, Cambay Amber (Adult male) BSIP Tad-834◄.

Genus **XESTOCHIRONOMUS** SUBLETTE & WIRTH

XESTOCHIRONOMUS SUBLETTE & WIRTH, 1972: *Florida Entomologist* **55**(1): 7 (as new name for *Insulanus* Sublette, 1967 *nec Insulanus* Fleutiaux, 1930). Type species: *Chironomus* (*Stenochironomus*) *furcatus* Johannsen, 1938, by original designation.

INSULANUS SUBLETTE, 1967: *Journal of the Kansas Entomological Society* **40**(4): 546. Type species: *Chironomus* (*Stenochironomus*) *furcatus* Johannsen, 1938, by original designation. **Preoccupied**. Junior homonym of *Insulanus* Fleutiaux, 1930.

†sp. 1: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Xestochironomus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

†sp. 2: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Xestochironomus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

†sp. 3: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Xestochironomus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

†sp. 4: GRUND, 2006: *Palaeogeography, Palaeoclimatology, Palaeoecology* **241**(3/4): 412 (*Xestochironomus*). Locality: "Dominican amber". — Distr.: **NT**: Dominican Republic. ►Miocene (Burdigalian), 15.97 - 20.44 Mya, Dominican Amber (Adult male)◄.

Unidentified GENUS in CHIRONOMINAE

†sp.: GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021: *Zoological Journal of the Linnaean Society* **194**: 881. *Pseudochironomini INCERTAE SEDIS.* Locality: Yantardakh. Taimyr Peninsula, Russia; Distr.: **PA**: Russia. ►Upper Cretaceous (Santonian), 83.6 - 86.3 Mya, Taimyr amber, Kheta Formation (Adult male, damaged, head and both forelegs missing◄ [**Note** ^{DM}]

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

UNPLACED FOSSIL CHIRONOMIDAE

(Taxa in fossil and extant genera to which fossil species have been assigned)

Genus †**ALITENDIPES** HONG

†**ALITENDIPES** HONG, 2002: *Amber Insects of China*: 199 (as gen. nov.). Type species: †*Microtendipes melainus* Hong, 1981, by original designation.

†*EOCENITENDIPES* EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 266 [as new name for "*Microtendipes* Hong, 1981" but a genus of this name was not created by Hong – who included several fossil species in the extant genus *Microtendipes* Kieffer, 1915 [PA]].

†**melainus** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 47 (*Microtendipes*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄.

Genus †**AMBERASPlNUS** EVENHUIS

†**AMBERASPINUS** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 260 (as new name for †*Aspinus* Hong, 1981 nec *Aspinus* Brandorff, 1973). Type species: †*Aspinus orientalus* Hong, 1981, by original designation. **[Note]**

†*ASPINUS* HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 52. Type species: †*Aspinus orientalus* Hong, 1981, by original designation. **Preoccupied**. Junior homonym of *Aspinus* Brandorff, 1973 - the latter is a valid extant genus of Crustacea (Subclass Copepoda).

†*SUCCINASPINUS* HONG, 2002: *Amber Insects of China*: 215 (as unnecessary new name for †*Aspinus* Hong, 1981 and †*Amberaspinus* Evenhuis, 1994). Type species: †*Aspinus orientalus* Hong, 1981, by original designation.

†**orientalus** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 53 (*Aspinus*). Type locality: [China] [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. [**Note**] [Ceratopogonidae [HT]]

orientales: incorrect original spelling.

Genus †**ASIATENDIPES** HONG, 2002

†**ASIATENDIPES** HONG, 2002: *Amber Insects of China*: 211. Type species: *Microtendipes labrosus* Hong, 1981, by original designation. [**Note**]

†*labrosus* HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 48 (*Microtendipes*). Type locality: [China] [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. **Note** [??*Limnophyes* complex [HT]] **Nomen dubium**.

Genus †**ASUBA** GIEBEL

†**ASUBA** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 253. Type species: *Asuba brodiei* Giebel, 1856, by monotypy [?or original designation: "Die einzige Art ist *A. brodiei*" [PA]]

†**brodiei** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 226 (*Asuba*; as "*Brodiei*"; as new replacement name for *Tanypus dubius* Westwood & Brodie, 1845, nec *Tanypus dubius* Meigen, 1804). — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult, unknown sex) in shallow subtidal lagoonal/estuarine limestone◄.

†*dubius* (WESTWOOD & BRODIE in BRODIE, 1845): *A History of the Fossil Insects in the secondary rocks of England*: 33, 121, (PI. 3, fig. 10) (*Tanypus*; as *"Tanypus*?"). Type-locality: [Great Britain] [page 31] "PURBECK STRATA IN THE VALE OF WARDOUR". **Preoccupied**. Junior primary homonym of *Tanypus dubius* Meigen, 1804 - the latter is a valid extant species of the genus *Nilotanypus* Kieffer, 1923, in the Chironomidae (Subfamily Tanypodinae). **[Note]**

Genus †**BEACONITES** VIALOV

†**BEACONITES** VIALOV, 1962: *New Zealand Journal of Geology and Geophysics* **5**(5): 728. Type species: *Beaconites antarcticus* Vialov, 1962, by original designation (as gen. et sp. nov.). **[Note]** [Genus and species provisionally named [PA]].

†**filiformis** UCHMAN & ÁLVARO, 2000: *Revista Española de Paleontología* **15**(2): 212 (*Beaconites*). Type locality: {Spain} "Terrer (Zaragoza) 1 m above the bottom of the westernmost Tertiary meseta near Terrer, along the old road N-II". — Distr.: **PA**: Spain. ►Miocene (Messinian to Aquitanian), 5.333 - 23.03 Mya, Compression (Larval tube) in lacustrine mudstone◄.

Genus †BEIFANGITENDIPES HONG

†**BEIFANGITENDIPES** HONG, 2002: *Amber Insects of China*: 180. Type species: *Fushunitendipes limnetes* Hong, 1981, by original designation.

†**limnetes** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 44 (*Fushunitendipes*). Type species: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. [Peculiar female genitalia, wing illustration – chironomid-like (Hong, 2002). [Close to ?*Xiaomyia* group [HT] – possibly female of *F. lobotes* [PA]]

limnetus: incorrect original spelling.

Genus †**BIBIONITES** HANDLIRSCH

†**BIBIONITES** HANDLIRSCH, 1906: *Die fossilen Insekten und die Phylogenie der rezenten Formen*: 631. Type species: *Macropeza prisca* Giebel, 1856, by monotypy. [Nematocera in Fossilworks; not Chironomidae [PA]]

BIBIONITIS: incorrect original spelling.

†**priscus** (GIEBEL, 1856): *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 252 (*Macropeza*). Type locality: [Great Britain] "aus den Purbeckschichten des Wardourthales" [= from the Purbeck strata of Wardour Vale]. — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya. Compression (Adult, unknown sex) in shallow subtidal lagoonal/estuarine limestone◄.

Genus †**BYTHOMYIA** ZHANG

†**BYTHOMYIA** ZHANG, 1989: *Proceeding of International Symposium on Pacific Neogene and Continental Events*: 155. Type species: *Bythomyia oryctes* Zhang, 1989, by original designation. [**Note**]

†**oryctes** ZHANG, 1989: *Proceeding of International Symposium on Pacific Neogene and Continental Events*: 155 (*Bythomyia*). Type locality: {China} "Shanwang Formation; Shanwang of Linqu, Shandong". — Distr.: **PA**: China (Shandong). ►Miocene (Serravallian to Langhian), 11.63 – 15.97 Mya, Compression (Adult male) in a lacustrine large mudstone◄. [**Note**]

GENUS **CAMPTOCLADIUS** WULP

CAMPTOCLADIUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Tipula byssina* Schrank, 1803 [= *Tipula stercoraria* De Geer, 1776], by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 518). Senior homonym of *Camptocladius* Wulp, 1875 (below) **[Note]**

CAMPTOCLADIUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 133. Type-species: *Tipula byssina* Schrank, 1803 [= *Tipula stercoraria* De Geer, 1776], by subsequent

designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 518). **Preoccupied**. Junior homonym of *Camptocladius* Wulp, 1874 (above).

†**flexuosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 221 (*Camptocladius*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. ►Eocene (Priabonian to Bartonian), 33.9 - 40 Mya, Amber (Adult female)◄. Senior primary homonym of *Camptocladius flexuosus* Meunier, 1904 (below).

†*flexuosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2e partie (Memoires)* **28**: 232 (*Camptocladius*). Type locality: [Title] "l'ambre de la Baltique" [=Baltic amber]. **Preoccupied**. Junior primary homonym of *Camptocladius flexuosus* Meunier, 1904 (above).

†**sinuosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 221 (*Camptocladius*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. ►Eocene (Priabonian to Bartonian), 33.9 - 40 Mya, Amber (Adult female)◄. Senior primary homonym of *Camptocladius sinuosus* Meunier, 1904 (below).

†*sinuosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 232 (*Camptocladius*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Camptocladius sinuosus* Meunier, 1904 (above).

Genus †**CHIRONOMITES** FRIČ

†**CHIRONOMITES** FRIČ, 1893: *Vesmír* **22**(19): 258. Type species: *Chironomites unionis* Frič, 1890, by monotypy. [**Note**]

†**adhaerens** FRIČ in FRIČ & BAYER, 1900: *Archiv für die Naturwissenschaftliche Landesdurchforschung von Böhmen* **11**(2): 170 (*Chironomites*). Type locality: [Czech Republic] [Title, p. 1] "böhmischen" [= Bohemian, i.e. Bohemia]; [p. 170, Fig. 11 legend] "von Vyšerovic" [= from Vyserovic]. — Distr.: **PA**: Czech Republic. ►Upper Cretaceous (Cenomanian), 94.3 - 99.7 Mya, Compression (Larval case) in ??rock◄. [**Note**]

†**unionis** FRIČ, 1893: *Vesmír* **22**(19): 258 (*Chironomites*). Type locality: [Czech Republic] [Title, p. 258] "peruckých" [= Perucian]. ►Type-localities: [Czech Republic] [Title, p. 1] "böhmischen" [= Bohemian, i.e. Bohemia]; [p. 170, text] "Vyšerovic"; [p. 170, Fig. 12 legend] "von Vyšerovic und Kounic" [= from Vyšerovic and Kounic] in Frič and Bayer, 1900: *Archiv für die Naturwissenschaftliche Landesdurchforschung von Böhmen* **11**(2): 170◄. — Distr.: **PA**: Czech Republic. ►Upper Cretaceous (Cenomanian), 94.3 - 99.7 Mya, Compression (Larval case) in ??rock◄. [**Note**]

Unavailable name in †CHIRONOMITES FRIČ

†*lateralis* FRIČ in FRIČ & BAYER, 1900: *Archiv für die Naturwissenschaftliche Landesdurchforschung von Böhmen* **11**(2): 17, 50 (*Chironomites*). Locality: [Czech Republic] [Title, p. 1] "böhmischen" [= Bohemian, i.e. Bohemia]; [p. 17, text; p. 50, table] "Vyšerovic". Name not made available – not accompanied by a description or definition contrary to Article 13.1.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

Genus †**CHIRONOMOPSIS** HANDLIRSCH

†**CHIRONOMOPSIS** HANDLIRSCH, 1906: *Die fossilen Insekten und die Phylogenie der rezenten Formen*: 631. Type species: *Chironomus arrogans* Giebel, 1856, by monotypy. [**Note**]

†**arrogans** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 250 (*Chironomus*). Type locality: [Great Britain] "Von der Largerstätte der vorigen" [= From the deposit of the previous [species], i.e. "In den Purbeckschichten des Wardourthales"] [= In the Purbeck strata of Wardour Vale]. — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult, unknown sex) in shallow subtidal lagoonal/estuarine limestone◄. [Check Brodie (1845) Plate iii, fig. 14 [PA]]

†**extincta** (WESTWOOD & BRODIE *in* BRODIE, 1845): *A History of the Fossil Insects in the secondary rocks of England*: 34, 121, (Pl. iv, fig. 5 (*Chironomus*; as "*Chironomus*?"). Type locality: [Great Britain] [page 31] "PURBECK STRATA IN THE VALE OF WARDOUR". — **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult, unknown sex in shallow subtidal lagoonal/estuarine limestone)◄. [**Note**]

†**gracilis** PING, 1928: *Palaeontologica Sinica, Series B* **13**(1): 37 (*Chironomopsis*). Type-locality: {China} [Liaoning Province] "Pei-piao, Jehol". — Distr.: **PA**: China (Liaoning). ►Lower Cretaceous (Aptian), 122.46 - 125.0 Mya, Compression (Adult female) in lacustrine large shale◄. [In *Chironomopsis* in Fossilworks website and in Lin (1982) -? not in Evenhuis (1994) [PA]]

Genus **CHIRONOMUS** MEIGEN

CHIRONOMUS MEIGEN, 1803: *Magazin für Insektenkunde (Illiger)* **2**: 260. Type species: *Tipula plumosa* Linnaeus, 1758, by subsequent designation of Latreille (1810: *Considérations générales*: 442).

TENDIPES MEIGEN, 1800: *Nouvelle Classification*: 17. Type species: *Tipula plumosa* Linnaeus, 1758, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 612). Synonymized with *Chironomus* Meigen, 1803, by Hendel (1908: *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien (Abhandlungen)* **58**: 49). *Tendipes* Meigen, 1800, suppressed by ICZN, 1963: *Bulletin of Zoological Nomenclature* **20**: 339 (Opinion 678).

†*PALAEOLYCUS* ETHERIDGE & OLLIFF, 1890: *Memoirs of the Geological Survey of New South Wales, Palaeontology* **7**: 11 (originally as "*Palaeolycus*"). Type species: *Palaeolycus problematicus* Etheridge & Olliff, 1890 [= *Chironomus venerabilis* Etheridge & Olliff, 1890], by monotypy. Synonymized with *Chironomus Meigen*, 1803 [PA]. **Preoccupied**. Junior homonym of †*Palaeolycus* Marek, 1863 – the latter is a genus of fossil fish. [**Note**]

†**abietarius** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 203 (*Chironomus*). Type locality: [Title] "1'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus abietarius* Meunier, 1904 (below).

†*abietarius* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 214 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus abietarius* Meunier, 1904 (above).

†**almelanderi** ARNAUD, 1966: *Pan-Pacific Entomologist* **42**(2): 162 (*Chironomus*; as nom. nov. for *Chironomus sepultus* Melander, 1949 nec *Chironomus sepultus* Heer, 1849). — Distr.: **NE**: USA (Colorado). ►Lower Eocene (Priabonian), 38 - 36 Mya, Compression (pupa) in shale◄. [**Note**]

†**aquisextanus** THÉOBALD, 1937: *Les insectes fossiles des oligocenes de France*: 347 (*Chironomus*). Type locality: [Title page] "France"; [p. 291] "AIX-EN-PROVENCE .. à la « Montée d' Avignon »". — Distr.: **PA**: France. ►Oligocene (Chattian), 23.03 - 28.1 Mya, Compression (Adult male) in lacustrine large limestone◄. Senior primary homonym of *Chironomus aquisextanus* Théobald, 1937 (below). **[Note]**

†*aquisextanus* THÉOBALD, 1937: *Bulletin Mensuel (Mémoires) de la Société des Sciences de Nancy* **58**(?Part) or **1**: 347 (*Chironomus*). Type locality: [Title page] "France"; [p. 291] "AIX-EN-PROVENCE. à la « Montée d'Avignon »". **Preoccupied**. Junior primary homonym of *Chironomus aquisextanus* Théobald, 1937 (above).

†**bituminosus** HEYDEN, 1870: *Palaeontographica* **17**(6): 247 (*Chironomus*). Type locality: [Germany] [Title, p. 237] "aus der Braunkohle von Rott im Siebengebirge" [= from the brown coal of Rott in the Siebengebirge]. — Distr.: **PA**: Germany. ►Oligocene (Chattian), 23.03 - 28.4 Mya, Compression (Adult male) in lacustrine large shale◄. **[Note]**

†**brevirostris** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 251. (*Chironomus*). Type locality: "Bernstein" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult, sex unknown)◄. **[Note]**

†**caliginosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 202 (*Chironomus;* as "*caliginosus*" (p. 177, 183), as "*uliginosus*" (p. 202)). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. Senior primary homonym of *Chironomus caliginosus* Meunier, 1904 (below). [**Note]**

†*caliginosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 213 (*Chironomus*; as "*caliginosus*" (p. 188, p. 194), as "*uliginosus*" (p. 213)). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus caliginosus* Meunier, 1904 (above).

†**decrepitus** HEYDEN, 1870: *Palaeontographica* **27**: 248 (*Chironomus*). Type locality: [Germany] [Title, p. 237] "aus der Braunkohle von Rott im Siebengebirge" [= from the brown coal of Rott in the Siebengebirge]. — Distr.: **PA**: Germany. ►Oligocene (Chattian) to Miocene (Aquitanian), 23.03 - 28.1 Mya, Compression (Adult female) in brown coal deposit◄. [**Note**]

†**depletus** SCUDDER, 1877: *Bulletin of the United States Geological and Geographical Survey of the Territories* **3**(4): 744 (*Chironomus*). Type locality: [USA] [Introduction, p. 741] "Lower White River . Chagrin Valley.. Colorado"; [p. 744] "Chagrin Valley". — Distr.: **NE**: USA (Colorado). ►Eocene (Lutetian to Ypresian), 46.2 - 50.3 Mya, Compression. ?in lacustrine large shale◄. [**Note**]

†**elegantulus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 199 (*Chironomus*). Type locality: [Title] "l' ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus elegantulus* Meunier, 1904 (below).

†*elegantulus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 210 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus elegantulus* Meunier, 1904 (above).

†**gaudini** HEER, 1864: *Die Urwelt der Schweiz*: 395 (*Chironomus*; as "*Gaudini*"). Type locality: [Germany] "Oeningen" [= Ohningen]. — Distr.: **PA**: Germany. ►Miocene (Tortonian to Serravallian), 11.6 - 12.7 Mya, Compression (Pupa) in lacustrine large limestone◄. [Illustrated in Fig. 316 on page 394]

†**inglorius** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 201 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: PA: Baltic Region. ►Eocene (Lower Lutetian to Upper Ypresian), 44 - 49 Mya, Amber◄. Senior primary homonym of *Chironomus inglorius* Meunier, 1904 (below). [Based on Adult female only]

†*inglorius* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 212 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus inglorius* Meunier, 1904 (above).

†**lacunus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 205 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA:** Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus lacunus* Meunier, 1904 (below).

†*lacunus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 216 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus lacunus* Meunier, 1904 (above).

†**lacus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 205 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. Senior primary homonym of *Chironomus lacus* Meunier, 1904 (below).

†*lacus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 216 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [=

Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus lacus* Meunier, 1904 (above).

†**meticulosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 200 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus meticulosus* Meunier, 1904 (below).

†*meticulosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 211 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus meticulosus* Meunier, 1904 (above).

†**meyeri** HEER, 1849: *Die Insektenfauna der Tertiärgebilde von Oeningen und von Radoboj in Croatien*: 188 (*Chironomus*; as "*Meyeri*"). Type locality: "Im Bernstein" [= In amber, i.e. in Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult, ??sex)◄.

†**microcephalus** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 251. Type locality: "Bernstein" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. [**Note**]

†**obsoletus** HEER, 1849: *Die Insektenfauna der Tertiärgebilde von Oeningen und von Radoboj in Croatien*: 190 (*Chironomus*). Type locality: [Germany]" Oeningen" [= Öhningen]. — Distr.: **PA**: Germany. ►Miocene (Tortonian to Serravallian), 11.6 - 12.7 Mya, Compression (??) in lacustrine large limestone◄.

†**obtusus** MEUNIER, 1899: *Miscellanea Entomologica* **7**(10/11): 162 (*Chironomus*; as "*Chironomus obtusus*, Löw"). Type locality: Not given ►Type-locality: "BaIt. B." [= Baltischen Bernstein = Baltic amber] in Keilbach, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351◄. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. [**Note**]

†*obtusus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus obtusus* (Loew, 1850)"). Locality: "Balt, B."[= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**oeningensis** HEER, 1849: *Die Insektenfauna der Tertiärgebilde von Oeningen und von Radoboj in Croatien*: 189 (*Chironomus*; as "*Oeningensis*"). Type locality: [Germany]

"Oeningen" [= Öhningen]. — Distr.: **PA**: Germany. ►Miocene (Tortonian to Serravallian), 11.6 - 12.7 Mya, Compression (??) in lacustrine large limestone◄.

†**paludosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 204 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus paludosus* Meunier, 1904 (below).

†*paludosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 215 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus paludosus* Meunier, 1904 (above).

†**patens** SCUDDER, 1877: *Bulletin of the United States Geological and Geographical Survey of the Territories* **3**(4): 744 (*Chironomus*). Type locality: [USA] [Introduction, p. 741] "Lower White River, Chagrin Valley. Colorado"; [p. 745] "Chagrin Valley". — Distr.: **NE**: USA (Colorado). ►Eocene (Lutetian to Ypresian), 46.2 - 50.3 Mya, Compression (??) in lacustrine large shale◄. **Preoccupied**. **A replacement name is not proposed**. Junior primary homonym of *Chironomus patens* Walker, 1856 – the latter is a junior synonym of the extant species *Polypedilum* (*Polypedilum*) *pedestre* (Meigen, 1830) in the subfamily Chironominae. [**Note**]

†**pausatus** MELANDER, 1949: *American Museum Novitates* **1407**: 14 (*Chironomus*). Type locality: [USA] "Florrisant, Colorado". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Pupa) in lacustrine shale◄.

†**pliocenicus** PITON in PITON & THÉOBALD, 1935: *Revue des Sciences Naturelles d'Auvergne* **1**(2): 86 (*Chironomus*). Type locality: [France] "Lac Chambon". — Distr.: **PA**: France. ►Pliocene (Piacenzian), 2.58 - 3.60 Mya, Compression (Adult female) in a crater lake diatomite/volcaniclastic rock◄. [**Note**]

†**primaevus** MELANDER, 1949: *American Museum Novitates* **1407**: 13 (*Chironomus*). Type locality: [USA] "Florrisant, Colorado". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Adult male) in lacustrine shale◄.

†**primitivus** Mani, 1945: *Indian Journal of Entomology* **6**(1/2): 62 (*Chironomus*). Type locality: [Pakistan, Punjab Province] "Saline series, Warcha Salt Mine, Punjab". — Distr.: **OR**: Pakistan. ►Miocene (???), ??-?? Mya, compression (Adult, unknown sex) in salt marl◄. **Preoccupied**. Junior primary homonym of *Chironomus* (*Cryptochironomus*) *primitivus* Johannsen, 1932 – the latter is a valid extant species of *Parachironomus* Lenz, 1921

(Subfamily Chironominae). A replacement name, for *Chironomus* †*primitivus* Mani, 1945, is not proposed. [**Note**]

†*primitivus* SAHNI, 1944: *Proceedings of the National Academy of Sciences India* [Allahabad] **14**(112): 57 (*Chironomus*). Locality: [Pakistan, Punjab Province] [Title, p. 49] "Punjab"; [p. 57, Figure legend] "Warchha" [= Warcha]. Name not made available – not accompanied by a description or definition contrary to Article 13.1.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†**pristinus** MELANDER, 1949: *American Museum Novitates* **1407**: 13 (*Chironomus*). Type locality: [USA] "Florrisant, Colorado". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Adult male) in lacustrine shale◄.

†**proterus** MELANDER, 1949: *American Museum Novitates* **1407**: 14 (*Chironomus*). Type locality: [USA] {Colorado} "Florrisant". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Adult male and Adult female) in lacustrine shale◄.

†**requiescens** MELANDER, 1949: *American Museum Novitates* **1407**: 15 (*Chironomus*). Type locality: [USA] "Florrisant, Colorado". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (Pupa) in lacustrine shale◄.

†**scudderiellus** COCKERELL, 1916: *Proceedings of the United States National Museum* **51**: 98 (*Chironomus*). Type locality: [USA, Colorado] "shales of Florissant". — Distr.: **NE**: USA (Colorado). ►Eocene (Priabonian), 33.9 - 37.8 Mya, Compression (??) in lacustrine shale◄. [**Note**] [NOTE several adult females in type material examined by Melander (1949: 14) PA]

†**septus** SCUDDER, 1890: *Report of the United States Geological Survey of the Territories* **13**: 578 (*Chironomus*). Type locality: [USA] "Green River, Wyoming". — Distr.: **NE**: USA (Wyoming). ►Eocene lower (Lutetian/Ypresian), 41.2 - 56 Mya, Compression (??) in ??rock??]◄. [**Note**] Check if Preoccupied PA.

†**sepultus** HEER, 1849: *Die Insektenfauna der Tertiärgebilde von Oeningen und von Radoboj in Croatien*: 190 (*Chironomus*). Type locality: [Croatia] "Radoboj". — Distr.: **PA**: Croatia. ►(Miocene) (Burdigalian), 15.9 - 20.44 Mya, Compression (??) in ??? limestone◄.

†*sepultus* MELANDER, 1949: *American Museum Novitates* **1407**: 16 (*Chironomus*). Type locality: [USA] "Florrisant, Colorado". **Preoccupied**. Junior primary homonym of *Chironomus sepultus* Heer, 1849 and *Chironomus sepultus* Meunier, 1912.

†**serresi** THÉOBALD, 1937: *Les insectes fossiles des terrains oligocènes de France*: 347 (*Chironomus*; "as *Serresi*"). Type locality: [Title page] "France"; [p. 291] "AIX-EN-PROVENCE ..à la « Montée d'Avignon »". — Distr.: **PA**: France. ►Oligocene

(Chattian), 23.03 - 28.4 Mya, Compression (Adult male) in gypsum marl◄. Senior primary homonym of *Chironomus serresi* Theobald, 1937 (below).

†*serresi* THÉOBALD, 1937: *Bulletin Mensuel (Mémoires) de la Société des* Sciences de Nancy **58**(?Part) or **1**: 347 (*Chironomus* "as *Serresi*"). Type locality: [Title page] "France"; [p. 291] "AIX-EN-PROVENCE .. à la « Montée d'Avignon »". **Preoccupied**. Senior primary homonym of *Chironomus serresi* Théobald, 1937 (above). **[Note]**

†**subobscurus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 202 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Chironomus subobscurus* Meunier, 1904 (below).

†*subobscurus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 213 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus subobscurus* Meunier, 1904 (above).

†**tenebricosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 203 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female). Senior primary homonym of *Chironomus tenebricosus* Meunier, 1904 (below).

†*tenebricosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 214 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus tenebricosus* Meunier, 1904 (above).

†**tenebrosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 199 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus tenebrosus* Meunier, 1904 (below).

†*tenebrosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 210 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus tenebrosus* Meunier, 1904 (above).

†**uliginosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 204 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Chironomus uliginosus* Meunier, 1904 (below) and senior primary homonym of *Chironomus uliginosus* Keyl, 1960 – the latter is an unavailable synonym of *Chironomus* (*Chironomus*) *vallenduuki* Ashe & O'Connor, 2015, a valid extant species.

†*uliginosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 215 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus uliginosus* Meunier, 1904 (above).

†**umbraticus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 200 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus umbraticus* Meunier, 1904 (below).

†*umbraticus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 211 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus umbraticus* Meunier, 1904 (above).

†**umbrosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 201 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Chironomus umbrosus* Meunier, 1904 (below).

†*umbrosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 212 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus umbrosus* Meunier, 1904 (above).

†**vagabundus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 198 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber

(Adult male and Adult female)◄. Senior primary homonym of *Chironomus vagabundus* Meunier, 1904 (below).

†*vagabundus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 209 (*Chironomus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Chironomus vagabundus* Meunier, 1904 (above).

†**venerabilis** ETHERIDGE & OLLIFF, 1890: *Memoirs of the Geological Survey of New South Wales, Palaeontology* **7**: 7 (*Chironomus*). Type locality: {New South Wales, Australia} "Fox and Partridge's claim, Red Hill, near Emmaville, New England". — Distr.: **AU**: Australia (New South Wales). ►Pliocene (Piacenzian to Zanclean), 2.588 - 5.332 Mya, Compression (??) in shaly-ironstone◄. [**Note**]

†*problematicus* ETHERIDGE & OLLIFF, 1890: *Memoirs of the Geological Survey of New South Wales, Palaeontology* **7**: 11 (*Palaeolycus*; originally as "*Palæolycus*"). Type locality: {New South Wales, Australia} "Fox and Partridge's claim, Red Hill, near Emmaville, New England". **[Note]** [Synonym of *venerabilis* in Fossilworks website [PA]]

Genus †**CLAVICORNIUS** HONG

†**CLAVICORNIUS** HONG, 2002: *Amber Insects of China*: 171. Type species: *Fushunitendipes lobotes* Hong, 1981, by original designation.

†**lobotes** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 37 (*Fushunitendipes*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. [? Close to Xiaomyia group -? male of *F. limnites* [HT]]

labotes. Incorrect original spelling.

Genus **CLINOTANYPUS** KIEFFER

CLINOTANYPUS KIEFFER, 1913: *Records of the Indian Museum* **9**(3): 157. Type species: *Procladius fuscosignatus* Kieffer, 1910, by subsequent designation of Sublette and Sublette (1965: *United States Department of Agriculture Handbook* **276**: 145).

†**vagans** ZHANG, 1989: *Fossil Insects from Shanwang, Shandong, China*: 327 (*Clinotanypus*). Type locality: {China} **Shanwang formation, Shanwang village, Longgang Town, Linqu County, Weifang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Miocene (Tortonian to Langhian), 11.608 - 15.97 Mya, Compression (adult??) in diatomite◄. [**Note**] [True Midge [HT]]

Genus †**COELOCHIRONOMA** ZHANG, ZHANG, LIU & SHANGGUAN

†**COELOCHIRONOMA** ZHANG, ZHANG, LIU & SHANGGUAN, 1989: *Geology of Shandong* **2**(1): 24. Type species: *Coelochironoma xantha* Zhang, Zhang, Liu & Shangguan, 1989, by original designation. [**Note**]

†**xantha** ZHANG, ZHANG, LIU & SHANGGUAN, 1989: *Geology of Shandong* **2**(1): 24 (*Coelochironoma*). Type locality: [China] [Translated from Chinese]. **Laiyang formation, Nanligezhuang village, Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Albian to Barremian), 112.6 - 125.45 Mya, Compression (Adult female)◄. [**Note**]

†**CRICOTOPIELLA** MEUNIER

†**CRICOTOPIELLA** MEUNIER, 1916: *Tijdschrift voor Entomologie* **59**(4): 283. Type species: *Cricotopiella rostrata* Meunier, 1916, by original designation. [**Note**] [Included in Subfamily Chironominae in Zelentsov, N. I., Baranov, V. A., Perkovsky, E. E. and Shobanov, N. A. (2012) [PA])

†**rostrata** MEUNIER, 1916: *Tijdschrift voor Entomologie* **59**(4): 284 (*Cricotopiella*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40 Mya, Amber (Adult female)◄. [**Note**]

Genus **CRICOTOPUS** WULP

CRICOTOPUS WULP, 1874: *Tijdschrifl voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus tibialis* Meigen, 1804, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 528). Senior homonym of *Cricotopus* Wulp, 1874 (below). [**Note**]

CRICOTOPUS WULP, 1875: *Tijdschrifl voor Entomologie* **17**(5): 132. Type species: *Chironomus tibialis* Meigen, 1804, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 528). Preoccupied. Junior homonym of *Cricotopus* Wulp, 1875 (above).

†**abiegnus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 212 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus abiegnus* Meunier, 1904 (below).

†*abiegnus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 223 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic

amber]. **Preoccupied**. Junior primary homonym of *Cricotopus abiegnus* Meunier, 1904 (above).

†**alluvionis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 207 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus alluvionis* Meunier, 1904 (below).

†*alluvionis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 218 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus alluvionis* Meunier, 1904 (above).

†**ambiguus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 211 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus ambiguus* Meunier, 1904 (below).

†*ambiguus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 222 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus ambiguus* Meunier, 1904 (above).

†**amniculus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 207 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus amniculus* Meunier, 1904 (below).

†*amniculus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 218 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus amniculus* Meunier, 1904 (above).

†**antiquus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 206 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber

(Adult male and Adult female)◄. Senior primary homonym of *Cricotopus antiquus* Meunier, 1904 (below).

†*antiquus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 217 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus antiquus* Meunier, 1904 (above).

†**coniferus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 214 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus coniferus* Meunier, 1904 (below).

†*coniferus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 225 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus coniferus* Meunier, 1904 (above).

†**crassicornis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 205 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus crassicornis* Meunier, 1904 (below).

†*crassicornis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 216 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus crassicornis* Meunier, 1904 (above).

†**delicatus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 208 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus delicatus* Meunier, 1904 (below).

†*delicatus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 219 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus delicatus* Meunier, 1904 (above).

†**dilapsus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 212 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus dilapsus* Meunier, 1904 (below).

†*dilapsus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 223 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus dilapsus* Meunier, 1904 (above).

†**exstinctus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 215 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus exstinctus* Meunier, 1904 (below).

extinctus: incorrect subsequent spelling.

†*exstinctus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 226 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus exstinctus* Meunier, 1904 (above).

†**insolitus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 213 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus insolitus* Meunier, 1904 (below) and *Cricotopus insolitus* Curran, 1928 [= *Cricotopus currani* Spies & Reiss, 1996 – a valid extant species].

†*insolitus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 224 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus insolitus* Meunier, 1904 (above).

†**minutissimus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 216 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber

(Adult male and Adult female)◄. Senior primary homonym of *Cricotopus minutissimus* Meunier, 1904 (below).

†*minutissimus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 227 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus minutissimus* Meunier, 1904 (above).

†**minutulus** MEUNIER, 1916: *Tijdschrift voor Entomologie* **59**(4): 281 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄.

†**minutus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 216 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus minutus* Meunier, 1904 (below).

†*mimuus* MEUNIER, 1904: *Annales de la Societe Scientifique de Bruxelles, 2e partie (Memoires)* **28**: 227 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus minutus* Meunier, 1904 (above).

(LINNAEUS, 1758): 587 (*Tipula*). PA: "Europa"; Holarctic; NE: USA (Undetermined Tertiary) [T].

motilator, error for *motatrix.*

†**nemorivagus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 215 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus nemorivagus* Meunier, 1904 (below).

†*nemorivagus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 226 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus nemorivagus* Meunier, 1904 (above).

†**paganus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 213 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber

(Adult female)◄. Senior primary homonym of *Cricotopus paganus* Meunier, 1904 (below).

†*paganus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 224 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus paganus* Meunier, 1904 (above).

†*parvulus* MEUNIER, 1916: *Tijdschrift voor Entomologie* **59**(4): 282 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. **Preoccupied**. Junior primary homonym of *Cricotopus parvulus* Kieffer, 1909 – the latter is a valid extant species of *Nanocladius* (*Nanocladius*) Kieffer, 1913 (Subfamily Orthocladiinae).

†**permutabilis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 209 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus permutabilis* Meunier, 1904 (below).

†*permutabilis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 220 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus permutabilis* Meunier, 1904 (above).

†*pulchellus* MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 210 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. **Preoccupied**. Junior secondary homonym of *Chironomus pulchellus* Meigen, 1830 – the latter is a junior synonym of *Cricotopus* (*Cricotopus*) *triannulatus* (Macquart, 1826). Senior primary homonym of *Cricotopus pulchellus* Meunier, 1904 (below). [New replacement name is not proposed ^{PA}]

†*pulchellus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 221 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus pulchellus* Meunier, 1904 (above).

†**pygmaeus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 208

(*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus pygmaeus* Meunier, 1904 (below).

†*pygmaeus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 219 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus pygmaeus* Meunier, 1904 (above).

†**robustus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 209 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Cricotopus robustus* Meunier, 1904 (below).

†*robustus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 220 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus robustus* Meunier, 1904 (above).

†**saltuosus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 214 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus saltuosus* Meunier, 1904 (below).

†*saltuosus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 225 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Cricotopus saltuosus* Meunier, 1904 (above).

†**variabilis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 210 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Cricotopus variabilis* Meunier, 1904 (below).

†*variabilis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 221 (*Cricotopus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic

amber]. **Preoccupied**. Junior primary homonym of *Cricotopus variabilis* Meunier, 1904 (above).

Genus †**DARA** GIEBEL

†**DARA** GIEBEL, 1856: *Fauna der Vorwelt mit steter Berücksichtigung der lebenden Thiere*: 254. Type species: *Culex fossilis* Westwood, 1845, by monotypy.

†**fossilis** (WESTWOOD & BRODIE in BRODIE, 1845): *A History of the Fossil Insects in the secondary rocks of England*: 34, 121, pl. 3, fig. 15 (*Culex*; as "*Culex*?"). Type locality: [Great Britain] [page 31] "PURBECK STRATA IN THE VALE OF WARDOUR". — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult male) in shallow subtidal lagoonal/estuarine limestone◄. [**Note**]

Genus †**EOPODONOMUS** ROHDENDORF

†**EOPODONOMUS** ROHDENDORF, 1964: *Trudy Paleontologicheskogo Instituta* **100**: 212. Type species: *Eopodonomus nymphalis* Rohdendorf, 1964, by original designation.

†**nymphalis** ROHDENDORF, 1964: *Trudy Paleontologicheskogo Instituta* **100**: 212 (*Eopodonomus*). Type locality: [Kazakhstan] [p. 212] **Galkino** [= Galkino]; [Fig. 70 legend, p. 213] **Karatau** [= Karatau] Karatau-Galkino. — Distr.: **PA**: Kazakhstan. ►Upper Jurassic (??) 155.7 - 164.7 Mya, Compression (??) in ??rock??◄.

Genus **EURYCNEMUS** WULP

EURYCNEMUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus elegans* Meigen, 1818 [= *Chironomus crassipes* Meigen, 1810], by original designation. Senior homonym of *Eurycnemus* Wulp, 1875 (below). [**Note**]

EURYCNEMUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 135. Type species: *Chironomus elegans* Meigen, 1818 [= *Chironomus crassipes* Meigen, 1810], by original designation. **Preoccupied.** Junior homonym of *Eurycnemus* Wulp, 1874 (above).

†**appendiculatus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 220 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. Senior primary homonym of *Eurycnemus appendiculatus* Meunier, 1904 (below).

†*appendiculatus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 231 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [=

Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus appendiculatus* Meunier, 1904 (above).

†**hyalinus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 220 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Eurycnemus hyalinus* Meunier, 1904 (below).

†*hyalinus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 231 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus hyalinus* Meunier, 1904 (above).

†**pilosellus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 220 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Eurycnemus pilosellus* Meunier, 1904 (below).

†*pilosellus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 231 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus pilosellus* Meunier, 1904 (above).

†**stagnum** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 219 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Eurycnemus stagnum* Meunier, 1904 (below).

†*stagnum* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 230 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus stagnum* Meunier, 1904 (above).

†**tenellus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 219 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber

(Adult male and Adult female)◄. Senior primary homonym of *Eurycnemus tenellus* Meunier, 1904 (below).

†*tenellus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 230 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus tenellus* Meunier, 1904 (above).

†**vulgaris** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 218 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. Senior primary homonym of *Eurycnemus vulgaris* Meunier, 1904 (below).

†*vulgaris* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 229 (*Eurycnemus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Eurycnemus vulgaris* Meunier, 1904 (above).

Genus †**FURVITENDIPES** HONG

†**FURVITENDIPES** HONG, 2002: *Amber Insects of China*: 176. Type species: *Chironomus minimus* Hong, 1974, by original designation. Name not made available – the Type species is not a nominal species (i.e. an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*minimus* (HONG in HONG, YANG, WANG, LI, SUN, SUN & TU, 1974): *Acta Geologica Sinica* **1974**(2): 124 (*Chironomus*). Type locality: {China} [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. **Preoccupied**. Junior primary homonym of *Chironomus minimus* Meigen, 1818 – the latter is a valid extant species in the genus *Limnophyes* Eaton, 1875 (Subfamily Orthocladiinae). [new replacement name required [PA]] [True midges, peculiar wing, male hypopygium and very long stout tibial spurs [HT]]

Genus †**FUSHUNITENDIPES** HONG

†**FUSHUNITENDIPES** HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 31. Type species: *Fushunitendipes eocenicus* Hong, 1981, by original designation. [**Note**]

FUSHUNTENDIPES, FUSHUNITENSIPES: incorrect original spellings.

†**eocenicus** HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 33 (*Fushunitendipes*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male and Adult female)◄. [??*Limnophyes* [HT]]

†l**ongipalpulatus** HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 42 (*Fushunitendipes*). Type locality: [China] [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. [??*Limnophyes* [HT]]

longipapulatus: incorrect original spelling.

Genus †**GURVANOMYIA** KALUGINA

†**GURVANOMYIA** KALUGINA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 121. Type species: *Gurvanomyia magna* Kalugina, 1986, by original designation. [Veltz *et al.* (2007: 170-171) state that Mesozoic Tanypodinae are represented by more uncertain taxa. Kalugina (1986) described the fossil genus *Gurvanomyia* with two species, *G. magna* and *G. moderata,* from the Late Jurassic/Early Cretaceous of Mongolia, based on incomplete adults with poorly preserved wing venation – ?treat genus and both species as nomina dubia probably in Tanypodinae – both fossil species without wings and *G. moderata* is based on an adult female only [PA].]

†**magna** KALUGINA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 122 (*Gurvanomyia*). Type locality: {Mongolii} "Gurvan-Érénii-Nuru" [Mongolii = Mongolia]. — Distr.: **PA**: Mongolia. ►Lower Cretaceous (Aptian), *circa* 113 - 125 Mya, Compression (???) in lacustrine large shale/sandstone◄.

†**moderata** KALUGINA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 122 (*Gurvanomyia*). Type locality: {Mongolii} "Gurvan-Érénii-Nuru" [Mongolii = Mongolia]. — Distr.: **PA**: Mongolia. ►Lower Cretaceous (Aptian), *circa* 113 - 125 Mya, Compression (?Adult female) in lacustrine large shale/sandstone◄.

modesta: incorrect subsequent spelling.

?†*rohdendorfi* HONG in HONG, WANG & SUN, 1992: *Memoirs of Beijing Natural History Museum* **51**: 24 (*Gurvanomyia*; as "*Guvanomyia*"). Type locality: [China] [Translated from Chinese] **Xiguayuan formation, Zhongguan village, Zhongguan Town, Longhua County, Hebei Province**. — Distr.: **PA**: China (Hebei). ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Compression (Adult, unknown sex) in lacustrine siltstone◄. [**Note**] [Just Barremian in Fossilsworks.org] [May not be midge,

?Ceratopogonidae [HT]] [?possible exclusion of *Gurvanomyia rohdendorfi* Hong from genus [PA]]

Genus †**HUABEITENDIPES** HONG

†**HUABEITENDIPES** HONG, 1995: *Acta Geologica Ganzu* **4**(2): 4. Type species: *Huabeitendipes wuqiensis* Hong, 1995, by original designation.

†**wuqiensis** HONG, 1995: *Acta Geologica Gansu* **4**(2): 4 (*Huabeitendipes*). Type locality: [China] [Translated from Chinese] **Shibeiwan village, Wuqi county, Yan'an City, Shaanxi Province**. — Distr.: **PA**: China (Gansu, Hebei, Shaanxi). ►Lower Cretaceous (Valanginian), 132.9 - 136.4 Mya, Compression (Adult male, Adult female and Pupa) in fluvial-lacustrine siltstone◄. [?Limnophyes [HT]] [Figure 9 is erroneously labelled as a larva, it appears to be a pharate male pupa as the drawing apparently shows one leg sheath and one antennal sheath anteriorly while the developing male hypopygium is clearly visible posteriorly; adult wing has m-cu crossvein [PA]]

Genus †**JENTZSCHIELLA** MEUNIER

†**JENTZSCHIELLA** MEUNIER, 1899: *Miscellanea Entomologica* **7**(10/11): 162. Type species: *Jentzschiella jentzschi* Evenhuis, 1994, by subsequent designation of Evenhuis (1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 268). [**Note**]

ZENTSCHIELLA: incorrect subsequent spelling.

†**jentzschi** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 268 (*Jentzschiella*). Type locality: "Baltic Region". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult, ?sex? [PA])◄. [**Note**]

Genus †**JUROPELOPIA** EVENHUIS

†**JUROPELOPIA** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 268 (as nom. nov. for *Mesopelopia* Kalugina, 1985 nec *Mesopelopia* Roback, 1971). Type species: *Mesopelopia fittkaui* Kalugina, 1985, by original designation.

†*MESOPELOPIA* KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 110. Type species: *Mesopelopia fittkaui* Kalugina, 1985, by original designation. **Preoccupied**. Junior homonym of *Mesopelopia* Roback, 1971 –synonym of *Conchapelopia* Fittkau, 1957, a valid extant chironomid genus in the Subfamily Tanypodinae.

†**fittkaui** (KALUGINA in KALUGINA & KOVALEV, 1985): *Dvukrylye Nasekomye Yury Sibiri*: 110 (*Mesopelopia*). Type locality: [Russia, East Siberia] "Novospasskoe". —

Distr.: **PA**: Russia (East Siberia). ►(Upper Jurassic (Kimmeridgian to Oxfordian), 155.7 - 161.2 Mya, Compression (??) in ?rock type??◄.

Genus †**LATITENDIPES** HONG

†**LATITENDIPES** HONG, 2002: *Amber Insects of China*: 172. Type species: *Fushunitendipes platamodes* Hong, 1981, by original designation. Name not made available – the Type species is not a nominal species (i.e. an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†**platamodes** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 45 (*Fushunitendipes*). Type locality: [Translated from Chinese]** Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄.

platomodes: incorrect subsequent spelling.

Unavailable names in †LATITENDIPES HONG

†*wanghuacunensis* HONG, 2002: *Amber Insects of China*: **173** (*Latitendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 – 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note]**

Genus †**LIAOTENDIPES** HONG

†**LIAOTENDIPES** HONG, 2002: *Amber Insects of China*: 200. Type species: *Microtendipes longifemerales* Hong, 1981, by original designation.

†**longifemerales** HONG, 1981: *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 50 (*Microtendipes*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. [??*Limnophyes* complex ^{HT}]

Genus †**LIAUNINGIUS** HONG

†**LIAUNINGIUS** HONG, 1982: *Jiuquan Pendi kunchong huashi*: 167. Type species: *Chironomaptera robustus* Lin, 1976, by original designation. Senior objective synonym of *Liaoningius* Zhang, 1989 (below). [**Note**]

†*LIAONINGIUS* ZHANG, 1989: *Acta Paleontologica Sinica* **28**(3): 355 ("nom. correct"; unjustified emendation of *Liauningius* Hong, 1982). Type species: *Chironomaptera robustus* Lin, 1976, by objective synonymy. Junior objective synonym of *Liauningius* Hong, 1982 (above).

†**robustus** (LIN, 1976) *Acta Paleontologica Sinica* **15**(1): 106 (*Chironomaptera*). Type locality: [China] [Translated from Chinese] **Dachengzi Town, Kezuo County, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Lower Cretaceous (Aptian), 113 - 125.0 Mya, Compression (Adult female) in lacustrine mudstone◄. [**Note**]

Genus †**MAILONIA** KALUGINA

†**MAILONIA** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 106. Type species: *Mailonia pallida* Kalugina, 1985, by original designation.

†**pallida** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 107 (*Mailonia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Tithonian to Oxfordian), 150.8 - 161.2 Mya, Compression (Pupa) in ?rock type??◄. [**NOTE**: According to Veltz *et al*. (2007: 170) Mesozoic Tanypodinae are represented by more uncertain taxa. Kalugina (1985) described *M. pallida* in the Middle Jurassic genus *Mailonia* Kalugina, 1985, based on a pupa.]

Genus †**MANLAYAMYIA** KALUGINA

†**MANLAYAMYIA** KALUGINA, 1980: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **13**: 63. Type species: *Manlayamyia litorina* Kalugina, 1980, by original designation.

†**dabeigouensis** ZHANG, 1991: *Acta Palaaeontologica Sinica* **30**(5): 557 (*Manlayamyia*). Type locality: {China} [Translated from Chinese] **Dabeigou Formation, Lahaigou village, Huotoushan Town, Luanping County, Hebei Province**. — Distr.: **PA**: China (Hebei). ►Lower Cretaceous (Hauterivian to Valanginian), 130 - 135 Mya (age interval cited in Lin *et al*., 2022), Compression (Adult male, female and Pupa) in lacustrine mudstone◄. [Veltz *et al*. (2007: 169) consider *M. dabeigouensis* Zhang, 1991 as "Diptera incertae sedis" since the wing venation and body structures required to distinguish the specimen as a chironomid, rather than a ceratopogonid, are not clear. However, H. Tang, as personal comment to P. Ashe, considered the taxon "a true midge"]

†*gregaria*: sensu HONG, 1982: *Jiuquan Pendi kunchong huashi*: 162 (*Mesotendipes*). Locality: [China] **Dabeigou formation, Chijin Town, Jiuquan City, Gansu Province**. [It may be a Midge - ?Dimorphic type - ?female with male antenna [HT]] [see Borkent, 1993: 6-7; "Hong (1982) replaced *Chironomaptera* with the new name *Mesotendipes* because he believed that the former name did not accurately describe the included species. He further placed this new genus in his new family Mesotendipedidae. Clearly, the nomenclatural actions by Hong (1982) are unacceptable." Also in Borkent (1993: 7) "The specimens of *Chironomaptera gregaria* described by Hong (1982) (as *Mesotendipes gregaria*) have been shown by Zhang (1991) to actually be of another species, *Manlayamyia dabeigouensis* Zhang, which belong in the Chironomidae." [PA]]

†**litorina** KALUGINA, 1980: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **13**: 64 (*Manlayamyia*). Type locality: **Yug-Vostochnaya Mongoliya mestonakhozhdenie Manlai**. — Distr.: **PA**: Mongolia. ►Lower Cretaceous (Aptian), 113 - 125 Mya, Compression (Adult male and Pupa) in lacustrine siliciclastic rock◄.

litorhina: incorrect subsequent spelling.

Genus **METRIOCNEMUS** WULP

METRIOCNEMUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus albolineatus* Meigen, 1818, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 569). Senior homonym of *Metriocnemus* Wulp, 1875 (below). [**Note**]

METRIOCNEMUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 136. Type species: *Chironomus albolineatus* Meigen, 1818, by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 569). **Preoccupied**. Junior homonym of *Metriocnemus* Wulp, 1874 (above).

†**cretatus** BOESEL, 1937: *University of Toronto Studies Geological Series* **40**: 52 (*Metriocnemus*). Type locality: [from Carpenter, 1937] [Title, page 7] "Canadian Amber", [page 9] "Cedar Lake". — Distr.: **NE**: Canada (Ontario). ►Upper Cretaceous (Campanian), 80 Mya, Amber (??)◄. [**Note**] [QUERY is it the same as *Metriocnemus* sp. in Poinar *et al.* (1997)? [PA]]

†sp.: POINAR, KRANTZ, BOUCOT & PIKE, 1997: *Naturwissenschaften* **84**(7): 321 (*Metriocnemus*). Locality: "Canadian Creataceous amber from the Foremost Formation (Judith River Group)". — Distr.: **NE**: Canada (?Province). ►Upper Cretaceous (Campanian), 79 Mya, Amber◄. [Note: attached Arachnid parasite (Erythraeidae –

extinct association] [QUERY is this same specimen identified by Boesel as "*Metriocnemus* sp.?" [PA]]

Genus †**MOGSONOMUS** KALUGINA

†**MOGSONOMUS** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 100. Type species: *Mogsonomus tophus* Kalugina, 1985, by original designation.

†**tophus** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 101 (*Mogsonomus*). Type locality: [Russia, East Siberia] "Mogzon (Vishnevyi)". — Distr.: **PA**: Russia (East Siberia). ► Jurassic (Kimmeridgian) 152.1 Mya◄ (Middle Jurassic) [Compression (??) in ??rock [PA]].

Genus †**NOMOCHIRUS** GIL COLLADO

†**NOMOCHIRUS** GIL COLLADO, 1926: *Boletín del Instituto Geológico y Minero de España* **46**: 91. Type species: *Nomochirus sampelayoi* Gil Collado, 1926, by monotypy. [**Note]**

†**sampelayoi** GIL COLLADO, 1926: *Boletín del Instituto Geológico y Minero de España* **46**(Serie 3,6): 94 (*Nomochirus*). Type locality: Ribesalbes, Casttellón. — Distr.: **PA**: Spain ►Miocene (Burdigilian/Aquitanian), 15.97 - 23.0 Mya, Compression in lacustrine lithified shale◄.

Genus **ORTHOCLADIUS** WULP

ORTHOCLADIUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus oblidens* Walker, 1856, by subsequent designation of Opinion 2206 by the International Commission on Zoological Nomenclature (2008: *Bulletin of Zoological Nomenclature* **65**(3): 229). Senior homonym of *Orthocladius* Wulp, 1875 (below). [**Note**]

ORTHOCLADIUS WULP, 1875: *Tijdschriftvoor Entomologie* **17**(5): 132. Type species: *Chironomus oblidens* Walker, 1856, by subsequent designation of Opinion 2206 by the International Commission on Zoological Nomenclature (2008: *Bulletin of Zoological Nomenclature* **65**(3): 229). **Preoccupied**. Junior homonym of *Orthocladius* Wulp, 1874 (above).

†sp.: STATZ, 1944: *Palaeontographica* (A) **95**: 122-187 (*Orthocladius*). Locality: Rott am Siebengebirge, Hennef, Westphalia. — Distr.: **PA**: Germany. ►Oligocene (Chattian), 23.0 - 28.4 Mya, Compression in lacustrine lithified shale◄.

Genus †**ORUSA** LIN

†**ORUSA** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 226. Type species: *Orusa barba* Lin, 1980, by monotypy. [**Note**]

†**barba** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 227 NOT 226 (*Orusa*). Type locality: [Translated from Chinese] **Lao village, Shouchang Town, Jiande City, Zhejiang Province**. — Distr.: **OR**: China (Zhejiang). ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Compression (Adult female) in lacustrine siliciclastic rock◄.

Genus †**PACHYURONYMPHA** ROHDENDORF

†**PACHYURONYMPHA** ROHDENDORF, 1964: *Trudy Paleontologicheskogo Instituta* **100**: 212 **not** 214 (1974: 238). Type species: *Pachyuronympha karatauensis* Rohdendorf, 1964, by original designation.

†**karatauensis** ROHDENDORF, 1964: *Trudy Paleontologicheskogo Instituta* **100**: 214 (*Pachyuronympha*). Type locality: [Kazakhstan] [Fig. 70 legend, p. 213] **Karatau** [= Karatau]; [p. 214] **Galkino** [= Galkino]. — Distr.: **PA**: Kazakhstan. ►Upper Jurassic (??), 155.7 - 164.7 Mya, Compression (??) in rock??◄.

GENUS †**PALAEOTANYPUS** MEUNIER

†**PALAEOTANYPUS** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 178. Type species: *Tanypus filiformis* Meunier, 1904, by monotypy. Senior homonym of *Palaeotanypus* Meunier, 1904 (below). [**Note**]

†*PALAEOTANYPUS* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 189. Type species: *Tanypus filiformis* Meunier, 1904, by monotypy. **Preoccupied**. Junior homonym of *Palaeotanypus* Meunier, 1904 (above).

†**filiformis** (MEUNIER, 1904): *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 226 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Palaeotanypus filiformis* Meunier, 1904 (below).

†*filiformis* (MEUNIER, 1904): *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 237 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Palaeotanypus filiformis* Meunier, 1904 (above).

Genus †**POTAMOCEROIDES** MUNIER-CHALMAS

†**POTAMOCEROIDES** MUNIER-CHALMAS in FERRONNIÈRE, 1901: *Bulletin de la Société des Sciences Naturelles de l'Ouest de la France, Nantes* (Série 2) **1**: 270. Type species: *Potamoceroides giardi* Munier-Chalmas, by monotypy. [**Note**] [des tubes de Serpuliens qu'il nomme Giardi et qu'il a eu l'amabilité de me donner en communication [= tubes of Serpuliens he names Giardi and that he was kind enough to give me in communication]]

†**giardi** MUNIER-CHALMAS in FERRONNIÈRE, 1901: *Bulletin de la Société des Sciences Naturelles de l'Ouest de la France, Nantes* (Série 2) **1**: 270 (*Potamoceroides*; "as *Giardi*"). Type locality: [France] [p. 1, Title] "sur les ZONES SUPRALITTORALES de la LOIRE-INFÉRIEURE" [= on the supralittoral zones of the lower Loire]; [p. 269] "dans les alluvions de la Bresle" [= in the alluvial deposits of the Bresle]. — Distr.: **PA**: France. ►Holocene, 0 - 0.0116 Mya, Compression?? (larval cases) in alluvial deposits◄.

Genus †**PROTOBIBIO** ROHDENDORF

†**PROTOBIBIO** ROHDENDORF, 1946: *Trudy Paleontologicheskogo Instituta* **13**(2): 47. Type species: *Protobibio jurassicus* Rohdendorf, 1946, by original designation.

†**jurassicus** ROHDENDORF, 1946: *Trudy Paleontologicheskogo Instituta* **13**(2): XX (*Protobibio*). Type locality: Karatau-Galkino. — Distr.: **PA**: Kazakhstan. ►Upper to Middle Jurassic (Oxfordian to Callovian), 155.7 - 164.7 Mya, Compression (Adult wing) in lacustrine large siltstone◄.

†**orientalis** ZHANG, ZHANG, LIU & SHANGGUAN, 1989: *Geology of Shandong* **2**(1): 29 (*Protobibio*). Type locality: [China] [Translated from Chinese] **Laiyang formation, Nanligezhuang village, Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (adult female) in lacustrine large shale◄. [See Lin, 1998 *Cretaceous Research* **15**: 305-318 [PA]] [Mycetophilidae [HT]]

Genus †**SENDELIA** MEUNIER

†**SENDELIA** MEUNIER, 1899: *Miscellanea Entomologica* **7**(10/11): 162. Type species: *Sendelia mirabilis* Evenhuis, 1993, by subsequent designation of Evenhuis (1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 276). [Included in Subfamily Chironominae in Zelentsov, N. L., Baranov, V. A., Perkovsky, E. E. and Shobanov, N. A. (2012) [PA]] [Genus illustrated in Meunier (1899: Plate 1, Fig. 2 under *Ceratopogon* lacks the posterior crossvein and could belong to one of the more apomorphic subfamilies.] [*Sendelia* is mentioned several times on page 162 in Meunier

(1899):- (i) 4th line of text **"Ceratopogon** mit *Sendelia-artigen* flugeln. (Pl. I, fig. 2.)" with two further lines below – in Plate I, Figure 2 in the second Meunier (1899) reference *Sendelia* is illustrated under the generic name *Ceratopogon*; (ii) under item 4 on page 162 *Sendelia* is mentioned twice in bold with a reference to a footnote at the bottom of the page to the publication of Duisberg (1868). Does the description in Meunier (1899) and the back reference to Duisberg (1868) validate the species name?? [PA]]

†*SENDELIA* DUISBERG, 1868: *Schriften der Königlichen Physikalisch-ökonomischen Gesellschaft zu Königsberg* **9** (1 *Abhandlungen)*: 23. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†**mirabilis** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 277 (*Sendelia mirabilis* is a species-group name validated in Evenhuis (1994) by bibliographic reference to characters in Meunier (1899: 162) for the genus *Sendelia*). Type locality: "Baltic Region". — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄.

†*mirabilis* DUISBERG, 1868: *Schriften der Physikalisch-ökonomischen Gesellschaft zu Königsberg* **9**: 23 (*Sendelia*). Locality: "Bernstein" [= amber, i.e. Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

Genus †**SHINLUSTIA** KALUGINA

†**SHINLUSTIA** KALUGINA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 123. Type species: *Shinlustia irae* Kalugina, 1986, by original designation.

SCHINLUSTIA: incorrect subsequent spelling.

†**irae** KALUGINA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 124 (*Shinlustia*). Type locality: {Mongolii} "Khukh-Mor't" [Mongolii = Mongolia]. — Distr.: **PA**: Mongolia. ►Lower Cretaceous, [Compression (??) in ??rock]◄. [**NOTE**: Veltz *et al.* (2007: 170-171) comment that Mesozoic Tanypodinae are represented by more uncertain taxa. Kalugina (1986) described *Shinlustia irae* from the Early Cretaceous of Mongolia on the basis of a poorly preserved adult. Figures show no antennae or wings - treat genus and species as nomina dubia probably in Tanypodinae [PA]]

Unavailable name in †**SHINLUSTIA** KALUGINA

†*applanata* SINITSA, 1986: *Trudy Sovmestnaya Sovetsko-Mongol' skaya Paleontologicheskaya Ekspeditsiya* **28**: 39, 42 (*Schinlustia*). Locality: [Title, p. 7]

zapadnoi Mongolii [= west Mongolia]; [pp. 37-38] **Khykh-Mor't** Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

Genus †**SINASPINUS** HONG

†**SINASPINUS** HONG, 2002: *Amber Insects of China*: 216. Type species: *Aspinus amblopteres* Hong, 1981, by original designation.

†**amblopteres** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 57 (*Aspinus*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. [Not midge ^{HT}]

†*ambropteres*: incorrect original spelling.

†**stenopteres** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 54 (*Aspinus*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. [?Ceratopogonidae ^{HT}]

Genus †**SINORYCTOCHLUS** ZHANG

†**SINORYCTOCHLUS** ZHANG, 1991: *Acta Palaeontologica Sinica* **30**(5): 563. Type species: *Sinoryctochlus insolitus* Zhang, 1991, by original designation.

†**insolitus** ZHANG, 1991: *Acta Palaeontologica Sinica* **30**(5): 564 (*Sinoryctochlus*). Type locality: {China} [Translated from Chinese] **Laiyang Formation, Nanligezhuang village, Laiyang, Shandong**. — Distr.: **PA**: China (Shandong). ►Upper Jurassic (Tithonian to Oxfordian), 145 - 163.5 Mya, Compression (Adult male and Adult female) in ??rock◄. [True midge ^{HT}] [**NOTE**: Veltz *et al*. (2007: 169-170) state that *Sinoryctochlus insolitus* Zhang, 1991 (in the fossil genus *Sinoryctochlus* Zhang, 1991), from the Late Jurassic of China, is based on male and female adults, which, according to the original illustrations by Zhang (1991), have rather poorly preserved wing venation.]

Genus *SPANIOTOMA* PHILIPPI

SPANIOTOMA PHILIPPI, 1866: *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien (Abhandlungen)* **15**(4): 629. Type species: *Spaniotoma bivittata* Philippi, 1866, by subsequent designation of Johannsen (1905: *Bulletin of the New York State Museum* **86**: 162). **Nomen dubium in ORTHOCLADIINAE**. [**Note**]

†**conservata** BOESEL, 1937: *University of Toronto Studies Geological Series* **40**: 52 (*Spaniotoma*). Type locality: [from Carpenter, 1937] [Title, page 7] "Canadian Amber",

[page 9] "Cedar Lake". — Distr.: **NE**: Canada (Manitoba). ►Upper Cretaceous (Campanian), 80 Mya, Canadian Amber (Adult male and Adult female)◄.

†**veta** BOESEL, 1937: *University of Toronto Studies Geological Series* **40**: 53 (*Spaniotoma* (*Smittia*)). Type locality: [from Carpenter, 1937] [Title, page 7] "Canadian Amber", [page 9] "Cedar Lake". — Distr.: **NE**: Canada (Manitoba). ►Upper Cretaceous (Campanian), 80 Mya, Canadian Amber (Adult male)◄.

Genus †**SPINITENDIPES** HONG

†**SPINITENDIPES** HONG, 2002: *Amber Insects of China*: 171. Type species: †*Fushunitendipes uracanthodes* Hong, 1981, by original designation.

†**uracanthodes** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 39 (*Fushunitendipes*). Type locality: [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. [May be True midge ^{HT}]

uracanthoides. incorrect original spelling.

Genus †**TANYPODITES** KALUGINA

†**TANYPODITES** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 112. Type species: *Tanypodites gorchonensis* Kalugina, 1985, by original designation (as gen. sp. nov.).

†**gorchonensis** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 112 (as "*Tanypodites*"). Type locality: [Russia, East Siberia] "Andur-Gorkhon". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 150.8 - 161.2 Mya, Compression (Adult male) in ??rock◄. [**Note**: Veltz *et al*. (2007: 170-171) comment that Mesozoic Tanypodinae are represented by more uncertain taxa. Kalugina (1985) placed "*T*". *gorchonensis* in the Middle Jurassic genus "*Tanypodites*" Kalugina, 1985, based on a very incomplete adult male, attributing it to the ?Tanypodinae.]

Genus **TANYPUS** MEIGEN

TANYPUS MEIGEN, 1803: *Magazin fur Insektenkunde* (Illiger) **2**: 261. Type species: *Tipula cincta* Fabricius, 1775 sensu Latreille, 1810 [misidentified = *Tanypus punctipennis* Meigen, 1818], by subsequent designation of Latreille (1810: Considérations générales: 442).

PELOPIA MEIGEN, 1800: *Nouvelle Classification*: 18. Type species: *Tipula cincta* Fabricius, 1775, sensu Coquillett, 1910 [misidentified = *Tanypus punctipennis* Meigen, 1818], by subsequent designation of Coquillett (1910: *Proceedings of the United States National*

Museum **37**: 586). Synonymized with *Tanypus* Meigen, 1803, by Hendel (1908: *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien (Abhandlungen)* **58**: 49). *Pelopia* Meigen, 1800, suppressed by ICZN, 1963: *Bulletin of Zoological Nomenclature* **20**: 339 (Opinion 678)).

†**antiquus** HEYDEN, 1859: *Palaeontographica* **8**(1): 13 (*Chironomus*). Type locality: [Germany] "Rott". — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 29.44 - 28.1 Mya, Compression (Pupae) in brown coal deposit◄. [**Note**]

†**compactus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 223 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Tanypus compactus* Meunier, 1904 (below).

†*compactus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 234 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus compactus* Meunier, 1904 (above).

†**eridanus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 224 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Tanypus eridanus* Meunier, 1904 (below).

†*eridanus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 235 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus eridanus* Meunier, 1904 (above).

†**fusiformis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 222 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Tanypus fusiformis* Meunier, 1904 (below).

†*fusiformis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 233 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus fusiformis* Meunier, 1904 (above).

†**longicornis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 225 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Tanypus longicornis* Meunier, 1904 (below).

†*longicornis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 236 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus longicornis* Meunier, 1904 (above).

†*obscura* STATZ, 1944: *Palaeontographica* (A) **95**: 129 (*Pelopia*; as "*Pelopia*?"). Type locality: [Germany] [Introduction, p. 123] "Rott". — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 29.44 - 28.1 Mya, Compression (??) in yellowish-brown slate◄. **Preoccupied**. Junior secondary homonym of *Tanypus obscurus* Macquart, 1826 - the latter is a questionable synonym of *Guttipelopia guttipennis* (Wulp, 1861) in the Subfamily Tanypodinae. [**Note**]

†**pagasti** (STATZ, 1944): *Palaeontographica* (A) **95**: 130 (*Pelopia*). Type locality: [Germany] [Introduction, p. 123] "Rott". — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 20.43 - 27.82 Mya, Compression (??) in yellowish-brown slate◄.

†**palaemon** (HEYDEN, 1870): *Palaeontographica* **17**(6): 249 (*Chironomus*; as "*Palaemon*"). Type locality: [Germany] [Title, p. 237] "aus der Braunkohle von Rott im Siebengebirge" [= from the brown coal of Rott in the Siebengebirge]. — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 29.44 - 28.1 Mya, Compression (Adult female) in yellowish-brown slate◄. [**Note**]

†**parvus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 225 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Tanypus parvus* Meunier, 1904 (below).

†*parvus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 236 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus parvus* Meunier, 1904 (above).

†**perditus** (HEYDEN, 1870): *Palaeontographica* **17**(6): 247 (*Chironomus*). Type locality: [Germany] [Title, p. 237] "aus der Braunkohle von Rott im Siebengebirge" [= from the

brown coal of Rott in the Siebengebirge]. — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 20.43 - 27.82 Mya, Compression (Adult male) in yellowish-brown slate◄. [**Note**]

†**porrectus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 223 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male and Adult female)◄. Senior primary homonym of *Tanypus porrectus* Meunier, 1904 (below).

†*porrectus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 234 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus porrectus* Meunier, 1904 (above).

†**subrotundatus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 224 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Tanypus subrotundatus* Meunier, 1904 (below).

†*subrotundatus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^{e} partie (Mémoires)* **28**: 235 (*Tanypus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanypus subrotundatus* Meunier, 1904 (above).

†**thienemanni** (STATZ, 1944): *Palaeontographica* (A) **95**: 128 (*Pelopia*). Type locality: [Germany] [Introduction, p. 123] "Rott". — Distr.: **PA**: Germany. ►Lower Miocene (Aquitanian) to Upper Oligocene (Chattian), 29.44 - 28.1 Mya, Compressions in white chert and in yellowish-brown slate◄. [**Note**]

Genus **TANYTARSUS** WULP

TANYTARSUS WULP, 1874: *Tijdschrift voor Entomologie* **16**: LXX, LXXI. Type species: *Chironomus signatus* Wulp, 1858, by subsequent designation of the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)) – *Tanytarsus* placed on the Official List of Generic Names in Zoology. Senior homonym of *Tanytarsus* Wulp, 1875 (below). [**Note**]

TANYTARSUS WULP, 1875: *Tijdschrift voor Entomologie* **17**(5): 134. Type species: *Chironomus signatus* Wulp, 1858, by subsequent designation of the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature*

18(6): 361 (Opinion 616)). **Preoccupied**. Junior homonym of *Tanytarsus* Wulp, 1874 (above).

CALOPSECTRA KIEFFER, 1909: *Bulletin de la Société d'Histoire Naturelle de Metz* **26**: 50. Type species: *Tanytarsus* (*Calopsectra*) *gregarius* Kieffer, 1909, by subsequent designation of Kieffer (1921: *Annales de la Société Entomologique de France* **90**: 36). Synonymized with *Tanytarsus* Wulp, 1874, by Edwards (1929: *Transactions of the Entomological Society of London* **77**: 409).

†**insularis** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 217 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult male)◄. Senior primary homonym of *Tanytarsus insularis* Meunier, 1904 (below). [Based on Adult male]

†*insularis* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 228 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanytarsus insularis* Meunier, 1904 (above).

†**maritimus** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 218 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Tanytarsus maritimus* Meunier, 1904 (below) and *Tanytarsus maritimus* Edwards, 1926 [= *Tanytarsus upoluensis* Ashe, 1985, a valid extant Pacific species].

†*maritimus* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 229 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanytarsus maritimus* Meunier, 1904 (above).

†**wulpii** MEUNIER, 1904: *Monographie des Cecidomyidae, des Sciaridae, des Mycetophilidae et des Chironomidae de l'ambre de la Baltique* [Separate]: 218 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. — Distr.: **PA**: Baltic Region. ►Eocene (Priabonian to Bartonian), 33.9 - 40.0 Mya, Baltic Amber (Adult female)◄. Senior primary homonym of *Tanytarsus wulpii* Meunier, 1904 (below).

vanderwulpi (as "Van der Wulpi"), *wulpi* (as "Wulpi"): incorrect variant original spellings. [Evenhuis used "wulpi" as the valid spelling; variant species spellings:- p. 178 as "Van der Wulpi"; p. 189 as "Wulpii"; p. 218 as "wulpi"; p. 218 as Wulpi"]

†*wulpii* MEUNIER, 1904: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **28**: 229 (*Tanytarsus*). Type locality: [Title] "l'ambre de la Baltique" [= Baltic amber]. **Preoccupied**. Junior primary homonym of *Tanytarsus wulpii* Meunier, 1904 (above).

†sp.: (PALMER, 1957): *U. S. Geological Survey Professional Paper* **294-G**: 274 (*Calopsectra*). Locality: [USA] [Abstract, p. 237] "from lacustrine beds of the lower part of the Barstow formation in the southern Calico Mountains, Mojave Desert, southeastern California" — Distr.: **NE**: USA (California). ►Miocene (Burdigalian), 15.97 - 20.43 Mya, Calcareous nodules (Adult male) in crystalline matrix◄. [Treat as doubtful record [PA]]

Genus †**TENDIPOPSIS** HONG & WANG

†**TENDIPOPSIS** HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 130. Type species: *Tendipopsis colorata* Hong & Wang, 1990, by original designation.

TENDIPOSIS; *TENDIOPSIS*: incorrect original spellings.

†**colorata** HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 131 (*Tendipopsis*). Type locality: [China] [Translated from Chinese] **Laiyang formation, west of Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (adult female) in lacustrine large shale◄. [Midge [HT]]

Genus †**TENUIGASTRULUS** HONG

†**TENUIGASTRULUS** HONG, 2002: *Amber Insects of China*: 175. Type species: †*Fushunitendipes trichodes* Hong, 1981, by original designation.

†**trichodes** (HONG, 1981): *Eocene Fossil Diptera Insecta in Amber of Fushun Coalfield*: 41 (*Fushunitendipes*). Type locality: [China] [Translated from Chinese] **Guchengzi formation, Fushun City, Liaoning Province**. — Distr.: **PA**: China (Liaoning). ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. [**Note**] [May be true Midge [HT]]

Genus †**TINACTUM** LIN

†**TINACTUM** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 226. Type species: *Tinactum solusum* Lin, 1980, by original designation.

†**solusum** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 226 (*Tinactum*). Type locality: [China] [Translated from Chinese] **Lao village, Shouchang Town, Jiande City, Zhejiang Province**. — Distr.: **OR**: China (Zhejiang).

►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Compression (Adult male) in lacustrine siliciclastic rock◄.

Genus †**TOPHOCLADIUS** KALUGINA

†**TOPHOCLADIUS** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 107. Type species: *Tophocladius stygialis* Kalugina, 1985, by original designation.

†**stygialis** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 109 (*Tophocladius*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►(Middle Jurassic) [Compression (?? in (??rock??))]◄. [**NOTE**: Veltz *et al*. (2007: 170) state that Mesozoic Tanypodinae are represented by additional uncertain taxa. Kalugina (1985) described *T. stygialis* in the Middle Jurassic genus *Tophocladius* Kalugina, 1985, based on adults, and attributed it to the tanypodine tribe Macropelopiini. This tribal allocation is weakly supported as these fossils do not show the tarsal structures and the position of the cubital fork characteristic of Macropelopiini. Kalugina did not make comparisons with extant tanypodine genera [PA].]

Genus †**ULAIA** KALUGINA

†**ULAIA** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 93. Type species: *Ulaia montana* Kalugina, 1985, by original designation.

†**communis** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 132 (*Ulaia*). Type locality: [Russia, East Siberia] [Title, p. 117] **Vostochnogo Zabaikal'ya** [= East Transbaikalia], [p. 132] **Unda**. — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Tithonian), 145.0 - 152.1 Mya, Compression (Pupa) in lacustrine rock◄. [Based on imago wing (with vein R2 looks like Aenneinae), pupal and larval stages] [**NOTE**: The holotype is a pupa but Kalugina also attributed a fossil wing and a fossil larva to the same species, however these placements are problematical because the author used size comparisons to determine whether or not particular fossils from different life stages could belong to the same species.]

†**kangilica** KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 136 (*Ulaia*). Type locality: [Russia, East Siberia] [Title, p. 117] **Vostochnogo Zabaikal'ya** [= East Transbaikalia], [p. 136] **Chitinskaya obl., Nerchinskii r-n, levoberezh'e r. Nercha v ee srednem techenii, pad' Kangil u pos. Kangil** [= Chita Oblast, Nerchinsky District, ?levoberezh'e River Nercha in the middle course, pad' Kangil at the settlement of Kangil]. — Distr.: **PA**: Russia (East Siberia). ►Lower Cretaceous (Hauterivian), 129.4 - 132.6 Mya, Compression (Pupa) in ??rock?◄. [130.0 - 136.4 Mya date range given by Kalugina

1993]

†**magna** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 94 (*Ulaia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (??pupa) in terrestrial ??rock◄.

†**montana** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 93 (*Ulaia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (??larva) in terrestrial ??rock"?◄.

†**reducta** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 94 (*Ulaia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (??larva) in terrestrial ??rock??◄.

Genus †KALUGINA

†**ULAIMAILIA** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 100. Type species: *Ulaimailia vetula* Kalugina, 1985, by original designation.

†**vetula** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 100 (*Ulaimailia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 152.1 - 163.5 Mya, Compression (??larva) in terrestrial?? rock??)◄. [Fossilworks: Kimmeridgian to Oxfordian, MUST be 152.1 - 161.2 Mya NOT 150.8 - 161.2 Mya date range given in Fossilworks which includes Tithonian]

Genus †**ULAIMAILONIA** KALUGINA

†**ULAIMAILONIA** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 96. Type species: *Ulaimailonia mixta* Kalugina, 1985, by original designation.

†**mixta** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 97 (*Ulaimailonia*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 152.1 - 163.5 Mya, Compression (??larva) in terrestrial ??rock??◄. [Fossilworks: Kimmeridgian to Oxfordian, MUST be 152.1 - 161.2 Mya **NOT** 150.8 - 161.2 Mya date range given in Fossilworks which includes Tithonian]

†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

Genus †**ULAIMAILONIELLA** KALUGINA

†**ULAIMAILONIELLA** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 99. Type species: *Ulaimailoniella fusiformis* Kalugina, 1985, by original designation.

†**fusiformis** KALUGINA in KALUGINA & KOVALEV, 1985: *Dvukrylye Nasekomye Yury Sibiri*: 99 (*Ulaimailoniella*). Type locality: [Russia, East Siberia] "Uda". — Distr.: **PA**: Russia (East Siberia). ►Upper Jurassic (Kimmeridgian to Oxfordian), 149.2 - 161.5 Mya, Compression (?larva) in terrestrial ??rock??◄

Genus †**VIDUATA** LIN

†**VIDUATA** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 226. Type species: *Viduata otiosa* Lin, 1980, by original designation.

†**otiosa** LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 26 (*Viduata*). Type locality: [China] [Translated from Chinese] **Lao village, Shouchang Town, Jiande City, Zhejiang Province** Yaojiashan, Laocun, Shouchang [PA]. — Distr.: **OR**: China (Zhejiang). ►Lower Cretaceous (Barremian), 125.0 - 129.4 Mya, Compression (pharate Adult male with pupa) in lacustrine siliciclastic rock◄.

?DIAMESINAE or ?ORTHOCLADIINAE

†sp.: morphotype 5: VERA *et al*. (2023): *Communications Biology* (2023) **6**: 1249, 1-11. Locality: El Calafate, Santa Cruz, "Chorillo Formation". — Distr.: **NT**: Patagonia, Southern Argentina. ►Upper Cretaceous (Maastrichtian), 66.0 - 72.0 Mya, Morphotype 5, Specimen no. MPM-Pal 21835-2:Y40/3 (Larva - mentum and mandible. Mentum similar to Orthocladiinae and Diamesinae; mandible similar to Orthocladiinae particularly *Cricotopus*] [?Diamesinae or Orthocladiinae [DM]◄ [**Note**]

Nomina dubia in CHIRONOMIDAE

†*ASIATENDIPINI* HONG, 2002: *Amber Insects of China*: 211. Type-genus: *Asiatendipes* Hong, 2002, by original designation. [**Note**]

†*FUSHUNITENDIPEDINI* HONG, 2002: *Amber Insects of China*: 169 (as "Fushunitendipini"). Type-genus: *Fushunitendipes* Hong, 1981, by original designation. [**Note**]

†*ULAIINAE* KALUGINA, 1993: *Trudy Paleontologicheskogo Instituta* **252**: 131. Type-genus: *Ulaia* Kalugina, 1985. [**NOTE**: Veltz *et al.* (2007: 170) state that Kalugina (1985) attributed three new species to the Middle Late Jurassic genus *Ulaia*, i.e. *U. magna*, *U. montana*, and *U. reducta*, all based on more or less complete pupae. Their allocation to the same genus is very debatable because the pupae lack the genital structures necessary for

accurate identification. Kalugina (1985) also placed *U. mixta* in the Middle Jurassic genus *Ulaimailonia* Kalugina, 1985 based on a larval specimen, that is difficult to compare to the fossil pupae attributed to *Ulaia*]

Nomina nuda - unavailable names in CHIRONOMIDAE

†*FRUTEXITENDIPINI* HONG, 2002: *Amber Insects of China*: 201. Type-genus: *Frutexitendipes* Hong, 2002, by original designation. Name not made available – not based on an available generic name contrary to Article 11.7.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†*HAMICAUDINI* HONG, 2002: *Amber Insects of China*: 212. Type-genus: *Hamicaudus* Hong, 2002, by original designation. Name not made available – not based on an available generic name contrary to Article 11.7.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†*LACUSITENDIPINI* HONG, 2002: *Amber Insects of China*: 190. Type-genus: *Longicopula* Hong, 2002, by original designation. Name not made available – not based on an available generic name contrary to Article 11.7.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†*LONGICOPULINI* HONG, 2002: *Amber Insects of China*: 181. Type-genus: *Longicopula* Hong, 2002, by original designation. Name not made available – not based on an available generic name contrary to Article 11.7.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†*CHAITITENDIPES* HONG, 2002: *Amber Insects of China*: 197. Type species: *Chaititendipes badius* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*DONGBEITENDIPES* HONG, 2002: *Amber Insects of China*: 208. Type species: *Dongbeitendipes foliolatus* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*FRUTEXITENDIPES* HONG, 2002: *Amber Insects of China*: 202. Type species: *Frutexitendipes dongzhouheensis* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*HAMICAUDUS* HONG, 2002: *Amber Insects of China*: 213. Type species: *Hamicaudus osteneus* Hong, 2002, by original designation. Name not made available – the Type

species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*LACUSITENDIPES* HONG, 2002: *Amber Insects of China*: 190. Type species: *Lacusitendipes latus* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*LONGICOPULA* HONG, 2002: *Amber Insects of China*: 181. Type species: *Longicopula xilutianensis* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*LONGIGASTRULA* HONG, 2002: *Amber Insects of China*: 178. Type species: *Longigastrula fushunensis* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*LONGIPEDIA* HONG, 2002: *Amber Insects of China*: 187. Type species: *Longipedia Zonga* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*MACULITENDIPES* HONG, 2002: *Amber Insects of China*: 194. Type species: *Maculitendipes sinabarius* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*NODITENDIPES* HONG, 2002: *Amber Insects of China*: 205. Type species: *Noditendipes guchengziensis* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**]

†*YANGITENDIPES* HONG, 2002: *Amber Insects of China*: 217. Type species: *Yangitendipes longivalvatus* Hong, 2002, by original designation. Name not made available – the Type species is not a nominal species (i.e. not an available species name) contrary to Article 68 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*aequalis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus aequalis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*anchora* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus anchora* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen

Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*badius* HONG, 2002: *Amber Insects of China*: 197 (*Chaititendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province. . .from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [?True Midge HT]

†*berendtii* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus berendtii* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*bicalcaratus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus bicalcaratus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*bitramus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus bitramus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*coarctatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus coarctatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*cognatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus cognatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a

description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*conformis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus conformis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*conjunctus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus conjunctus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

dongzhouheensis HONG, 2002: *Amber Insects of China*: 202 (*Frutexitendipes*). Locality:[Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province** [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province, from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**] [True midge ^{HT}]

†*elegantulus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus elegantulus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [Not in Evenhuis (1994) ^{PA}]

†*erosus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus erosus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*excellens* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus excellens* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*foliolatus* HONG, 2002: *Amber Insects of China*: 209 (*Dongbeitendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [Questionable midge HT]

†*fushunensis* HONG, 2002: *Amber Insects of China*: 178 (*Longigastrula*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA.. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine".►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*gracilicornis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus gracilicornis* (Loew, 1850)"). Locality: "Balt. [=Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*guchengziensis* HONG, 2002: *Amber Insects of China*: 205 (*Noditendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province . from the coal seams of the Guchengzi Formation in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [Cecidomyiidae HT]

†*incrassatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus incrassatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a

description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*lanceatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus lanceatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*latus* HONG, 2002: *Amber Insects of China*: 191 (*Lacusitendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [True midges ^{HT}]

†*leptocerus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus leptocerus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

longa HONG, 2002: *Amber Insects of China*: 188 (*Longipedia*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [True midges ^{HT}]

†*longicornis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus longicornis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*longipalpus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus longipalpus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*longivalvatus* HONG, 2002: *Amber Insects of China*: 217 (*Yangitendipes*). Locality: **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**] [May not be a Midge HT]

†*monilis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus monilis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*osteneus* HONG, 2002: *Amber Insects of China*: 213 (*Hamicaudus*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province, from the coal seams of the Guchengzi Formation in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Note**] [True midge HT]

†*scopa* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus scopa* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*scopula* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus scopula* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*separatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus separatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [**Preoccupied** by Walker, 1856.] [Comment: page 352 NOT 351 PA]

†*sinabarius* HONG, 2002: *Amber Insects of China*: 194 (*Maculitendipes*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult female)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [Cecidomyiidae HT]

†*spectabilis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus spectabilis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*stylatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus stylatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*styliger* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus styliger* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**. [Comment: page 351 NOT 352 PA]

†*tenuicornis* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 352 (*Chironomus*; as "*Chironomus tenuicornis* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*ungulatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus ungulatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a

description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*ungulinus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus ungulinus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*verticillatus* KEILBACH, 1982: *Deutsche Entomologische Zeitschrift* (Neue Folge) **29**(4/5): 351 (*Chironomus*; as "*Chironomus verticillatus* (Loew, 1850)"). Locality: "Balt. B." [= Baltischen Bernstein = Baltic amber]. Name not made available – not accompanied by a description contrary to Article 13.1 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

†*xilutianensis* HONG, 2002: *Amber Insects of China*: 182 (*Longicopula*). Locality: [Translated from Chinese] **CHINA, Guchengzi formation, Xilutian, Fushun City, Liaoning Province**; [English Abstract, p. 650] "CHINA .. Fushun Coal Mine, Fushun City, South of the Hunhe River, Liaoning Province .. from the coal seams of the Guchengzi Formation .. in the opencut Xilutian Coal Mine". ►Eocene (Ypresian), 50.0 - 53.0 Mya, Fushun Amber (Adult male)◄. Name not made available – not accompanied by a statement of intent to deposit the holotype in a collection or identifying the name and address of the collection contrary to Article 16.4.2 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

CHIRONOMIDAE IN COPAL

The only named Chironomidae described from copal are one species by Gistl (1831) from Brazil, ♣*Chironomus leucomelas* Gistl – treated here as a nomen dubium), and three species described by Meunier (1912) from Madagascar or Tanzania. The Meunier species, all in the genus *Chironomus,* are retained in this genus until their status can be resolved by examination of the types since the original descriptions are inadequate for species recognition or generic or subfamily placement. Named species from copal may represent extant living species and some of the named taxa are likely to be synonyms of known species. A club symbol (♣) precedes each copal taxon name instead of a dagger (†) which is only used for true fossils.

Genus **CHIRONOMUS** MEIGEN

CHIRONOMUS MEIGEN, 1803: *Magazin für Insektenkunde (Illiger)* **2**: 260. Type species: *Tipula plumosa* Linnaeus, 1758, by subsequent designation of Latreille (1810: *Considérations générales*: 442).

♣**haustus** MEUNIER, 1912: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **36**(2): 190 (*Chironomus*). Type locality: [Tanzania] "Zanzibar". — Distr.: **AF**: Tanzania. ►Holocene, 0.0 - 0.0117 Mya, Copal◄. Senior primary homonym of *Chironomus haustus* Meunier, 1912 (below).

♣*haustus* MEUNIER, 1912: *Bulletin de la Société Entomologique de France* **1912**: 362 (*Chironomus*). Type locality: [Tanzania] "Zanzibar". **Preoccupied**. Junior primary homonym of *Chironomus haustus* Meunier, 1912 (above).

♣**inclusus** MEUNIER, 1912: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **36**(2): 190 (*Chironomus*). Type locality: [Tanzania] "Zanzibar". — Distr.: **AF**: Tanzania. ►Holocene, 0.0 - 0.0117 Mya, Copal◄. Senior primary homonym of *Chironomus inclusus* Meunier, 1912 (below).

♣*inclusus* MEUNIER, 1912: *Bulletin de la Société Entomologique de France* **1912**: 361 (*Chironomus*). Type locality: [Tanzania] "Zanzibar". **Preoccupied**. Junior primary homonym of *Chironomus inclusus* Meunier, 1912 (above).

♣**meunieri** ARNAUD, 1966: *Pan-Pacific Entomologist* **42**(2): 162 (*Chironomus*; as nom. nov. for *Chironomus sepultus* Meunier, 1912 nec *Chironomus sepultus* Heer, 1849). — Distr.: **AF**: Madagascar. ►Holocene, 0.0 - 0.0117 Mya, Copal◄.

♣*sepultus* MEUNIER, 1912: *Annales de la Société Scientifique de Bruxelles, 2^e^ partie (Mémoires)* **36**(2): 190 (*Chironomus*). Type locality: "Madagascar". **Preoccupied**. Junior primary homonym of *Chironomus sepultus* Heer, 1849 and senior primary homonym of *Chironomus sepultus* Meunier, 1912 (below).

♣*sepultus* MEUNIER, 1912: *Bulletin de la Société Entomologique de France* **1912**: 362 (*Chironomus*). Type locality: "Madagascar". Junior primary homonym of *Chironomus sepultus* Meunier, 1912 (above) and junior primary homonym of *Chironomus sepultus* Meunier, 1912 (above).

Nomen dubium in CHIRONOMIDAE

♣*leucomelas* GISTL, 1831: *Isis, Jena* **24**(3): 247 (*Chironomus*; as "*Chironomus*?"). Type locality: "Brasilia" [= Brazil]. ►Holocene, 0.0 - 0.0117 Mya, Copal (Adult, sex unknown)◄. [**Note**]

SUBFOSSIL CHIRONOMIDAE

Subfossil chironomids represent extant species whose remains, predominantly but not exclusively chitenous larval head capsules, are found primarily in Holocene to Upper Pleistocene freshwater sediments, usually lake sediments or more rarely river sediments. The most common type of study involves use of a light weight core sampler, such as described by

Murray (1976), to obtain vertical lake sediment cores from which identification of chironomid larval headcapsule, and occasionally adult, exoskeletal remains in the sequentially deposited sediments may be related to environmental changes that have occurred throughout the history of the lake. The spade symbol (♠) precedes sub fossil taxon names.

Subfamily **CHIRONOMINAE**

Genus **CORYNOCERA** ZETTERSTEDT

CORYNOCERA ZETTERSTEDT, 1837: *Isis* (Oken's) **1837**(1): 65. Type species: *Corynocera ambigua* Zetterstedt, 1837, by monotypy. Senior homonym of *Corynocera* Zetterstedt, 1838 (below). [**Note**]

CORYNOCERA ZETTERSTEDT, 1838: *Insecta Lapponica*: 856. Type species: *Corynocera ambigua* Zetterstedt, 1838, by monotypy. **Preoccupied**. Junior homonym of *Corynocera* Zetterstedt, 1837 (above).

♠*DRYADOTANYTARSUS* ANDERSEN, 1943: *Entomologiske Meddelelser* **23**(1): 174. Type species: *Dryadotanytarsus edentulus* Andersen, 1943 [= *Corynocera ambigua* Zetterstedt, 1838], by monotypy [or orig. des. as gen. nov. sp. nov. in Title ??Article 68.2.1]. Synonymized with *Corynocera* Zetterstedt, 1837, by Hirvenoja (1961: *Annales Entomologici Fennici* **27**(3): 109).

DRYADOTANYTARSUS ANDERSEN, 1943: The use of the expression "n.g. et sp." in combination with the generic and species name qualifies as an original designation and not monotypy.

♠*DRYADOTANYTARSUS* ANDERSEN, 1939: *Meddelelser fra Dansk Geologisk Forening* **9**(3): 323. Type species: Not given. Name not made available – not accompanied by a description or fixation of a Type species contrary to Article 13.1 and 13.3 of the Zoological Code (ICZN, 1999, 4th Edition). **Nomen nudum**.

ambigua ZETTERSTEDT, 1837: *Isis* (Oken's) **1837**(1): 65. Type locality: [Sweden] [Title, p. 28] "Lapponica" [= Lapland]. — Distr.: **NE**: Canada (†British Columbia, Nunavut), †Greenland, USA (Alaska, extant and subfossil); **PA**: Bulgaria, Czech Republic, Denmark (extant and subfossil), Estonia, Finland, Germany (extant and subfossil), †Great Britain (subfossil), Ireland, Kaliningrad, Lithuania, Norway (extant and subfossil), Poland (extant and subfossil), Russia (CET, NET, East Siberia), Sweden (extant and subfossil), †Switzerland (subfossil). Senior primary homonym of *Corynocera ambigua* Zetterstedt, 1838 (below). (Pleistocene) [C] [**Note**]

ambigua ZETTERSTEDT, 1838: *Insecta Lapponica*: 856 (*Corynocera*). Type locality: [Sweden] "Lapponia; in littore lacus insignis Tornetrăsk .. (Lapponia Tornensis.)" [=

Lapland, conspicuous in the littoral of Lake Torneträsk .(Tornio Lapland)]. **Preoccupied**. Junior primary homonym of *Corynocera ambigua* Zetterstedt, 1837 (above).

♠*edentula* (ANDERSEN, 1943): *Entomologiske Meddelelser* **23**(1): 174 (*Dryadotanytarsus*). Type locality: [Title, p. 174] "from late glacial Period in Denmark". Denmark (Pleistocene) [C]. [**Note**]

♠**duffi** (DEEVEY, 1955): *Records of the Canterbury Museum* **6**(4): 313 (*Dryadotanytarsus*). Type locality: {New Zealand} "Pyramid Valley sediments". — Distr.: **AU**: New Zealand (South Island). ►Holocene, 0.0 - 0.0117 Mya, Subfossil (Larval)◄.

Possibly in CHIRONOMIDAE

†*PROTENDIPEDIDAE* ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459]. Type-genus: *Protendipes* Rohdendorf, 1962. [Query ?syn. of Tanypodinae [PA] – see below.]

Genus †**PRISCOTENDIPES** ZHANG

†**PRISCOTENDIPES** ZHANG, 1986: *The Paleontology and Stratigraphy of Shandong*: 81. Type species: *Priscotendipes mirus* Zhang, 1986, by original designation.

†**mirus** ZHANG, 1986: *The Paleontology and Stratigraphy of Shandong*: 81 (*Priscotendipes*). Type locality: [China] **Dabeigou formation, Lahaigou village, Huotoushan Town, Luanping County, Hebei Province**. — Distr.: **PA**: China (Hebei). ►Upper Jurassic Tithonian/Oxfordian), 145 - 149.2 Mya, Compression (Adult female) in ??rock??◄. [? Limoniidae [HT]] [Evenhuis (2002) *Priscotendipes mirus* Zhang was proposed as a second genus of Protendipedidae [PA]]

Genus †**PROTENDIPES** ROHDENDORF

†**PROTENDIPES** ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459]. Type species: *Protendipes dasypterus* Rohdendorf, 1962, by original designation.

†**dasypterus** ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459] (*Protendipes*). Type locality: **Chimkentskaya obl. Karatau). Kazakhstan** [= Chimkent province. .Karatau)..Kazakhstan]. — Distr.: **PA**: China (?Province) (Upper Jurassic – Compression), Kazakhstan (Upper Jurassic (Malm) – Compression). [?non-chironomid [PA]]; Kazakhstan (Upper Jurassic – Compression). [Ansorge (1999) states that it is from the Upper Jurassic at Karatau (Kazakhstan or Kirghizistan) – Karabastau Formation (Callovian – Kimmeridgian) and is probably a representative of the Tanypodinae.] [Check Chinese record, ?illustrations in ZHANG, 1986b: 80. [PA]]

†**huabensis** ZHANG, 1986: *The Paleontology and Stratigraphy of Shandong*: 80 (*Protendipes*). Type locality: [China] **Xiahuayuan formation, Mentougou, Zhouyingzi village, Baiwan

Town, Luanping County, Hebei Province**. — Distr.: **PA**: China (Hebei). ► Upper to Middle Jurassic (Oxfordian to Callovian), 157.3 - 164.7 Mya, Compression (Adult male) in ?rock◄. [?Limoniidae [HT]]

Excluded from CHIRONOMIDAE
Family ANISOPODIDAE

†*SINOTENDIPEDIDAE* HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 136. Type-genus: *Sinotendipes* Hong & Wang, 1990, by original designation.

Genus†*SINOTENDIPES* HONG & WANG

†*SINOTENDIPES* HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 136. Type species: *Sinotendipes tuanwangensis* Hong & Wang, 1990, by original designation.

†**tuanwangensis** HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 137 (*Sinotendipes*). Type locality: [China] [Translated from Chinese] **Laiyang formation, west of Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (Adult male) in lacustrine large shale◄. [Not midge? – leg too long [HT]]. **[**Evenhuis (2002) noted that Hong & Wang (1990) placed it close to the Chironomidae and their family Paratendipedidae [PA]] [?Possibly in Blepharoceridae [DM]]

Genus **SYLVICOLA** HARRIS

SYLVICOLA HARRIS, 1780: XXX: 226. Type species: *Sylvicola brevis* Harris, 1780 [= *Tipula fenestralis* Scopoli, 1763], by subsequent designation of Coquillett (1910: *Proceedings of the United States National Museum* **37**: 610).

†*BRIA* GIEBEL, 1856: *Fauna der Vorwelt mit steter Beriicksichtigung der lebenden hiere*: 226. Type species: *Rhyphus priscus* Westwood & Brodie, 1845, by original designation **or** as monotypy in Evenhuis <http://hbs. bishopmuseum.org/fossilcat/pdf/fossanisopod. pdf.>

†**prisca** WOJTOŃ, KANIA & KOPEĆ, 2018. *Sylvicola* Harris, 1780 (Diptera: Anisopodidae) in the Eocene resins. *Annales Zoologici* **68**: 840-866.

†**priscus** (WESTWOOD & BRODIE in BRODIE, 1845): *A History of the Fossil Insects in the secondary rocks of England*: 34, 121, (Pl. 4, fig. 10) (*Rhyphus*; as "*Rhyphus*?"). Type locality: [Great Britain] [page 31] "PURBECK STRATA IN THE VALE OF WARDOUR". — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult male) in shallow subtidal lagoonal/estuarine limestone◄.

Family CHAOBORIDAE EDWARDS

†**CHIRONOMAPTERA** PING, 1928: 33. Type species: *Samarura gregaria* Grabau, 1923, by original designation.

†*PETIOLATENDIPES* LIN, 1980: *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafenji duibi*: 228. Type species: *Petiolatendipes shouchangensis* Lin, 1980 [= *Chironomaptera vesca* Kalugina, 1980], by original designation (as gen. et sp. nov.). [Syn. in Fossilworks and Borkent, 2014]

†*MESOTENDIPES* HONG, 1982: *Jiuquan Pendi kunchong huashi*: 161 (as "*Mesotendipes* Ping, 1928"; unjustified replacement name for *Chironomaptera* Ping, 1928). Type species: *Samarura gregaria* Grabau, 1923, by original designation. [Syn. in Fossilworks and Borkent, 2014]

†**vesca** KALUGINA, 1980: *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **13**: 62 (*Chironomaptera*). Type locality: **Yugo - Vostochnaya Mongoliya mestonakhozhdenie Manlai**". — Distr.: **PA**: Mongolia; **OR**: China (Zhejiang). ►**Mongolia**: Lower Cretaceous (Aptian), 122.45 - 125.0 Mya, Compression (Adult male, Adult female, pupa, egg) in lacustrine siliciclastic rock◄; ►**China** (Zhejiang): Lower Cretaceous (Aptian), 122.45 - 125.0 Mya, Compression (Adult male) in lacustrine siliciclastic rock◄.

†*shouchangensis* (LIN, 1980): *Zhe-Wan Zhongshengdai huoshan chenji yan diceng de huafen ji duibi*: 228 (*Petiolatendipes*). Type locality: [China] [Translated from Chinese] **Baishuiling, Dong village, Shouchang Town, Jiande City, Zhejiang Province**. ►Lower Cretaceous (Aptian), 122.45 - 125.0 Mya, Compression (Adult female) in terrestrial siliciclastic rock◄. [Conflicting information is contained in Fossilworks for Lin, 1980 species: Barremian vs Aptian and terrestrial siliciclastic rock versus lacustrine siliciclastic rock – Type locality data for this species differs from the other three species in Lin, 1980 [PA]]

Family PTYCHOPTERIDAE

†*ARCHITENDIPEDIDAE* ROHDENDORF, 1962: *Osnovy Paleontologii*: 317. Type-genus: *Architendipes* Rohdendorf, 1962. [**Note**] [See Lukashevich, 2012 Ptychopteroid and Borkent (2014: 469-470; Chaoboridae) re Architendipedidae and Rhaetomyiidae [PA]]

†*ARCHITENDIPES* ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459]. Type species: *Architendipes tshernovskiji* Rohdendorf, 1962, by original designation.

†**tshernovskiji** ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459] (*Architendipes*). Type locality: [Kazakhstan] **Issyk-Kul´skaya obl. . . . Issyk-Kul´** [=

Issyk-Kul´ province Issyk-Kul´]. — Distr.: **PA**: Kazakhstan. (Upper Triassic (Rhaetian) – Compression – Check Grimaldi and Engel [PA]).

tshernovskiyi: incorrect subsequent spelling.

†*PALAEOTENDIPES* ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459]. Type species: *Palaeotendipes alexii* Rohdendorf, 1962, by original designation.

PALEOTENDIPES: incorrect subsequent spelling (Rohdendorf, 1991: 460, in figure legend).

†**alexii** ROHDENDORF, 1962: *Osnovy Paleontologii*: 317 [1991: 459] (*Palaeotendipes*). Type locality: [Kazakhstan] **Issyk-Kul´skaya obl. Issyk-Kul´** [= Issyk-Kul´ province..Issyk-Kul´]. — Distr.: **PA**: Kazakhstan. (Upper Triassic (Rhaetian) – Compression – Check Grimaldi and Engel [PA]).

Family †SERENDIPIDAE

†**SERENDIPIDAE** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 256. Type-genus: †*Serendipa* Evenhuis, 1994.

†*PARATENDIPEDIDAE* HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 132. Type-genus: †*Paratendipes* Hong & Wang, 1990.

Genus †**SERENDIPA** EVENHUIS

†**SERENDIPA** EVENHUIS, 1994: *Catalogue of the Fossil Flies of the World (Insecta: Diptera)*: 256 (as nom. nov. for *Paratendipes* Hong & Wang, 1990 nee *Paratendipes* Kieffer, 1911). Type species: *Paratendipes laiyangensis* Hong & Wang, 1990, by original designation.

†*PARATENDIPES* HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 132. Type species: *Paratendipes laiyangensis* Hong & Wang, 1990, by original designation. **Preoccupied**. Junior homonym of *Paratendipes* Kieffer, 1911 – the latter is a valid extant genus of Chironomidae (Subfamily Chironominae).

†**laiyangensis** (HONG & WANG, 1990): *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 133 (*Paratendipes*). Type locality: [China] [Translated from Chinese] **Laiyang formation, west of Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (Adult male) in lacustrine large shale◄. [not midge – Psychodidae [HT]]

†**tuanwangensis** (HONG & WANG, 1990): *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 134 (*Paratendipes*). Type locality: [China] [Translated from Chinese] **Laiyang formation, west of Tuanwang Town, Laiyang City, Shandong

Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (Adult? male) in lacustrine large shale◄. [not midge – Psychododae [HT]]

Genus †**THAMNITENDIPES** HONG & WANG

†**THAMNITENDIPES** HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 135. Type species: †*Thamnitendipes vegetabilis* Hong & Wang, 1990, by original designation.

THAMITENDIPES: incorrect original spelling (p. 185).

†**vegetabilis** HONG & WANG, 1990: *The Stratigraphy and Palaeontology of Laiyang Basin, Shandong Province*: 135 (*Paratendipes*). Type locality: [China] [Translated from Chinese] **Laiyang formation, west of Tuanwang Town, Laiyang City, Shandong Province**. — Distr.: **PA**: China (Shandong). ►Lower Cretaceous (Aptian), 113.0 - 125.0 Mya, Compression (Adult female) in lacustrine large shale◄. [?Psychododae [HT]]

vagetabilis: incorrect original spelling (p. 185).

??FAMILY??

GENUS †**CECIDOMIUM** WESTWOOD

†**CECIDOMIUM** WESTWOOD, 1854: *Quarterly Journal of the Geological Society of London* **10**: 394. Type species: *Cecidomium grandaevum* Westwood, 1854, by monotypy.

†**grandaevum** WESTWOOD, 1854: *Quarterly Journal of the Geological Society of London* **10**: 394 (*Cecidomium*; as "*grandcevum*"). Type locality: [Great Britain] [page 382] "from the top of the Middle Purbecks of Durdlestone Bay, Dorset". — Distr.: **PA**: Great Britain. ►Lower Cretaceous (Berriasian), 139.8 - 145.0 Mya, Compression (Adult wing) in shallow subtidal lagoonal/estuarine limestone◄. [p. 384 Plate XV Fig. 21 "Wing of a small Dipterous insect, allied to *Chironomus* or *Cecidomyia."* The wing is illustrated on Plate XV (Fig. 21).]

Questionably placed in CHIRONOMIDAE

†**lacustris** FRIČ in FRIČ & BAYER, 1900: *Archiv für die Naturwissenschaftliche Landesdurchforschung von Böhmen* **11**(2): 17, 50 (*Chironomites*). Cretaceous, Upper, 93.9 - 100 Mya. Cenomanian, Locality: ?**Nomen nudum**.

NOTES

ABLABESMYIINI HENNIG, 1950: The tribe name *Ablabesmyiini* appears to have been first used by Hennig (1950: 239, originally as "*Ablabesmiini*") but was proposed in synonymy

with the newly created tribe **Pentaneurini** Hennig (1950: 239) and is therefore an unavailable name.

†**adhaerens** FRIČ in FRIČ & BAYER, 1900, †**CHIRONOMITES, UNPLACED FOSSIL CHIRONOMIDAE**: In Frič & Bayer (1900), the Table on page 50 gives the locality for *"Chironomites adhaerens* Fr." as Kounice but in the more detailed data on page 170 (in the legend of Fig. 11), it is given as Vyšerovic and the latter is considered to be the correct locality.

†**almelanderi** ARNAUD, 1966, **CHIRONOMUS, UNPLACED FOSSIL CHIRONOMIDAE**: Grimaldi and Engel (2005: 86) state that Lake Florrisant was formed about 38 Mya from volcanic mudflows that dammed a river valley and that repeated eruptions, one to two million years later, blanketed the area in ash and preserved organisms in exquisite detail. The International Chronostatigraphic Chart (Cohen *et al*. (2016)) and the data in Grimaldi and Engel (*op. cit.*) indicates that the fossils formed in the Priabonian Age (33.9 and 37.8 Mya) of the Upper Eocene. *Chironomus almelanderi* Arnaud was not included in Evenhuis (1994) although the fact that *C. sepultus* Melander, 1949 is preoccupied by *C. sepultus* Heer, 1849 and *C. sepultus* Meunier, 1912 is mentioned.

†**AMBERASPINUS** EVENHUIS, 1994, **Uplaced Fossil Chironomidae**: In the original description of the genus and its Type species in Hong (1981, sub *Aspinus orientalus* Hong) the wing is chironomid-like but the flask-shaped apical flagellomeres of the antenna and the form of the male hypopygium is more typical of that found in some other nematocerous Diptera. The genus and Type species are treated here as Unplaced Fossil Chironomidae until the types are redescribed and status resolved.

ambigua ZETTERSTEDT, 1837, **CORYNOCERA**: See note on *Corynocera* Zetterstedt, 1837.

†*antiquus* HEYDEN, 1859, **Nomen dubium in TANYPODINAE**: Statz (1944: 133) shows that fossils of *Chironomus antiquus* Heyden are "Pelopiina" pupae, i.e. Pelopiinae which is an unavailable synonym of Tanypodinae. Since the fossils appear to be poorly preserved and generic placement is uncertain the species is treated here as a nomen dubium in Tanypodinae.

APHROTENIINAE BRUNDIN, 1966: The subfamily Aphroteniinae includes two tribes: Aphroteniini which includes all known extant genera and species and †Electroteniini which includes a single fossil genus and species (†*Electrotenia brundini* Kalugina, 1976).

†*aquisextanus* THÉOBALD, 1937, **CHIRONOMUS, UNPLACED FOSSIL CHIRONOMIDAE**: In the illustration of the holotype male of *Chironomus* †*aquisextanus* Théobald (Plate XXII, Fig. 6) only the leading edge of the wing is

preserved. A probable female specimen from the same Aix-en-Provence locality is mentioned on page 348 and is illustrated (Plate XXII, Fig. 21). The original description is inadequate and the species is treated as a nomen dubium in Chironomidae until a re-examination of the holotype can determine its status. Théobald (1937: 413, Plate XXIX, Fig. 23) also lists and figures a specimen (possibly female) of the same species from a different fossil deposit at Céreste (Basses-Alpes).

†*ARCHITENDIPEDIDAE* ROHDENDORF, 1962. The *Architendipedidae* described by Rohdendorf (1962 – English translation in Rohdendorf, 1964) from the Lower Jurassic (Sinemurian) of Issyk Kul in Kirghizia belong in the Family Eoptychopteridae (Lukashevich *et al.*, 1998) and not to the Chironomidae. [Source of info is Ansorge, 1999]

†*ASIATENDIPES* HONG, 2002, **Nomen dubium in LOWER DIPTERA**: See note on *Asiatendipedini* Hong, 2002.

†*ASIATENDIPINI* HONG, 2002, **Nomen dubium in LOWER DIPTERA**: Hong (2002) erected the tribe *Asiatendipini* Hong and the genus *Asiatendipes* Hong for a species which was described as *Microtendipes labrosus* Hong two decades earlier (Hong, 1981). Although both the tribe and the genus were validly proposed the description of the species, genus and tribe are inadequate to determine their taxonomic placement. All are treated here as nomina dubia in Lower Diptera until a redescription of the types can resolve the status of the tribe, genus and species.

†*BEACONITES* VIALOV, 1962, **Unplaced fossil CHIRONOMIDAE**: The genus and Type species are based on tube-like problematical features in sandstone of marine origin found in Antarctica, which are probably early Carboniferous in date, and which may or may not be animal in origin. The genus *Beaconites* Vialov is only treated here as a nomen dubium in the context that a probable chironomid taxon, "*Beaconites*" ***†filiformis*** Uchman & Álvaro, from freshwater Miocene sediments in Spain has been assigned to this genus. It seems inappropriate that ***†filiformis*** Uchman & Álvaro has been assigned this genus.

?†bituminosus HEYDEN, 1870. Statz (1944: 138) suggested an uncertain generic placement of ***†bituminosus***. The taxon was tentatively retained in *Chironomus* by Evenhuis (2002) whereas Martin (2024) regards ***†bituminosus*** as a valid recognized name "now in another genus" (unspecified - not Chironomus [DM]).

BOTHRYOCLADIUS CRANSTON & EDWARD, 1999: Vera *et al.* (2023) noted that the double median teeth and the mandible of the **fossil morphotype 3** from the Argentine Chorillo bed "resemble the living genera *Parapsectrocladius* Cranston and *Botryocladius* Cranston & Edward of the Orthocladiinae, but preservation of the available remains is not enough for their correct identification" and "the chironomids recorded in the Chorillo beds in southern Argentina are anatomically close to some taxa currently present in the

Australasian and Andean region". Of the fourteen extant species of *Bothryocladius* documented in Ashe and O'Connor (2012), nine occur in Australia and four in Argentina. There are no records of *Parapsectrocladius* in the Australasian Region while four extant speces are known in the Neotropical region, in Chile and Argentina (Ashe and O'Connor, *loc. cit*.). Fossils of a Cretaceous relative of the Monotreme, platypus (Ornithorhyncus), known only in Australia today, are also reported from the Upper Cretaceous Chorillo stratigraphic sequence. The co-occurrence of fossil chironomid taxa in the Chorillo beds and in Australia's extant fauna gives further evidence of the continuity between the continental biotas of western and eastern Gondwana during the late Cretaceous, that was highlighted in Brundin's epic monograph on trans Antarctic relations (Brundin, 1966).

†**brevirostris** GIEBEL, 1856, **CHIRONOMUS** MEIGEN, **Unplaced Fossil CHIRONOMIDAE**: Giebel (1856: 251) noted that *Chironomus brevirostris* and *Chironomus microcephalus* Giebel are preserved in the same piece of amber which is in the collection of Leipzig University.

†*BYTHOMYIA* ZHANG, 1989, **Nomen dubium in CHIRONOMIDAE**: Zhang (1989) indicated a possible relationship between *Bythomyia* (with *B. oryctes* Zhang) and the extant predominantly marine genus *Thalassomya* Schiner (Subfamily Telmatogetononae). Some features of the fossil, for example the enlarged fore coxae and a 7 segmented antenna, support such a placement but the lack of a cordiform 4th tarsomere and the peculiar wing venation contradict that placement. The original description of *Bythomyia* is insufficient and a more detailed redescription of the original fossil is necessary to better evaluate placement and affinities.

†*caliginosus* MEUNIER, 1904, **Nomen dubium in CHIRONOMINAE**: In Meunier (1904) the species spelling is correctly given on pages 177 and 183 as *Chironomus caliginosus* but on page 202 it is erroneously listed as *Chironomus uliginosus*. In the same work a completely separate taxon is validly described on page 204 as *Chironomus uliginosus*.

CAMPTOCLADIUS WULP, 1874: The generic names *Camptocladius*, *Cricotopus*, *Eurycnemus*, *Metriocnemus* and *Orthocladius* were first published by Wulp (1874: *Tijdschrift voor Entomologie* **16**: LXIX-LXXI) which was a preliminary short paper which preceded more detailed descriptions in Wulp (1875: *Tijdschrift voor Entomologie* **17**(5): 113-148). See notes under Wulp (1874, 1875) in the Bibliography.

†**CHIRONOMITES** FRIČ, 1890, **Incertae sedis in CHIRONOMIDAE**: The descriptions of *Chironomites* and *C. unionis* in Frič (1893: 258, 260 (Fig. 76)) predate those in Frič and Bayer (1900). In Frič and Bayer (1900) *Chironomites* and *C. unionis* are not listed respectively as "gen. nov." and "sp. nov." or equivalent and consequently there is no homonym issue. The Type species of the genus *Chironomites* is *Chironomites unionis*

Frič, 1890, by monotypy while the Type species designation of *Chironomites adhaerens* Frič, 1900, in Evenhuis (1994: 276) is invalid as it is based on species included in the later work by Frič and Bayer (1900).

†**CHIRONOMOPSIS** HANDLIRSCH, 1906, **Unplaced Fossil Chironomidae**: The description of *Chironomopsis* begins on page 631 and not page 632 as in Evenhuis (1994: 261). In the original description of *Chironomopsis*, the species *Chironomus extincta* Westwood & Brodie, 1845, was questionably included in *Chironomopsis* by Handlirsch (1906: 632) and thus the Type species of the genus is *Chironomus arrogans* Giebel, 1856, by monotypy.

CLINOTANYPODINI LIPINA, 1928: Most authors in recent decades have used Coelotanypodini Fittkau, 1962, as the valid tribe name although some were aware that Clinotanypodini Lipina, 1928, had priority. Recently, the seniority of Clinotanypodini was confirmed in Silva and Ekrem (2016) and Coelotanypodini treated as a junior synonym of the former.

†*COELOCHIRONOMA* ZHANG, ZHANG, LIU & SHANGGUAN, 1989, **Nomen dubium in CHIRONOMIDAE**: In the English summary on page 35 concerning †*Coelochironoma xantha* the authors state "This new genus is related to some living species of Orthocladiinae but it may be distinguished from them by having transversal veins between Rs and M, downwards curved hind branch of Rs, larger head and stouter abdomen".

CORYNOCERA ZETTERSTEDT, 1837: Both *Corynocera* and the only included species, *C. ambigua*, were first validly published by Zetterstedt (1837) as stated in Spies and Sæther (2004: 40) and not by Zetterstedt (1838) as given in Ashe (1983: 18-19).

†**cretacica** VELTZ, AZAR & NEL, 2007, **LIBANOPELOPIA**: The information within square brackets is part of the Type locality data given in the publication by Veltz *et al.* (2007).

†**CRETAPELOPIA** VELTZ, AZAR & NEL, 2007: Veltz *et al.* (2007) placed this genus of Tanypodinae in the tribe Pentaneurini but they also indicate a possible alternative placement in the tribe Macropelopiini.

†*cretatus* BOESEL, 1937, **Nomen dubium in ORTHOCLADIINAE**: The description is based on two adult female specimens but the holotype lacks the entire abdomen and the paratype is said to be very incomplete. Since it is based solely on adult female specimens the generic placement is also doubtful and the species is treated as a nomen dubium.

†**CRETODIAMESINAE** KALUGINA, 1976: Kalugina (1976) described a new genus and species (†*Cretodiamesa taimyrica*) from Siberian Taimyr amber and placed it in a new tribe †Cretodiamesini of the Subfamily Diamesinae. Recently, Ashe *et al.* (2018) elevated that former tribe to the rank of subfamily.

†*CRICOTOPIELLA* MEUNIER, 1916, **Nomen dubium in ORTHOCLADIINAE**: The text and illustration in Meunier (1916) of the adult female indicates that it may have functional mandibles but the original description is inadequate and both the genus and species are treated as nomina dubia. If it is an orthoclad (with functional mandibles), it would represent the first case of biting mouthparts occurring in this subfamily. Although based on an adult female the presence of such a unique feature would warrant a redescription based on the type material. The use of the wording *"Cricotopiella rostrata* nov. gen. nov. sp." (in the introduction on page 275 and in the figure legend on page 286) is acceptable as an original Type species designation.

CRICOTOPUS WULP, 1874: See note under *Camptocladius* Wulp, 1874.

†*decrepitus* HEYDEN, 1870, **Nomen dubium in CHIRONOMIDAE**: The species *Chironomus decrepitus* is based on an adult female but in addition, according to Statz (1944: 123), the wings are missing and consequently it cannot be assigned with certainty to any particular genus. The species is therefore treated here as a nomen dubium in Chironomidae.

†**depletus** SCUDDER, 1877, The fossil of †*depletus*, placed in *Chironomus* by Scudder (1877), is represented by a single mutilated specimen in which the antennae are broken and the costal border of only one wing is visible. The illustration of this species in Scudder (1890, Plate 5, Fig. 62) lacks detail for exact placement. However, Evenhaus (2002) retained placement in *Chironomus* and Martin (2024) considers the species as of "uncertain status" in *Chironomus*.

DIAMESA MEIGEN, 1835: The first use of the name *Diamesa* is by Meigen (1830: *Systematische Beschreibung* **6**: 308) as a synonym of *Lestremia* (Family Cecidomyiidae). Due to the fact that it was first published as a junior synonym, it is a nomen nudum because it contravenes Article 11.6 of the Zoological Code (ICZN, 1999, 4th Edition) and being a nomen nudum, it is not an available name and is therefore not a homonym of *Diamesa* Meigen, 1835.

DICROTENDIPES KIEFFER, 1913: *Dicrotendipes pictipennis* Kieffer, 1913 is the Type species of *Dicrotendipes* by monotypy. In the preliminary interpretation adopted in Spies and Sæther (2004: 41), which is followed here, *D. septemmaculatus* (Becker) is the valid name of the Type species.

†*dongzhouheensis* HONG, 2002, **Unavailable names in LOWER DIPTERA**: The wing venation illustration for *dongzhouheensis* in Hong (2002: 217, 219) indicates that it is a chironomid, and with crossvein M-Cu absent, it most likely belongs to one of the subfamilies in the semifamily Chironomoinae. However, the basal part of the male hypopygium (figured on page 204), if accurately drawn, is peculiar.

†*dorminans* HEYDEN, 1870, **Nomen dubium in TANYPUS**: The species was placed in *Pelopia* Meigen by Statz (1944) which is an unavailable senior synonym of *Tanypus* Meigen but from the illustrated wing venation appears to belong in the latter genus. However, most diagnostic features, which would enable comparison with and separation from other species of the genus are not given in the redescription by Statz (1944). The species is therefore treated as a nomen dubium in *Tanypus*.

†*dubius* (WESTWOOD & BRODIE, 1845), synonym of †**ASUBA brodiei** GIEBEL, 1856, **Incertae sedis in CHIRONOMIDAE**: The name of the species, "*Tanypus*? *dubius (id.)*", was provided by Brodie on page 33 where "*(id.)*" = idem means Brodie and page 33 is the only page in the entire work where the binominal combination is mentioned. However, Westwood provided the text for plates i-x (footnote page 115) where on page 121 the species is listed only as "PI. iii. fig. 10. - *Tanypus*?". It therefore appears that Westwood provided an identification list of the fossils, sometimes to genus level (often queried), to Brodie who apparently created a Latin species name for each fossil identified to genus level. Although some might wish the interpretation of the taxonomic authorship of the following case to be different, the precise wording of the relevant article in the currently effective version of the Code (ICZN 1999: Article 50.1) does not leave any alternative to the following interpretation. The attribution of the names to authorship of Westwood in Brodie is incompatible with Article 50.1.1 of the Code as it is not "clear from the contents" [of Brodie, 1845] that one person "is alone responsible both for the [respective] name or act and for satisfying the criteria of availability other than actual publication". Therefore, the authority of the species name should not be solely credited to Westwood but to Westwood and Brodie. The types require re-examination/re-description to evaluate the status of the species and determine, if possible, its generic and subfamily placement [PA].

†*DUNGEYELLINAE* ASHE, MURRAY & O'CONNOR, 2018: A new subfamily †Dungeyellinae was created in Ashe *et al.* (2018) to accommodate the adult female of the enigmatic †*Dungeyella gavini* Jarzembowski, Azar & Nel. Concurrently, unknown to the authors, a paper in press by Baranov *et al.* (2018) provided a description of the previously unknown adult male showing that †*Dungeyella* belongs in the Buchonomyiinae. Thus †Dungeyellinae becomes a **syn. nov.** of Buchonomyiinae. It is worth noting, however, that some features of the wing of †*Dungeyella* are not typical of Buchonomyiinae. If further research indicates that a separate tribe status is warrented then the name †Dungeyellinini is available.

♠*edentula* (ANDERSON, 1943), synonym of *Corynocera ambigua* Zetterstedt, 1837: *Dryadotanytarsus edentulus* Anderson, originally believed to be an extinct species, was described based on larval subfossil remains recovered from lake sediments dating back to

the glacial period. It was subsequently shown to be a junior synonym of the extant species, *Corynocera ambigua* Zetterstedt, by Hirvenoja (1961).

†ELECTROTENIINI KALUGINA, 1980: See note on Aphroteniinae Brundin, 1966.

†*EOCENITENDIPES* EVENHUIS, 1994: Hong's (1981) treatment of *Microtendipes* Kieffer, 1915 starts on the bottom of page 46 and not page 47 as in Evenhuis (1994: 266). Hong (1981) did not create a new genus named "*Microtendipes* Hong" but instead described three new fossil species which he assigned to the genus *Microtendipes* Kieffer – the latter is a valid extant genus of the Subfamily Chironominae. Evenhuis's (1994) proposal of the new name, †*Eocenitendipes* Evenhuis, as a replacement name for "*Microtendipes* Hong, 1981", is therefore invalid. †*Eocenitendipes* has no Type species because it was proposed as a replacement name for a taxon that does not exist. Although †*Eocenitendipes* is invalid it is still an available name for the puposes of homonymy.

†escheri GIEBEL, 1856, **CERATOPOGON** MEIGEN, **Unplaced Fossil CERATOPOGONIDAE**: Included in Borkent (2012: 172) as an unplaced species of Ceratopogonidae (Subfamily Ceratopogoninae). Its placement in the Chironomidae, under the genus *Chironomus* Meigen, by Evenhuis (1994: 261) is apparently an error. The species is only mentioned in this Catalogue in this note and in the index to clarify that is not a chironomid.

EURYCNEMUS WULP, 1874: See note under *Camptocladius* Wulp, 1874.

†extincta WESTWOOD & BRODIE, 1845, **CHIRONOMOPSIS** HANDLIRSCH 1906, **Incertae sedis in CHIRONOMIDAE**: The name of the species, "*Chironomus? extinctus, (id.)*", was provided by Brodie on page 34 where *"(id.)*" [= idem] refers to Brodie and page 34 is the only page in the entire work where the binominal combination is mentioned. However, Westwood provided the text for the plates where on page 121 the species is listed only as "PI. iv. fig. 5. - *Chironomus*?". Seemingly Westwood provided an identification list of the fossils, sometimes to genus level (often queried), to Brodie who apparently created a Latin species name for each fossil identified to genus level. Therefore, the authority of the species name should not be solely credited to Westwood but to Westwood and Brodie. Subsequently, the species was questionably included in the genus *Chironomopsis* Handlirsch (Handlirsch, 1906) and in this binominal combination the spelling of the species name must be corrected to *extincta*. The types need to be re-examined and re-described in order to evaluate the status of the species and determine, if possible, its generic and subfamily placement.

†filiformis MEUNIER, 1904, (**†PALAEOTANYPUS** MEUNIER), **UNPLACED FOSSIL CHIRONOMIDAE**: See note under *Palaeotanypus* Meunier, 1904.

†**fossilis** (WESTWOOD & BRODIE, 1845), †**DARA** GIEBEL, 1856, **Incertae sedis in CHIRONOMIDAE**: The name of the species, "*Culex ?fossilis* , (Brod.)", was provided by Brodie on page 34 where "(Brod.)" = Brodie and page 34 is the only page in the entire work where the binominal combination is mentioned. However, Westwood provided the text for plates ii-x (see footnote page 115) where on page 121 the species is listed only as "Pl. iii. fig. 15. - *Culex* ?". It therefore appears that Westwood provided an identification list of the fossils, sometimes to genus level (often queried), to Brodie who apparently created a Latin species name for each fossils identified to genus. Therefore, the authority of the species name should not be solely credited to Westwood but to Westwood and Brodie. The adult wing and pupa is illustrated (Coram and Jarzembowski, 1998: p. 138, Fig. 10-11; Coram and Jepson, 2012: p. 85 (Fig. 130 right), p. 116 (Fig. 163 right)) and a photograph of the holotype (Ross and Jarzembowski, 1996, Fig. 6C) shows that it is a male adult with a bushy antenna. [Check wing features with Aenneinae ^{PA}]

†*FRUTEXITENDIPINI* HONG, 2002, **Unavailable names in LOWER DIPTERA**: Hong (2002: 201) included three new genera in the tribe *Frutexitendipini*, i. e. *Frutexitendipes*, *Dongbeitendipes* and *Noditendipes*, but the tribe and the three genera are all nomina nuda for the reasons indicated in the entry under each taxon. The descriptions of these taxa are insufficient to determine whether or not they belong in the Chironomidae.

†*fushunensis* HONG, 2002, **Unavailable names in LOWER DIPTERA**: Chironomid type wing with M_{1+2} as a single vein.

†*FUSHUNITENDIPEDINI* HONG, 2002, **Nomen dubium in LOWER DIPTERA**: Hong (2002: 169-170) included eight genera in the tribe *Fushunitendipedini* Hong, i.e. *Fushunitendipes* Hong, 1981 and seven new genera: *Beifangitendipes* Hong, *Clavicornius* Hong, *Furvitendipes* Hong, *Latitendipes* Hong, *Longigastrula* Hong, *Spinitendipes* Hong and *Tenuigastrulus* Hong. Five of these genera are valid because one, *Fushunitendipes* Hong (Type species: *F. eocenicus* Hong, 1981) was described in 1981, and four, *Beifangitendipes* (Type species: *Fushunitendipes limnetes* Hong, 1981), *Clavicornius* (Type species: *Fushunitendipes lobotes* Hong, 1981), *Spinitendipes* (Type species: *Fushunitendipes uracanthodes* Hong, 1981) and *Tenuigastrulus* (Type species: *Fushunitendipes trichodes* Hong, 1981) have Type species which were described two decades earlier in Hong (1981). One genus, *Longigastrula* Hong, is a nomen nudum for reasons indicated in the entry under this taxon. Some of these genera do not appear to belong in the Chironomidae. The descriptions of all taxa are insufficient to determine whether or not they belong in the Chironomidae.

†*FUSHUNITENDIPES* HONG, 1981, **Nomen dubium in LOWER DIPTERA**: The Type species of *Fushunitendipes*, *F. eocenicus* Hong, 1981, from the figure of the male

hypopygium in Hong (2002: 32) appears to be a ceratopogonid but the wing illustration in Hong (1981: 37) of the same specimen, with M-Cu absent and separate M_1 and M_2 veins lacking, indicates that it is a chironomid. Until the types are re-examined it is impossible to resolve the status or family placement of the genus, the species or the tribe *Fushunitendipedini*.

†**GLUSHKOVELLA** KALUGINA, 1993: The description of *Glushkovella,* with *G. pallida* Kalugina as the single included species, is based on the larval stage only. If associated fossil pupae and adults can be found it may prove to be a synonym of another Podonominae genus.

†*HAMICAUDINI* HONG, 2002, **Unavailable names in LOWER DIPTERA**: Hong (2002) included four genera in the tribe *Hamicaudini* Hong, i.e. *Hamicaudus* Hong, 2002, *Succinaspinus* Hong, 2002, *Sinaspinus* Hong, 2002, and *Yangitendipes* Hong, 2002, but the tribe and the four genera are all nomina nuda for the reasons indicated in the entry under each taxon. [Descriptions of all taxa are insufficient to determine if they belong in the Chironomidae [PA]]. Doitteau and Nel (2007: 5) comment that the descriptions of numerous genera and species and figures by Hong (1981, 2002a, b) are poor and not founded on real comparisons with extant Chironomidae. These taxa from China are all attributed to the subfamily Chironominae but some of them probably belong to other subfamilies. The genera *Fushunitendipes* Hong, 1981, *Furvitendipes* Hong, 2002, and *Frutexitendipes* Hong, 2002, are probably not Chironominae but Orthocladiinae because their gonostyli are movable and turned inward (Hong, 2002a, b). Comparisons of other fossil material with these Chinese taxa are nearly impossible.

†*jentzschi* EVENHUIS, 1994: See note following on †*Jentzschiella* Meunier, 1899.

†*JENTZSCHIELLA* MEUNIER, 1899: *Jentzschiella* was originally proposed without included named species. The Type species designation in Evenhuis (1994: 268) is from the first inclusion of a named species in the genus, which is in accordance with the Code. The species-group name *jentzschi* Evenhuis, 1994, was validly proposed in Evenhuis (1994) by bibliographic reference to characters given in Meunier (1899: 162) and Meunier (1899: Plate 1, Fig. 3, sub *Zentschiella*) for the genus *Jentzschiella.* However, the original description by Meunier is inadequate for (a) recognition of the genus or species, (b) definitive placement within a subfamily or (c) comparison with other fossil or extant taxa. Until the original type material is examined and redescribed using modem techniques the genus and species are treated as nomina dubia in Chironomidae.

†***krzeminskii*** GIŁKA, ZAKRZEWSKA, LUKASHEVICH AND CRANSTON, 2021, †**PALAEOCENTRON**. The Burmese amber containing the fossil inclusion *P. kraeminskii* was mined in the north of Myanmar in the Hukawng Valley, Myitkyina, Kachin and dated by Xing and Qui (2020) from the Albanian-Cenomian Stage of the mid-

Cretaceous (93.9 - 110 Mya). The taxon is the oldest known representative of the subfamily Chironominae.

†*LACUSITENDIPINI* HONG, 2002, **Unavailable names in LOWER DIPTERA**: Hong (2002: xxx) included five genera in the tribe *Lacusitendipini* Hong, i.e. *Lacusitendipes* Hong, 2002, *Alitendipes* Hong, 2002, *Chaititendipes* Hong, 2002, *Liaoitendipes* Hong, 2002 and *Maculitendipes* Hong, 2002, but the tribe and the five genera are all nomina nuda for the reasons indicated in the entry under each taxon. [The descriptions of all taxa are insufficient to determine whether or not they belong in the Chironomidae [PA]]

†*labrosus* (HONG, 1981), **Nomen dubium in LOWER DIPTERA**: The species was originally described as *Microtendipes labrosus* by Hong (1981) but was subsequently designated as the Type species of the genus *Asiatendipes* Hong by Hong (2002). See also note on *Asiatendipedini* Hong, 2002.

LASIODIAMESA KIEFFER, 1924: The name *Lasiodiamesa* Kieffer, 1924, has been extensively used since its original description but if it proves to be a junior synonym of *Palaeotanypus* Meunier, 1904, an application will be made to the ICZN for a ruling on the conservation of *Lasiodiamesa* Kieffer. See note on *Palaeotanypus* Meunier below.

♣*leucomelas* GISTL, 1831, **Nomen dubium in CHIRONOMIDAE**: Evenhuis (2016: 27) states that "most of Gistel's collections were scattered through sale or exchange". Taking Evenhuis's comments in combination with the very poor original description we treat *Chironomus leucomelas* Gistl as a nomen dubium. See also note under Gistl (1848) in the Bibliography concerning the spelling of Gistl's surname.

†**LIAUNINGIUS** HONG, 1982, **UNPLACED FOSSIL CHIRONOMIDAE**: According to Adler (2019: 2) the genus †*Liauningius* and its Type species, *L. robustus* (Lin, 1976), belong in the Chironomidae and not in the Simuliidae.

†**LIBANOPELOPIA** VELTZ, AZAR & NEL, 2007: Within the subfamily Tanypodinae, Veltz *et al.* (2007) indicate a placement within either the tribe Pentaneurini or Macropelipiini.

†*LONGICOPULINI* HONG, 2002, **Unavailable names in LOWER DIPTERA**: Hong (2002: xxx) included two genera in the tribe *Longicopulini* Hong, i.e. *Longicopula* Hong, 2002 and *Longipedia* Hong, 2002, but the tribe and its two included genera are all nomina nuda for the reasons indicated in the entry under each taxon. [The descriptions of all taxa are insufficient to determine whether or not they belong in the Chironomidae [PA]]

†*longivalvatus* HONG, 2002, **Unavailable names in LOWER DIPTERA**: The wing venation illustration for ?Genus *longivalvatus* in Hong (2002: 217, 219) indicates that it is a chironomid, and with crossvein m-cu absent, it most likely belongs to one of the subfamilies in the semifamily Chironomoinae. However, the female genitalia (figured on the same pages), if accurately drawn, are quite peculiar and atypical.

MACROPELOPIINI ZAVŘEL, 1929: The authorship of Macropelopiini is available from Zavřel (1929) as given in Spies (2005: 6) and not from Fittkau (1962) as given in Ashe (1983: 5).

†**maillardi** (DOITTEAU & NEL, 2007), **PROCLADIUS** SKUSE: The species was placed in the genus *Djalmabatista* Fittkau in the original description by Doitteau and Nel (2007) but was subsequently transferred to the genus *Procladius* by Szadziewski *et al.* (2018).

METRIOCNEMUS WULP, 1874: See note under *Camptocladius* Wulp, 1874.

The fossil chironomid taxa described by Meunier (1899, 1904, 1912, 1912, 1914, 1916) are treated as nomina dubia because the original descriptions are inadequate by current standards. It is impossible to identify or recognise the species or confirm any generic placements. Chironomids described by Meunier (1912) from Zanzibar and Madagascar in Copal (subfossil resin), probably represent extant species – Madagascar Copal is a modern natural tree resin that varies in age from a few months to few hundred thousand years old (Penney and Preziosi, 2010). The original Meunier type material, in the Institut und Museum für Geologie und Paläontologie der Georg-August-Universität, Göttingen, Germany, needs to be re-examined and redescribed. In the Ceratopogonidae the Meunier Baltic amber type material, which may include unnamed chironomids in the some pieces of amber, has been re-described by Szadziewski (1988).

†**microcephalus** GIEBEL, 1856, **CHIRONOMUS** MEIGEN, **Unplaced Fossil CHIRONOMIDAE**: Giebel states that the single female amber specimen of *Chironomus microcephalus* is in the collection of Leipzig University and another species, *Chironomus brevirostris*, described at the same time by Giebel (1856) is in the same piece of amber.

†**mirificus** KALUGINA, 1993, **ORYCTOCHLUS**: The holotype designated in Kalugina (1993) is a pupa but several larvae are questionably assigned to this species which are described separately as "*Oryctochlus*? *mirificus*".

†**neocomicus** BRUNDIN, 1976, **LIBANOCHLITES**: The original detailed description by Brundin (1976) is based on the very distinctive adult female. The adult male was first illustrated in Schlee and Glöckner (1978: 60-61, Figs 8-9) but was not placed in any subfamily or recognised as being the unknown male of *L. neocomicus.* A colour photograph of an unnamed adult male from Jordanian amber in Bandel *et al.* (1997, Fig. 1) is *L. neocomicus.* The adult male was described by Veltz *et al.* (2007) apparently unaware of figures of the male in Schlee and Glöckner (1978) and Bandel *et al.* (1997).

†*NODITENDIPES* HONG, 2002, **Unavailable names in LOWER DIPTERA**: *Noditendipes* Hong has a 19 segmented male antenna and may be a Ceratopogonid.

†*NOMOCHIRUS* GIL COLLADO, 1926, **NOMEN DUBIUM IN LOWER DIPTERA**: The original description is inadequate to place it with certainty in the Chironomidae and Fig. 4

shows claws on the legs which are more reminiscent of some Ceratopogonidae. Although the wing, as illustrated in Fig. 2, is more chironomid-like it is poorly drawn and the details are insufficient to determine its placement. Until such time as the original fossils are redescribed using modem techniques to show greater and more accurate details the genus and species are both treated as nomina dubia in Chironomidae.

†*obscura* STATZ, 1944, **Nomen dubium in TANYPODINAE**: The species, based on adult female compression fossils, was questionably placed in *Pelopia* Meigen by Statz (1944) which is an unavailable senior synonym of *Tanypus* Meigen. Since the fossils are female, appear to be poorly preserved and the generic placement is uncertain the species is treated here as a nomen dubium in Tanypodinae. Although "*Pelopia*? *obscura*" Statz is preoccupied a replacement name is not proposed because it is a nomen dubium.

†**obtusus** MEUNIER, **CHIRONOMUS** MEIGEN, **Incertae sedis in CHIRONOMIDAE**: 1899: This species was validated in Meunier (1899: 162) with a brief description based on a single adult female in the Loew collection – the species is not listed in Evenhuis (1994).

†*orientalus* (HONG, 1981), **Nomen dubium in LOWER DIPTERA**: See note on *Amberaspinus* Evenhuis, 1994.

ORTHOCLADIINAE KIEFFER, 1911: The family-group name Orthocladiinae Kieffer, 1911 and other family-group names based on *Orthocladius* Wulp, 1874 have precedence over Eretmopterinae Kellogg, 1900 (based on *Eretmoptera* Kellogg, 1900) and Clunioninae Kieffer, 1906 (based on *Clunio* Haliday, 1855) whenever the respective type-genera are placed in the same family-group taxon (International Commission on Zoological Nomenclature, 2008, Opinion 2206, *Bulletin of Zoological Nomenclature* **65**(3): 229-231). In the fossil volume we only include taxa mentioned in the fossil literature but for a full list of family-group synonyms in Orthocladiinae see Ashe and O'Connor (2012: 108).

ORTHOCLADIUS WULP, 1874: See note under *Camptocladius* Wulp, 1874.

†**ORUSA** LIN, 1980, **Unplaced Fossil CHIRONOMIDAE**: The correct page on which the genus *Orusa* Lin and its Type species *O. barba* Lin are described is page 227 and not page 226 as given in Evenhuis (1994: 270).

†*oryctes* ZHANG, 1989, **Nomen dubium in CHIRONOMIDAE**: See note on *Bythomyia* Zhang, 1989.

†**ORYCTOCHLUS** KALUGINA in KALUGINA & KOVALEV, 1985: As noted in Veltz *et al.* (2007: 170), Kalugina (1985) described five new Middlel Late Jurassic species in the fossil genus *Oryctochlus* Kalugina, 1985, *viz. O. affinis*, *O. longilobus*, *O. minor*, *O. minutus* and *O. vulcanus.* and assigned certain larvae, pupae and adults to particular species. This deduction is strongly debatable, since it is not possible to compare larval, pupal and adult characters. In addition, the adult specimens are not very well preserved.

Oryctochlus contiguus Zhang, 1991, from the Late Jurassic of China, is based on both male and female adults, better preserved than those of *M. dabeigouensis*. Thus it is likely that this species is a true chironomid.

†*osteneus* HONG, 2002, **Unavailable names in LOWER DIPTERA**: The wing venation illustration of *osteneus* in Hong (2002: 214) indicates that it is a chironomid, and with crossvein M-Cu absent, it most likely belongs to one of the subfamilies in the semifamily Chironomoinae but the other illustrations are inadequate to determine the status of the species.

†*pagasti* STATZ, 1944, **Nomen dubium in TANYPODINAE**: The species, based on adult female compression fossils, was placed in *Pelopia* Meigen by Statz (1944) which is an unavailable senior synonym of *Tanypus* Meigen. Since the fossils are female, appear to be poorly preserved and the generic placement cannot be confirmed the species is treated here as a nomen dubium in Tanypodinae.

†*palaemon* HEYDEN, 1870, **Nomen dubium in TANYPODINAE**: The species, based on adult female compression fossils, was questionably placed in *Pelopia* Meigen by Statz (1944) which is an unavailable senior synonym of *Tanypus* Meigen. Since the fossils are female, appear to be poorly preserved and the generic placement is uncertain the species is treated here as a nomen dubium in Tanypodinae.

†PALAEOCENTRON, GIŁKA, ZAKRZEWSKA, LUKASHEVICH AND CRANSTON, 2021: See note on ***†krzeminskii***.

†*PALAEOLYCUS* ETHERIDGE & OLLIFF, 1890, **Nomen dubium in CHIRONOMIDAE**: *Palaeolyeus problematieus* was described from several larval compression fossils which were originally believed to be Coleoptera of the family Lampyridae but were subsequently assigned to the Chironomidae. In Evenhuis (1994: 261), *Palaeolyeus* was listed as a synonym of *Chironomus* but the Type species of the former, *P. problematieus*, was not included as one of the species in *Chironomus.* However, the type material needs to be examined and redescribed to determine the generic and subfamily placement of the species and until this is done it is best to treat *problematicus* as a nomen dubium, in Chironomidae. The generic name *Palaeolyeus* is preoccupied and no replacement name has been proposed but its synonymy, with *Chironomus* is unconfirmed due to the unresolved status of its Type species and *Palaeolyeus* is also listed here as an unavailable nomen dubium in Chironomidae.

†PALAEOTANYPUS MEUNIER, 1904, **UNPLACED FOSSIL CHIRONOMIDAE**: The generic name is only used in Meunier (1904: 178) in combination with a species name as "*Palaeotanypus filiformis*" but there is no generic diagnosis or any other mention of the generic name in this work. The species assigned to this genus is described as "*Tanypus*

filiformis" on page 226 based on a single adult female specimen which has a distictive elongated 15 segmented antenna (Meunier 1904, Plate XV, fig. 20). The genus *Lasiodiamesa* Kieffer (Subfamily Podonominae), represented by two described species from Baltic amber, also has an elongated 15 segmented antenna but whether or not *P. filiformis* belongs in this genus cannot be determined without re-examination of the type material. Both the genus *Palaeotanypus* and the species *P. filiformis* may belong in the subfamily Podonominae but they are treated here as unplaced fossil Chironomidae until their status can be resolved. See note on *Lasiodiamesa* Kieffer above.

†*patens* SCUDDER, 1877, **Nomen dubium in CHIRONOMIDAE**: The single, apparently well preserved specimen, has one wing clearly visible and two complete antennae which are described as being fifteen-jointed. The illustrations of this species in Scudder (1890, Plate 5, Figs 18, 19, 28) are not sufficiently detailed to determine its placement. Until the fossil is re-examined it is treated as a nomen dubium in Chironomidae.

PARAPSECTROCLADIUS CRANSTON 2000 – See BOTRYOCLADIUS

PENTANEURINI HENNIG, 1950: The authorship of Pentaneurini is attributable to Hennig (1950) as indicated in Spies (2005: 5) and not to Fittkau (1962) as given in Ashe (1983: 5). See note an Ablabesmyiini Hennig, 1950.

†*perditus* HEYDEN, 1870, **Nomen dubium in TANYPODINAE**: Statz (1944) indicates that this species belongs in the genus *Procladius* Skuse but another related genus has since been described, *Djalmabatista* Fittkau, which closely resembles the former. The illustrations and description of this compression fossil given in Statz (1944) are insufficient to distinguish the species or enable an adequate comparison with other fossil or extant species. It is therefore treated as a nomen dubium in Tanypodinae.

PHAENOPSECTRA KIEFFER, 1921: See discussion in Ashe (1983: 5) concerning former confusion between *Phaenopsectra* Kieffer and *Tanytarsus* Wulp which was resolved by the Internation Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)).

†pliocenicus PITON, 1935, **CHIRONOMUS** MEIGEN, **Unplaced Fossil CHIRONOMIDAE**: In Piton and Theobald (1935), *Chironomus pliocenicus* is illustrated (Plate III, fig. 12) and from the shape of the abdomen appears to be an adult female specimen.

†POTAMOCEROIDES MUNIER-CHALMAS in FERRONNIÈRE, 1901, **Incertae sedis in CHIRONOMIDAE**: The tube-like structures of the genus *Potamoceroides* and its Type species (*P. giardi*) were originally described as belonging to the Serpulidae (Class Polychaeta) – a family of tube-building annelid worms. Zibrowius *et al.* (1995) re-examined the types and concluded that they are larval cases of the tribe Tanytarsini in the

family Chironomidae but unfortunately they did not include any figures of the cases. The types will have to be re-examined to determine diagnostic features or if any larval remains are present. Since the fossils are Holocene in date they perhaps represent an extant genus and species but most extant chironomid larval cases cannot be identified to species or genus.

†*primitivus* MANI, 1945, **Nomen dubium in CHIRONOMIDAE**: Although *Chironomus* †*primitivus* Mani is preoccupied as a junior primary homonym a new replacement name is not proposed as the original description is inadequate – it is treated here as a nomen dubium until the types can be re-examined to resolve its status.

†*primitivus* SAHNI, 1944, **Nomen dubium in CHIRONOMIDAE**: On page 57 of Sahni (1944) the species is illustrated (Figs 8 and 9) as "*Chironomus primitivus* sp. nov. M. S. Mani" which constitutes an earlier use of the species name. However, no description was provided by Sahni (1944) and this earlier use of the name is a **nomen nudum**.

†*problematicus* ETHERIDGE & OLLIFF, 1890, **Nomen dubium in CHIRONOMIDAE**: See note on *Palaeolycus* Etheridge & Olliff, 1890.

PSEUDOSMITTIA EDWARDS, 1932: Spies and Reiss (1996: 91) have shown that the genus-group name *Pseudosmittia* is a valid available name attributed to Edwards (1932: 141) because he described it by inference (reference to Goetghebuer, 1932) and designated an eligible Type species.

†**robustus** (LIN, 1976), †**LIAUNINGIUS** HONG, 1982, **UNPLACED FOSSIL CHIRONOMIDAE**: see note on †*Liauningius* Hong, 1982.

†*rohdendorfi* HONG, 1992, **Nomen dubium in DIPTERA**: Veltz *et al.* (2007: 169) state that *Gurvanomyia rohdendorfi* Hong, described in Hong *et al.* (1992), from the Early Cretaceous of China, is based on an adult of unknown sex (genitalia and antennae either unpreserved or poorly preserved) and the original drawing clearly does not correspond to the original photograph. They regard its allocation to the Chironomidae as not sufficiently supported and consider it to be a Diptera of uncertain position.

†*rostrata* MEUNIER, 1916, **Nomen dubium in ORTHOCLADIINAE**: See note on *Cricotopiella* Meumier, 1916.

†*scudderiellus* COCKERELL, 1916, **Nomen dubium in CHIRONOMIDAE**: Although described in the genus *Chironomus* Meigen the illustration of the male hypopygium indicates that it does not belong in the latter genus or the Subfamily Chironominae but its exact subfamily placement cannot be determined from the figure.

†*SENDELIA* DUISBERG, 1868, synonym of **SENDELIA** MEUNIER, 1899, **Incertae sedis in CHIRONOMIDAE**: Duisberg (1868: 23) mentions the discovery of a male Diptera

specimen from amber which he names as *Sendelia mirabilis* but no description of the genus or species is given and both are nomina nuda.

†*septus* SCUDDER, 1890, **Nomen dubium in CHIRONOMIDAE**: *Chironomus septus* was described based on a single compression fossil of an adult in which only one antenna is partially visible and the wings are imperfectly preserved, folded over and partially obscured by the abdomen. The specimen is apparently male with an upturned abdomen and the genitalia are not discernable. Since several critical features cannot be clearly observed the species is treated as a nomen dubium in Chironomidae.

†*serresi* THÉOBALD, 1937, **Nomen dubium in CHIRONOMIDAE**: In the illustration of the holotype male of *Chironomus* †*serresi* Théobald (Plate XXII, Fig. 5) the wing is not preserved and on p. 347 a female specimen is also mentioned. The original description is completely inadequate and the species is treated as a nomen dubium in Chironomidae until a re-examination of the holotype can determine its status. Théobald (1937: 413, Plate XXIX, Fig. 22) also lists and figures a male specimen of the same species from a different fossil deposit at Céreste (Basses-Alpes).

†sp.: GRUND, 2006, **STENOCHIRONOMUS**: *Stenochironomus* includes two subgenera, *Stenochironomus* s. str. and *Petalopholeus* Borkent, 1984, and separation of the subgenera for extant species is based only on features of the immature stages (larvae and pupae). Thus fossil adults can only be assigned to the genus *Stenochironomus*.

†sp. 1: GRUND, 2006, **XESTOCHIRONOMUS**: According to Grund (2006: 412) there are at least four different species of *Xestochironomus* in the material examined, each of these are numbered here as sp. 1, sp. 2, sp. 3 and sp. 4.

†sp.: GILKA, ZAKRZEWSKA, LUKASHVEICH & CRANSTON, 2021, *Incertae sedis* in **PSEUDOCHIRONOMINI**. Gilka *et al.* (2021) placed this species in an unknown genus as "Pseudochironomini? *Incertae sedis"* based on several character states including venation and well developed round anal lobe of the wing and the structure and arrangement of tibial spurs - features considerably similar to the Pseudochironomini species †*Mesoacentron kaluginae*, (see note on *kaluginae* above) that they described from the same fossil series (Gilka *et al*., 2021). The record is further confirmation that members of the subfamily Chironominae existed during the Upper Cretaceous Mesozoic Era. 163.6 Mya.

SPANIOTOMA PHILIPPI, 1866: The year of publication of *Spaniotoma* Philippi is changed from 1865 to 1866 – see note in the Bibliography under Philippi (1866). The reasons for regarding *Spaniotoma* as a nomen dubium are detailed in Ashe (1983: 49).

STEMPELLINA THIENEMANN & BAUSE, 1913: Torbjern Ekrem (pers. comm. to P. Ashe), examined plates in Martini (2015), and is not convinced that the larval cases

belong to *Stempellina* as they could also belong to *Micropsectra* Kieffer or *Neostempellina* Reiss. The unnamed species is therefore retained in *Stempellina* but preceded by a question mark in bold to indicate uncertainty concerning placement in this genus.

STEMPELLININA SHILOVA, 1976: See note on *Zavreliina* Saether, 1977.

STENOCHIRONOMUS KIEFFER, 1919: The correct Type species of the genus *Stenochironomus* is *Chironomus pulchripennis* Coquillett for the reasons given in Spies and Saether (2004: 66).

TANYPODINAE SKUSE, 1889: Contrary to Spies (2005: 8, Comment 9) Skuse (1889) did not misidentify *Tanypus* Meigen when he effectively rendered the latter the type-genus of the new subfamily. There is no threat to the stability and universality of nomenclature from ascribing authorship of Tanypodinae to Skuse (1889). Therefore, no application to the ICZN is necessary and Martin Spies (pers. comm. to P. Ashe) agrees with and helped formulate this opinion.

TANYTARSINI ZAVŘEL, 1917: Authorship and date of Tanytarsini attributed to Zavřel, 1917. [predates Goetghebuer, 1938 [PA]]

TANYTARSUS WULP, 1874: The generic name *Tanytarsus* was first published by Wulp (1874: *Tijdschrift voor Entomologie* **16**: LXIX-LXXI), which was a preliminary short paper that preceded more detailed descriptions in Wulp (1875: *Tijdschrift voor Entomologie* **17**(5): 113-148). See notes under Wulp (1874, 1875) in the Bibliography. See discussion in Ashe (1983: 5) concerning past confusion between *Phaenopsectra* Kieffer and *Tanytarsus* Wulp which was resolved by the International Commission on Zoological Nomenclature (1961: *Bulletin of Zoological Nomenclature* **18**(6): 361 (Opinion 616)).

†*thienemanni* STATZ, 1944, **Nomen dubium in TANYPODINAE**: The species, based on adult female compression fossils, was placed in *Pelopia* Meigen by Statz (1944) which is an unavailable senior synonym of *Tanypus* Meigen. Since the fossils are female, appear to be poorly preserved and the generic placement cannot be confirmed the species is treated here as a nomen dubium in Tanypodinae.

†**triassica** KRZEMIŃSKI & JARZEMBOWSKI, 1999, **AENNE**: This fossil is dated as 202+/-1 and Upper Rhaetian in Cranston (2012) correspondinng to 201.1 - 203 Mya in the most recent lUGS (2016) chronostatigraphic chart.

†*trichodes* (HONG, 1981), **Nomen dubium in LOWER DIPTERA**: Chironomid type wing with M1+2 as a single vein but some peculiar head features include very large eyes and 16 segmented antenna.

†ULAIINAE KALUGINA, 1993: Kalugina (in Kalugina and Kovalev, 1985), described four genera with similar names, *Ulaia* with three new species (*U. magna*, *U. montana* (the Type species) and *U. reducta*), and three monotypic genera: *Ulaimailia* (*U. vetula*), *Ulaimailonia* (*U. mixta*) and *Ulaimailoniella* (*U. fusiformis*). The three species in the genus *Ulaia* were described from pupal compression fossils while the remaining three genera were based on larval compression fossils. Subsequently, Kalugina (1993) erected the subfamily Ulaiinae for the genus *Ulaia* and included two additional new species (*U. communis* and *U. kangilica*) but the other three genera (*Ulaimailia*, *Ulaimailonia* and *Ulaimailoniella*), based on larval fossils, were only tentatively included in the new subfamily – their placement in the subfamily is therefore uncertain. However, Kalugina (1993) described the adult male, adult female, pupa and larva for the new species, *U. communis*. Descriptions of the adults are brief and, although the antennae of both sexes are mentioned, the numbers of antennal segments in both the male and female are unfortunately not specified and or not illustrated. The only adult feature illustrated is a single wing (?male ?female). This wing is quite similar to the wing of Aenneinae because (**a**) in both there are four branches of the Radius (R_1, R_2, R_3 and R_4), (**b**) a fused R_{2+3} is present from which R_2 and R_3 diverge apically and (**c**) between M and Cu two distinct crossveins are present (bm-m and m-cu). The diagnosis for the subfamily Aenneinae (based on *Aenne*), Ansorge (1999) describes wing venation as "R_S long, R_2 present, R_3 and R_{4+5} divergent, crossveins r-m, tb [= bm-m] and m-cu present". The main difference between the wings of *U. communis* and *Aenne* is the long R_S of the latter but this feature is not now diagnostic for the Aenneinae with the subsequent inclusion in the subfamily of the genus *Cretaenne* which has a short R_S, in all three included species. It is not possible at present to indicate whether or not Ulaiinae is a senior synonym of Aenneinae because (1) *U. communis,* for which the adults are described is not the Type species of *Ulaia,* (2) the holotype of *U. communis* is a pupa, (3) the Type species of *Ulaia* is *U. montana* that is based on a pupa, (4) Kalugina used size comparisons in evaluating if the larvae and pupae found for *U. communis* were large enough to match the adults and (5) the assignment of three of the four genera to the Ulainnae is even questioned by Kalugina. For these reasons, and until Kalugina's material is redescribed in detail to re-evaluate the status of each genus and species, the subfamily Ulainnae is treated here as a nomen dubium but the four genera and respective species are treated as valid unplaced Chironomidae.[PA]

†unionis FRIČ, 1893, **†CHIRONOMITES**, **Incertae sedis in CHIRONOMIDAE**. The pagination of the paper is 258-259 but the species is illustrated on page 260 in Figure 76. See note on **†CHIRONOMITES** FRIČ, 1893.

†*uracanthodes* (HONG, 1981), **Nomen dubium in LOWER DIPTERA**: Chironomid type wing with M_{1+2} as a single vein but some peculiar head features.

†*vagans* ZHANG, 1989, **Nomen dubium in CHIRONOMIDAE**: In the male generic diagnosis for the subfamily Tanypodinae in the Holarctic keys (Murray and Fittkau, 1989) the genus *Clinotanypus* has an incomplete R_2 vein which runs from R_1 towards R_3 but does not terminate in R_3. In the figured wing of *C. vagans* in Zhang (1989) there is no indication of a separate R_2 vein and the species cannot be treated as belonging to *Clinotanypus*. Although *C. vagans* may belong in the Tanypodinae its placement in one of the other related subfamilies such as Diamesinae or Prodiamesinae cannot be ruled out and since its affinities are uncertain it is treated as a nomen dubium in Chironomidae.

†*venerabilis* ETHERIDGE & OLLIFF, 1890, **Nomen dubium in CHIRONOMIDAE**: The original description of *Chironomus venerabilis,* based on an adult female specimen, is completely inadequate and its generic and subfamily placement may be resolved by examining and redescribing the type.

†**WADELIUS** VELTZ, AZAR & NEL, 2007: Within the Tanypodinae, Veltz *et al.* (2007) placed the genus in the tribe Anatopyiini but also indicated that it may deserve a separate tribe.

†*wanghuacunensis* HONG, 2002, **Unavailable names in LOWER DIPTERA**: The wing venation illustration *of wanghuacunensis* in Hong (2002: 173) is based on an adult female and indicates that it is a chironomid. With crossvein M-Cu absent it most likely belongs to a subfamily in the semifamily Chironomoinae but the other illustrations are inadequate to determine the true status of the species.

†*xantha* ZHANG, ZHANG, LIU & SHANGGUAN, 1989, **Nomen dubium in CHIRONOMIDAE**: See note on †*Coelochironoma* Zhang, Zhang, Liu & Shangguan, 1989.

ZAVRELIINA SÆTHER, 1977: In Shilova (1976) a new subtribe name, as "Stempellini" [= Stempellinina], is mentioned in a key on pages 20 and 21 and in the contents on pages 250 and 251 but on each of these pages the reader is referred to page 63 which is regarded as the correct page to cite. Spies (2005: 9) remarked that the subtribe name *Stempellinina* Shilova, 1976 is a senior synonym of *Zavreliina* Sæther, 1977 but the former has not been in use whereas *Zavreliina* has been in almost unanimous use since Sæther (1977). Establishing *Zavreliina* as the valid subtribe name (Spies 2005) would involve a reversal of precedence (under Code Art. 23.9) and in this case requires a ruling by the ICZN for the conservation of *Zavreliina*. Until such time as a ruling is made the name *Zavreliina* is treated as the valid name for the subtribe.

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Abbreviations used in bibliography

No symbol = The precise day/month/year, e.g. **[19 March 1975]**, is cited if specified in the original publication and not disproven by external evidence. When a specified date of publication is known to be incorrect an explanation is given with the reference. Specific dates of publication were not given for some references but in several cases these have been determined by contacting the editor – an explanation is given with the reference in such cases.

Asterisk Symbol: The library receiving date stamp, e.g. **[*18 November 1922]**, for a publication or the relevant part of a publication (e.g. issue of a journal or periodical) is taken as the earliest demonstrated date in the absence of more direct evidence. The number of asterisks identifies the relevant library as indicated below:-

* = Receipt date in the Natural History Museum Library, London.

** = Receipt date in the Smithsonian Institution Library, Washington, D. C. [data from Evenhuis (1989)].

*** = Receipt date in the Bishop Museum Library, Honolulu [data from Evenhuis (1989)].

**** = Receipt date in the British Library, London.

+ = The last day of the year, e.g. **[+31 December 1900]**, or the last day of the month, e.g. **[+30 June 1962]**, is taken as the date of publication if a more precise date other than the year, or month and year, cannot, (a) be determined from the original work, or (b) obtained from other sources.

≤ = The "less than or equals sign" is used to indicate evidence that a particular reference was published "on or before a specified date", e.g. **[≤21 September 1800]**. The example is from Evenhuis (1997: 530) indicating that Meigen (1800) was published prior to 22 September 1800. Therefore the earliest provable date at present is on or before, as the symbol "≤" implies, 21 September 1800.

NOTE: Citation of a publication date in the Bibliography refers to the date on which either (a) printed copies or (b) online or web-based copies (after 2011) of the corresponding work were issued. Under the International Code of Zoological Nomenclature (ICZN), all information likely to affect nomenclature must be published in one of the forms specified in the Code (ICZN 1999: Chapter 3; ICZN 2012: for online or web-based publication). Since 2012 (ICZN 2012), online or web-based versions of a work are accepted as published in the sense of the Code provided that such works are Code compliant. There are several recent examples of online publications on Chironomidae where the new scientific taxon names proposed have not been registered with ZooBank <http://zoobank.org/> prior to the online publication. Thus, according to ICZN

regulations concerning electronic publication, new scientific taxon names or other changes to nomenclature proposed in such works remain unavailable and/or invalid and have, or will, become nomenclaturally available only if and when a print version of the paper has been, or is, published. Invalid proposals of names or nomenclatural acts generate risks of confusion and instability in subsequent usage and should thus be avoided wherever possible.

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Poinar Jr, G. (2010) [+30 June 2010] Palaeoecological perspectives in Dominican amber. *Annales de la Société Entomologique de France* (Nouvelle Série) **46**(1/2): 23-52. [Poinar (2010, p. 46, Fig. 55) includes a photograph that shows a heavily infested female midge that contained four mermithid nematodes (three escaped the midge and one remains inside the body). No other chironomid associations are mentioned.]

Poinar Jr, G., Krantz, G. W., Boucot, A. J. and Pike, T. M. (1997) [+31 July 1997] A unique Mesozoic parasitic association. *Naturwissenschaften* **84**(7): 321-322. [There is one

reported case of an erythraeid mite (Family Erythraeidae) parasitizing a chironomid midge in 79 Mya Canadian amber, which represents a case of a host-parasite association that no longer exists.]

Poinar Jr, G. and Poinar, R. (1999) [*24 September 1999] *The Amber Forest. A Reconstruction of a Vanished World*. Princeton University Press, Princeton, New Jersey. 239 pp. [Figures for Dominican amber show that out of 2919 arthropod there were 89 chironomids which represents 3% of the total. Fig. 155 shows two mermithid nematodes emerging from a female chironomid. Fig. 155 was previously published in Poinar (1992: Fig. 138, p. 250.]

Poinar Jr, G. O. (1985) [1 March 1985] Fossil evidence of insect parasitism by mites. *International Journal of Acarology* **11**(1): 37-38. [Poinar (1985, Figs 1-2) photographed a single piece of Dominican amber containing an adult female chironomid with four water-mites attached to the ventral side of the abdomen. One of the two photos (Fig. 2) is reproduced in Poinar (1992): Fig. 137, p. 249.]

Poinar Jr, G. O. (1992) [+30 November 1992] *Life in Amber*. Stanford University Press, Stanford, California. xiii + 350pp. [Evenhuis (1994: 538) states that this book was published before December and therefore the earliest provable date at present is +30 November 1992.] [Wichard *et al*. (2009) cite it for chironomids on p. 227] [Includes Table of numbers of arthropods in Siberian amber including chironomids (18% of total). Also includes a photo of a male of *Cretodiamesa taimyrica* Kalugina. Includes a map of the amber sites on the Taimyr Peninsula in Siberia [PA]]

Poinar Jr, G. O. (1993) [4 January 1993] Insects in amber. *Annual Review of Entomology* **46**: 145-159.

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Edition. Academic Press, Amsterdam. 1132pp. [Byers, Mecoptera 611-614; Cranston and Gullan, Phylogeny of Insects 780-793; Grimaldi, Fossil Record 396-403; Poinar, Amber 8-11; Zwick, Biogeography 82-91]

Roback, S. S. (1971) [8 March 1971] The adults of the subfamily Tanypodinae (= Pelopiinae) in North America (Diptera: Chironomidae). *Monographs of the Academy of Natural Sciences of Philadelphia* **17**: 1-410.

Roback, S. S. (1978) [2 June 1978] The immature chironomids of the eastern United States: III. Tanypodinae - Anatopyniini, Macropelopiini and Natarsiini. *Proceedings of the Academy of Natural Sciences of Philadelphia* **129**: 151-202.

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Rohdendorf, B. B. (1946) [3 October 1946] Evolyutsiya kryla i filogenez dlinnoysykh dvukrylykh Oligoneura (Diptera, Nematocera) [Evolution of the wing and the phylogeny of Oligoneura (Diptera, Nematocera). *Trudy Paleontologicheskogo Instituta* **13**(2): 5-108. [In Russian.]

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Ross, A., Mellish, C., York, P. and Crighton, B. (2010) [****6 October 2010] Chapter 12. Burmese amber. Pp 208-235. *In* Penney, D. (ed.) *Biodiversity of fossils in amber from the major world deposits*. Siri Scientific Press, Manchester. 303pp.

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Limited, Edinburgh.

Ross, A. and York, P. V. [29 June 2000] A list of type and figured specimens of insects and other inclusions in Burmese amber. *Bulletin of The Natural History Museum, Geology Series* **56**(1): 11-20. [No chironomids – RELEVANT only if cited]

Ross, A. J. (1998) [*9 September 1998] Amber: The Natural Time Capsule. First Edition. Natural History Museum, London. 73pp. [Ross (p. 52, Fig. 138) shows a pair of mating chironomids preserved in Baltic amber.]

Ross, A. J. (2014) [21 July 2014] Palaeontology: Chinese amber insects bridge the gap. *Current Biology* **24**(14): 642-643. [p. 642 "Most of the inclusions are small and the most abundant are flies (70%), . . ." p. 642 "Interestingly the most abundant families in Fushun amber are the non-biting midges (Chironomidae) and dark-winged fungus gnats (Sciaridae) . . ." p. 642 "environment at the time was subtropical . . ." p. 642 "It was known that many taxa found in the well-studied Baltic amber (about 35-38 million years old) from Europe had their closest living relatives today in south-east Asia and the southern hemisphere. The most likely explanation is that they had wider biogeographic ranges back then, which have shrunk with time, influenced by a decrease in global temperature that commenced at the start of the Oligocene, 34 million years ago (Ross *et al*., 2000)."]

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Ross, A. J. and Jarzembowski, E. A. (1996) [*12 March 1996] A provisional checklist of fossil insects from the Purbeck Group of Wiltshire. *Wiltshire Archaeological and Natural History Magazine* **89**: 106-115. [Fig. 6C, a photo of *Dara fossilis* in this work shows a bushy male antenna; p. 113 includes a list of four chironomids: *Asuba dubia*, *Chironomopsis arrogans*, *Chironomopsis extinctus*, *Dara fossilis* – all illustrated in Brodie plates.]

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Sæther, O. A. (1973) [7 February 1973] Four species of *Bryophaenocladius* Thien., with notes on other Orthocladiinae (Diptera: Chironomidae). *Canadian Entomologist* **105**(1): 51-60.

Sæther, O. A. (1976) [+31 December 1976] Revision of *Hydrobaenus*, *Trissocladius*, *Zalutschia*, *Paratrissocladius*, and some related genera (Diptera: Chironomidae). *Bulletin of the Fisheries Research Board of Canada* **195**: 1-287.

Sæther, O. A. (1977) [*5 May 1977] Female genitalia in Chironomidae and other Nematocera: morphology, phylogenies, keys. *Bulletin of the Fisheries Research Board of Canada* **197**: i-viii, 1-209.

Sæther, O. A. (1981) [15 September 1981] Orthocladiinae (Diptera: Chironomidae) from the British West Indies, with descriptions of *Antillocladius* n. gen., *Lipurometriocnemus* n. gen., *Compterosmittia* n. gen. and *Diplosmittia* n. gen. *Entomologica Scandinavica Supplement* **16**: 1-46.

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Sahni, B. (1944) [21 September 1944] The age of the Punjab Salt in the light of recent evidence. *Proceedings of the National Academy of Sciences, India, Allahabad* (Section B: Biological Sciences) **14**(1/2): 49-66. [Plates 8 and 9]. [*Chironomus primitivus*? earlier description – see Mani (1945)]

Saigusa, T. (2006) [27 September 2006] *Homology of wing venation of Diptera*. Privately printed by T. Saigusa, Fukuoka, Japan. 26pp. [This booklet was published by the author and distributed on the 27 September 2006 at the 6th International Congress of Dipterology held in Fukuoka, Japan.]

Säwedal, L. (1981) [15 July 1981] Amazonian Tanytarsini II. Description of *Caladomyia* n.gen. and eight new species (Diptera: Chironomidae). *Entomologica Scandinavica* **12**(2): 123-143.

Schlee, D. (1975) [30 June 1975] Das Problem der Podonominae-Monophylie; Fossiliendiagnose und Chironomidae-Phylogenetik (Diptera). *Entomologica Germanica* **1**(3/4): 316-351. [Correct Volume is Vol. 1] [Vol. 2 is incorrect] [Schlee (1975: 329) includes discussion on fossil chironomids.]

Schlee, D. (1990) [+31 December 1990] Das Bernstein-Kabinett. *Stuttgarter Beiträge zur Naturkunde* (*Serie C Allgemeinverständliche Aufsätze*) Number **28**: 1-100. **[**Schlee and Glöckner (1978, Fig. 11) and Schlee (1990, Fig. 61) include the same colour photograph showing an adult male chironomid in Baltic amber from which a parasitic Mermithid nematode has emerged.]

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Schlee, D. and Glöckner, W. (1978) [+31 December 1978] Bernstein. Bernsteine und Bernstein-Fossilien. *Stuttgarter Beiträge zur Naturkunde* (*Serie C Allgemeinverständliche Aufsätze*) Number **8**: 1-72. [No specific publication date - only year] [A colour photograph in Schlee and Glöckner (1978, Fig. 10) shows an adult female chironomid from Baltic amber with an attached parasitic water-mite.] [Schlee and Glöckner (1978, Fig. 11) and Schlee (1990, Fig. 61) include the same colour photograph showing an adult male chironomid in Baltic amber from which a parasitic Mermithid nematode has emerged.] [Schlee and Glöckner (1978, Figs 8 and 9) includes figures of a fossil adult male chironomid from Lebanese amber which is probably *Libanochlites neocomicus* Brundin.]

Schmidt, A. R., Jancke, S., Lindquist, E. E., Ragazzi, E., Roghi, G., Nascibene, P. C., Schmidt, K., Wappler, T. and Grimaldi, D. A. (2012) [11 September 2012] Arthropods in amber from the Triassic period. *Proceedings of the National Academy of Sciences of the United States of America* **109**(37): 14796-14801. [Undetermined. midge in Triassic Amber of Italy mentioned]

Scudder, S. H. (1877) [+30 April 1877] The insects of the Tertiary beds at Quesnel (British Columbia). *Reports of Progress, Geological Survey of Canada* **1875-1876**: 266-280.

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Scudder, S. H. (1878) [+31 December 1878] The fossil insects of the Green River Shales. *Bulletin of the United States Geological and Geographical Survey of the Territories* **4**(4): 747-776. [Only December 1878 specified on Contents page] [On p. 749 contains only one adult chironomid, 3 mm long, lacking wings and listed as "*Chironomus* sp."]

Scudder, S. H. (1881) [19 September 1881] Art. XI - The Tertiary lake basin at Florissant,

Colorado, between South and Hayden Parks. *Bulletin of the United States Geological and Geographical Survey of the Territories* **4**(2): 279-300.

Scudder, S. H. (1886) [?Publication Date] Systematic review of our present knowledge of fossil insects including myriapods and arachnids. *Bulletin of the United States Geological Survey* **5**: 1-113.

Scudder, S. H. (1890) [+31 December 1890 - After 16 May in Evenhuis] The Tertiary insects of North America. *Report of the United States Geological Survey of the Territories* **13**: 1-662.

Seredzus, F. and Wichard, W. (2003) [15 April 2003] Buchonomyiinae (Diptera, Chironomidae) im Baltischen Bernstein. *Studia Dipterologica* **9**(2): 393-402. [The 2nd issue for 2002, which includes the above paper, was not published until the 15 April 2003.]

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Shcherbakov, D. E., Lukashevich, E. D. and Blagoderov, V. A. (1995) [1 May 1995] Triassic Diptera and initial radiation of the order. *International Journal of Dipterological Research* **6**(2): 75-115.

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morphology. *Systematic Entomology* 1-20. [Online Version] [ZooBank gives published "2016" with no specified day or month. Therefore, the last day of the year (+31 December 2016) is treated as the actual publication date until proven otherwise.] Online Archives on ZooBank page for this reference gives "added: Jan 29 2016" - can this be regarded as the true publication date?? ZooBank also give volume 41 and a page range of 73-92 whereas the PDF only gives pages 1-20 and does not specify a volume number (but "41" are the last two digits in the doi at the bottom of the page [PA]).

Sinitsa, S. M. (1986) [Publication Date 1 April 1986 – This is the Podpisano k pechati date; +31 December 1986] Pozdnemezozoiskie Mestonakhozhdeniya organicheskikh ostatkov v zapadnoi Mongolii (Upper Mesozoic fossil localities in west Mongolia). Pp 7-44. *In* Nasekomye v Rannemelovykh ékosistemakh zapadnoi Mongolii (Insects in the early Cretaceous ecosystems of the west Mongolia). *Trudy Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditsiya* **28**: 1-214.

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Skidmore, R. E. (1999) [Publication Date] Checklist of Canadian amber inclusions in the Canadian National Collection of Insects. Research Branch Agriculture and Agri-Food Canada electronic publication. Available from: <http://www.biology.ualberta.ca/facilities/strickland/SKIDMORECNCCanadianAmberInclusions.pdf>

Skuse, F. A. A. (1889) [20 September 1889] Diptera of Australia. Part VI. - The Chironomidae. *Proceedings of the Linnaean Society of New South Wales* (2) **4**(1): 215-311.

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Sontag, E. (2003) [15 October 2003] Animal inclusions in a sample of unselected Baltic amber. *Acta Zoologica Cracoviensia* **46** (Supplement - Fossil Insects): 431-440.

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Spahr, U. (1985) [31 December 1985] Ergänzungen und Berichtigungen zu R. Keilbachs Bibliographie und Liste der Bernsteinfossilien - Ordnung Diptera. *Stuttgarter Beiträge zur Naturkunde* (*Serie B Geologie und Paläontologie*) **111**: 1-146.

Spärck, R. (1922) [4 May 1922] Beiträge zur Kenntnis der Chironomidenmetamorphose I-IV. *Entomologiske Meddelelser* **14**(1): 32-48.

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Statz, G. (1944) [1 January 1944] Neue Dipteren (Nematocera) aus dem Oberoligozän von Rott. I. Teil. VI. Familie: Tendipedidae (Zuck- oder Schwarmmücken). II. Teil. VII. Familie: Heleidae (Gnitzen). III. Teil. VIII. Familie: Lycoriidae (Trauermücken). *Palaeontographica* (A) **95**: 122-187.

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Sublette, J. E. (1967) [21 November 1967] Type specimens of Chironomidae (Diptera) in the Cornell University Collection. *Journal of the Kansas Entomological Society* **40**(4): 477-564.

Sublette, J. E. (1969) [+31 December 1969] Aquatic insects of the Rita Blanca Lake deposits. Pp 117-122. *In* Anderson, R. Y. and Kirkland, D. W. (eds) *Paleoecology of an Early Pleistocene lake on the high plains of Texas. Memoir of the Geological Society of America* **113**.

Sublette, J. E. and Wirth, W. W. (1972) [1 March 1972] New genera and species of West Indian Chironomidae (Diptera). *Florida Entomologist* **55**(1): 1-17.

Szadziewski, R. (1988) [15 March 1988] Biting midges (Diptera, Ceratopogonidae) from Baltic amber. *Polskie Pismo Entomologiczne* **57**(1): 1-283.

Szadziewski, R. (2008) [Publication Date] Age and recent distribution of extant genera of Ceratopogonidae (Diptera) present in the fossil record. *Alavesia* **2**: 87-99.

Szadziewski, R., Ross, A. and Giłka, W. (2014) [Publication Date Online 14 March 2014; Print Edition +31 January 2015] Further records of biting midges (Diptera: Ceratopogonidae) from Upper Cretaceous Burmese amber (Myanmar). *Cretaceous Research* **52**(B): 556-561. [RELEVANT for date of Burmese Amber.]

Szadziewski, R., Sontag, E. and Dominiak, P. (2018) [+24 April 2018] A new chironomid with

a long proboscis from Eocene Baltic Amber (Diptera: Chironomidae: Tanypodinae). *Annales Zoologici (Warszawa)* **68**(3): 601-608.

Szadziewski, R., Szwedo, J., Sontag, E. and Wang, B. (2016) [+30 April 2016] The oldest species of the relic extant genus *Mesochria* from Eocene Fushun amber of China (Diptera: Anisopodidae: Mycetobiinae). *Palaeontologia Electronica* **19.1.12A**: 1-11. [p. 3 date of Fushun Amber given as 51 - 55 Mya; p. 2 Sinotendipedidae belongs to Anisopodidae in Pape 2011; p. 4 "Fushun amber is naturally autoclaved as the amber-bearing coal deposits were affected by a massive intrusion of basic magmas in the Oligocene so that the amber was heated during diagenesis."]

Szwedo, J. and Sontag, R. (2013) [31 December 2013] The flies (Diptera) say that amber from the Gulf of Gdańsk, Bitterfeld and Rovno is the same Baltic amber. *Polskie Pismo Entomologiczne* **82**(4): 379-388.

Tang, H., Cheng, Q., Krosch, M. N. and Cranston, P. S. (2022) [17 August 2022] Maritime midge radiations in the Pacific Ocean (Diptera: Chironomidae). *Systematic Entomology* **48**(1): 111-126.

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†*Patrick J. Ashe, Declan A. Murray and James P. O'Connor*

l'Ouest de la France (Nouvelle Série) **17**(1): 3-8.

TAXONOMIC INDEX

Some taxa belonging to Diptera families other than Chironomidae are included in the index because several fossil taxa, originally or subsequently, were treated either as being (a) chironomids or (b) closely related to chironomids, or (c) having affinities with chironomids. In addition, some fossil genus-group and family-group names have been proposed based on the suffix *–tendipes* e.g. †*ARCHITENDIPES* ROHDENDORF, 1962 and †*ARCHITENDIPEDIDAE* ROHDENDORF, 1962 - among extant Diptera the suffix *–tendipes* has only ever been used in Chironomidae because it is based on the generic name *Tendipes* Meigen, 1800 (an unavailable senior synonym of *Chironomus* Meigen, 1803).

No Symbol = Extant Taxa

† (Dagger Symbol) = True Fossil Taxa

♣ (Club Symbol) = Copal Taxa, a modern tree resin, 0.0 - 0.0117 Ma

♠ (Spade Symbol) = Subfossil Taxa, 0.0 - 0.0117 Ma

? = Taxa of Questionnable placement

Page numbers are given in regular type (Main text), **bold** (Catalogue) and *italics* (Notes) e.g. †**almelanderi** ARNAUD, 1966, *Chironomus*: 27, **91**, *145*.

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†*fushunensis* HONG, 2002, *Longigastrula*, Nomina nuda - unavailable names in Chironomidae: **133**, *152*.
†*FUSHUNITENDIPEDINI* HONG, 2002, Nomina dubia in Chironomidae: **128**, *152*.
†**FUSHUNITENDIPES** HONG, 1981: 29, **109**, *152*.
FUSHUNITENSIPES: incorrect original spelling: **109**.
FUSHUNTENDIPES: incorrect original spelling: **109**.
†**fusiformis** KALUGINA, 1985, *Ulaimailoniella*: 32, **128**.
†**fusiformis** MEUNIER, 1904, *Tanypus*: 31, **121**.
†*fusiformis* MEUNIER, 1904, *Tanypus*: **121**.
†**gaudini** HEER, 1864, *Chironomus*: 27, **93**.
†**gavini** JARZEMBOWSKI, AZAR & NEL, 2008, *Dungeyella*: 10, **41**.
†**giardi** MUNIER-CHALMAS, 1901, *Potamoceroides*: 26, 30, **117**.
†**gilkai** ZAKRZEWSKA & JANKOWSKA, 2021, *Sempellinella*: 25, **82**.
†**glabrata** DOITTEAU & NEL, 2007, *Brundiniella*: 14, **49**.
†**glaesarius** GIŁKA & ZAKRZEWSKA, 2015, *Tanytarsus*: 25, **84**.
†**GLUSHKOVELLA** KALUGINA, 1993: 12, **43**, *153*.
†**gorchonensis** KALUGINA, 1985, *Tanypodites*: 31, **120**.
†*gracilicornis* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **133**.
†**gracilis** PING, 1928: 26, **90**.
†**grandaevum** WESTWOOD, 1854, *Cecidomium*: 36, 37, **144**.
†*gregaria*: sensu (HONG, 1982), *Manlayamyia*: **114**.
†*guchengziensis* HONG, 2002, *Noditendipes*, Nomina nuda - unavailable names in Chironomidae: **133**.
†**guglielmia** DOITTEAU & NEL, 2007, *Monodiamesa*: 19, **60**.
†**GUJARATOMYIA** GIŁKA & ZAKRZEWSKA, 2018: 22, 23, **77**.
†**GURVANOMYIA** KALUGINA, 1986: 29, **110**.
†**HAEMATOTANYPUS** AZAR, VELTZ & NEL, 2008: 7, 16, 17, **55**.
†*HAMICAUDINI* HONG, 2002, Nomina nuda - unavailable names in Chironomidae: **129**, *153*.
†*HAMICAUDUS* HONG, 2002, Nomina nuda - unavailable names in Chironomidae: **129**.
♣**haustus** MEUNIER, 1912, *Chironomus*: 35, **138**.
♣*haustus* MEUNIER, 1912, *Chironomus*: **138**.
†**helva** GIŁKA & ZAKRZEWSKA, 2015, *Eonandeva*: 23, **76**.
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†**HINTELMANIELLA** BARANOV & HAUG, 2022: 22, 23, **77**.
†**hoffeinsorum** GILKA, ZAKRZEWSKA & KRZEMIŃSKI, 2016, *Rheotanytarsus*: 24, **81**.

†**kamili** AZAR & NEL, 2010, *Ziadeus*: 15, **54**.
†**kangilica** KALUGINA, 1993, *Ulaia*: 32, **126**.
†**karatauensis** ROHDENDORF, 1964, *Pachyuronympha*: 30, **116**.
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†**kirklandi** SUBLETTE, 1969, *Chironomus*: 23, **75**.
†**kobeyssii** AZAR, VELTZ & NEL, 2008, *Cretaenne*: 9, **40**.
†*kodrulae* BARANOV, ANDERSEN & PERKOVSKY, 2014, *Pseudosmittia*: **70**.
†**kodrulae** BARANOV, ANDERSEN & PERKOVSKY, 2015, *Pseudosmittia*: 21, **70**.
KRENOSMITTIA THIENEMANN & KRÜGER, 1939: 20, **65**.
†**krzeminskii** GILKA, ZAKRZEWSKA, LUKASHEVICH, & CRANSTON, 2021 *Palaeocentron*: 22, 24, **79**, *153*.
†*labrosus* (HONG, 1981), *Asiatendipe*s: 26, **87**, *154*.
†**lacunus** MEUNIER, 1904, *Chironomus*: 27, **93**.
†*lacunus* MEUNIER, 1904, *Chironomus*: **93**.
†**lacus** MEUNIER, 1904, *Chironomus*: 27, **93**.
†*lacus* MEUNIER, 1904, *Chironomus*: **93**.
†*LACUSITENDIPES* HONG, 2002, Nomina nuda - unavailable names in Chironomidae: **130**.
†*LACUSITENDIPINI* HONG, 2002, Nomina nuda - unavailable names in Chironomidae: **129**, *154*.
†**lacustris** BARANOV & HAUG, 2022, *Rheotanytarsus*: 24, **81**.
†**lacustris** FRIČ, 1900, *Chironomites*, questionably placed in Chironomidae: 36, 37, **144**.
†**laiyangensis** (HONG & WANG, 1990), *Serendipa*, Serendipidae, non-Chironomidae: 37, **143**.
†*lanceatus* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **134**.
†**LANGTONIUS** LUKASHEVICH & PRZHIBORO, 2019: 7, 16, 17, **56**.
LAPPODIAMESA SERRA-TOSIO, 1969: 18, 19, **58**.
†**lasina** Ansorge, 1999, *Aenne*: 9, 10, **40**.
LASIODIAMESA KIEFFER, 1924: 12, **43**, *154*.
†*lateralis* FRIČ, 1900, Unavailable name in *Chironomites*: **90**.
†**latistyla** GIŁKA & ZAKRZEWSKA, 2015, *Eonandeva*: 23, **77**.
†**LATITENDIPES** HONG, 2002: 29, **112**.
†*latus* HONG, 2002, *Lacusitendipes*, Nomina nuda - unavailable names in Chironomidae: **134**.
†**LEBANORTHOCLADIUS** VELTZ, AZAR & NEL, 2007: 18, 21, **65**.
†*leptocerus* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **134**.
♣*leucomelas* GISTL, 1831, *Chironomus*, nomen dubium in Chironomidae: 35, 137, **138**, *154*.

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RHEOTANYTARSUS THIENEMANN & BAUSE, 1914: **80**.
†**rigor** KALUGINA, 1985, *Jurochlus*: 17, **55**.
†**robustus** LIN, 1976, *Liauningius*: 29, **113**, *159*.
?†**robustus** LUKASHEVICH & PRZHIBORO, 2011, *Podonomius*: 12, **46**.
†**robustus** MEUNIER, 1904, *Cricotopus*: 28, **106**.
†*robustus* MEUNIER, 1904, *Cricotopus*: **106**.
?†*rohdendorfi* HONG, *Gurvanomyia*: 29, **110**, *159*.
†**rostrata** MEUNIER, 1916, *Cricotopiella*: 28, **100**, *159*.
?†**rotundatus** KALUGINA, 1985, *Podonomius*: 12, **46**,
†**saetheri** BARANOV, GÓRAL & ROSS, 2017, *Furcobuchonomyia*: 10, **42**.
†**salomea** VELTZ, AZAR & NEL, 2007, *Cretapelopia*: 14, **50**.
†**saltuosus** MEUNIER, 1904, *Cricotopus*: 28, **106**.
†*saltuosus* MEUNIER, 1904, *Cricotopus*: **106**.
†**sampelayoi** GIL COLLADO, 1926, *Nomochirus*: 30, **115**.
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†*scopa* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **135**.
†*scopula* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **135**.
†**scudderiellus** COCKERELL, 1916, *Chironomus*: 27, **96**, *159*.
†*SENDELIA* DUISBERG, 1868: **118**, *159*.
†**SENDELIA** MEUNIER, 1899: 30, **117**.
†**seni** DOITTEAU & NEL, 2007, *Rheosmittia*: 21, **71**.
†**separata** DOITTEAU & NEL, 2007, *Paratendipes*: 24, **79**.
†*separatus* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **136**.
†**septus** SCUDDER, 1890, *Chironomus*: 27, **96**, *160*.
†**sepultus** HEER, 1849, *Chironomus*: 27, **96**.
†*sepultus* MELANDER, 1949, *Chironomus*: **96**.
♣*sepultus* MEUNIER, 1912, *Chironomus*: **138**.
♣*sepultus* MEUNIER, 1912, *Chironomus*: **138**.
†**serafini** GIŁKA, 2010, *Tanytarsus*: 25, **84**.
†**SERENDIPA** EVENHUIS, 1994, non-Chironomidae: 36, 37, **143**.

†sp.: GRUND, 2006, *Stenochironomus*: 25, **82**, *160*.
†sp.: GRUND, 2006, *Tanypus*: 15, **53**.
†sp.indet: JELL & DUNCAN, 1986, unidentified genus in Tanypodinae: **54**,
†sp.: JELL & DUNCAN, 1986, *Tanypodinae*: 15.
†sp.1: JELL & DUNCAN, 1986, unidentified genus in Tanypodinae: 15, **54**.
†sp.2: JELL & DUNCAN, 1986, unidentified genus in Tanypodinae: 15, **54**.
?†sp.: MARTINI, 2015, *Stempellina*: 24, **82**.
†sp. morphotype 1: VERA *et al*., 2023, uncertain genus in Orthocladiinae: **73**.
?† sp. morphotype 2: VERA *et al*., 2023, unidentified genus in Orthocladiinae: **73**.
†sp. morphotype 3.: VERA *et al.*, 2023, *Paraheptagyia*: 19, **59**.
†sp.: morphotype 4: VERA et al. (2023), Genus unknown: 15.
†sp.: morphotype 5: VERA *et al*. (2023), ?Diamesinae or ?Orthocladiinae: **128**.
†sp.: (PALMER, 1957), *Tanytarsus*: 31, **125**.
†sp.: POINAR, KRANTZ, BOUCOT & PIKE, 1997, *Metriocnemus*: 30, **114**.
†sp.: STATZ, 1944, *Orthocladius*: 30, **115**.
†sp.: VERA, MONFERRAN *et al*., 2023, morphotype 1, *Bothryocladius* or *Parapsectrocladius*: 22.
†sp.: VERA, MONFERRAN *et al*., 2023, morphotype 2, incertae sedis in *Orthocladiinae*: 22.
?†sp.: VERA *et al*., 2023, morphotype 4, unidentified genus in Tanypodinae: 15, **54**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Ablabesmyia*: 14, **49**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Brillia*: 20, **61**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Cladopelma*: 23, **75**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Cricotopus*: 20, **63**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Heterotrissocladius*: 20, **64**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Hydrosmittia*: 20, **65**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Limnophyes*: 20, **66**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Macropelopia*: 15, **51**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Metriocnemus*: 21, **66**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Orthocladius*: 21, **67**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Parachaetocladius*: 21, **67**.
†sp.: ZELENTSOV, BARANOV, PERKOVSKY & SHOBANOV, 2012, *Smittia*: 22, **71**.
†sp. 1: GILKA & ZAKRZEWSKA, 2020, *Tanytarsus*: 25, **85**.

†sp. 2: GILKA & ZAKRZEWSKA, 2020, *Tanytarsus*: 25, **85**.
†sp. 3: GILKA & ZAKRZEWSKA, 2020, *Tanytarsus*: 25, **85**.
†sp. 1: GRUND, 2006, *Stenochironomus*: **83**.
†sp. 1: GRUND, 2006, *Xestochironomus*: 25, **85**, *160*.
†sp. 2: GRUND, 2006, *Xestochironomus*: 25, **85**.
†sp. 3: GRUND, 2006, *Xestochironomus*: 25, **85**.
†sp. 4: GRUND, 2006, *Xestochironomus*: 25, **85**.
†sp.indet: JELL & DUNCAN, 1986, unidentified Genus, Tanypodinae: **54**.
SPANIOTOMA PHILIPPI, 1866: 30, **119**, *160*.
†*spectabilis* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **136**.
†**SPINITENDIPES** HONG, 2002: 31, **120**.
†**SPINORTHOCLADIUS** DOITTEAU & NEL, 2007: 18, 22, **72**.
†**splendidus** KALUGINA, 1985, *Podonomius*: 13, **47**.
†**stagnum** MEUNIER, 1904, *Eurycnemus*: 29, **108**.
†*stagnum* MEUNIER, 1904, *Eurycnemus*: **108**.
†**stebneri** GILKA & ZAKREZEWSKA, 2020, *Stempellina*: 24, **81**.
STEMPELLININA SHILOVA, 1976: **74**, *161*.
STEMPELLINA THIENEMANN & BAUSE, 1913: 24, **81**, *160*.
STEMPELLINA THIENEMANN & BAUSE, 1914: **81**.
STEMPELLINELLA BRUNDIN, 1947: 25, **82**.
STENOCHIRONOMUS KIEFFER, 1919: 25, **83**, *161*.
†**stenopteres** (HONG, 1981), *Sinaspinus*: 30, **119**.
†**stygialis** KALUGINA, 1985, *Tophocladius*: 31, **126**.
†*stylatus* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **136**.
†*styliger* KEILBACH, 1982, *Chironomus*, Nomina nuda - unavailable names in Chironomidae: **136**.
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?Subgenus PROCLADIUS: **52**.
†**subobscurus** MEUNIER, 1904, *Chironomus*: 27, **97**.
†*subobscurus* MEUNIER, 1904, *Chironomus*: **97**.
†**subrotundatus** MEUNIER, 1904, *Tanypus*: 31, **123**.
†*subrotundatus* MEUNIER, 1904, *Tanypus*: **123**.
†*SUCCINASPINUS* HONG, 2002: **86**.

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