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urn:lsid:zoobank.org:pub:16A98DD0-D7C4-4302-A3B7-64C57768A045

A revised classification of the jumping plant-lice (Hemiptera: Psylloidea)

DANIEL BURCKHARDT¹ & DAVID OUVRARD²

¹Naturhistorisches Museum, Augustinergasse 2, CH-4001 Basel, Switzerland. E-mail: daniel.burckhardt@bs.ch

²Department of Life Sciences, The Natural History Museum, Cromwell Road, London SW7 5BD, UK. E-mail: d.ouvrard@nhm.ac.uk

Abstract

A revised classification for the world jumping plant-lice (Hemiptera: Psylloidea) is presented comprising all published family and genus-group names. The new classification consists of eight families: Aphalaridae, Carsidaridae, Calophytidae, Homotomidae, Liviidae, Phacopteronidae, Psyllidae and Triozidae. The Aphalaridae, Liviidae and Psyllidae are redefined, 20 family-group names as well as 28 genus-group names are synonymised, and one replacement name is proposed [*Sureaca nomen nov.*, for *Acaerus* Loginova, 1976]. Forty two new species combinations are proposed resulting from new genus-group synonymies and a replacement name. One subfamily and three genera are considered taxa incertae sedis, and one genus a nomen dubium. Finally eight unavailable names are listed (one family-group and seven genus-group names).

Key words: Psyllids, classification, diagnosis, systematics, taxonomy, new taxa, synonymy.

Introduction

Jumping plant-lice have lately shifted into general awareness as vectors of serious plant diseases, as economically important pests in agriculture and forestry and as potential control organisms of exotic invasive plants. *Diaphorina citri* Kuwayama which transmits the causal agent of huanglongbing (HLB, greening disease) is considered today the most serious citrus pest in Asia and America (Bonani *et al.*, 2009; de Leon *et al.*, 2011; Tiwari *et al.*, 2011). In Europe and North America some of the Phytoplasma transmitting *Cacopsylla* species are economically important in apple, pear and stone fruit orchards. In South America, and in Brazil in particular, eucalypts, which are planted on a rapidly increasing surface, are seriously damaged by introduced psyllids (Bouvet & Burckhardt, 2008; de Queiroz Santana & Burckhardt, 2007). On the other hand the Australian *Boreioglycaspis melaleucae* Moore has recently been successfully used to control the aggressive *Melaleuca quinquinervis* (Myrtaceae) in the Everglades in Florida (Morath *et al.*, 2006; Taylor *et al.*, 2010). Other psyllid species are considered for the control of invasive weeds in Europe, North America, Australia and on several Pacific Islands (Burckhardt *et al.*, 2011; Olckers, 2011; Syrett *et al.*, 2007; Taylor *et al.*, 2010; Vitorino *et al.*, 2011; Wheeler & Hoebeke, 2009).

The last three decades have also seen an impressive amount of taxonomic publications more or less doubling the number of described species to around 3850 (Li, 2011). Information on the described species can be found in the printed catalogues of Klimaszewski (1973), Hodkinson and White (1981), Hodkinson (1983, 1986b, 1988), Gegechkori and Loginova (1990) and Hollis (2004) which are now updated and supplemented by the electronic catalogues of Burckhardt (2011) (Fauna Europaea) and Ouvrard (2012) (world fauna). The last comprehensive psyllid classification is based on a cladistic and phenetic study of larval and adult morphological characters of the world fauna by White and Hodkinson (1985) who also described in detail the history of psyllid classifications and phylogenetic research. Several recent morphology based studies have tested, modified and expanded their classification (e.g. Hollis, 1985, 1987;

Burckhardt, 1987a, 1991; Hollis & Broomfield, 1989; Burckhardt & Lauterer, 1989, 1997a, 1997b; Klimaszewski, 1993b, 2001; Hollis & Martin, 1997; Burckhardt & Basset, 2000; Burckhardt & Mifsud, 2003; Li, 2011). Some of the resulting classifications differ quite substantially from each other. A few molecular studies (Thao *et al.*, 2000; Ouvrard, 2002; Percy, 2003b; Ouvrard & Burckhardt, 2008) provide additional support for particular groupings. At the moment it is difficult to get a clear picture of the current state of knowledge on the psylloid phylogeny and there is a growing demand from users for an up-dated general classification of the world fauna of Psylloidea.

Only classifications reflecting phylogenetic relationships are scientific (in the sense of being testable and refutable) and hence useful as a general reference system of extant and extinct organisms (Hennig, 1950; Nelson & Platnick, 1981; Schuh, 2000). Here we attempt, as accurately as possible, to incorporate current knowledge on psylloid phylogeny into a general classification consisting of monophyletic groups incorporating relevant literature as well as unpublished ongoing morphological and molecular studies of the world fauna (Burckhardt & Ouvrard, unpublished). A schematic representation of the classification proposed here including all recognised families and subfamilies of Psylloidea is given in Fig. 1.

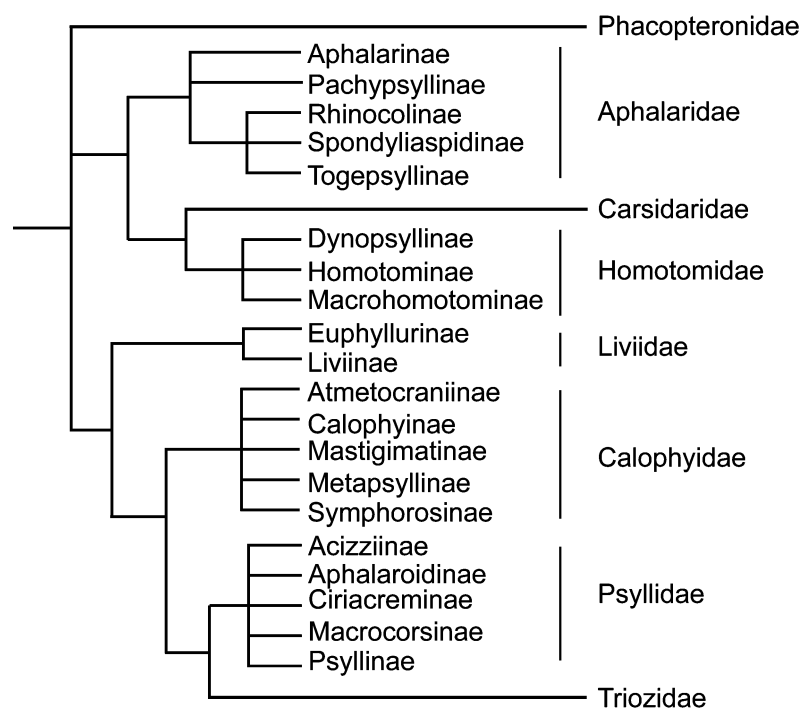


FIGURE 1. A schematic representation of the classification proposed including all recognised families and subfamilies of Psylloidea.

This classification presented here is based on mostly published morphology based revisions (e.g. Burckhardt, 1987a, 1991, 2005; Burckhardt & Basset, 2000; Burckhardt & Lauterer, 1989, 1997a, 1997b; Burckhardt & Mifsud, 2003; Hollis, 1985, 1987; Hollis & Broomfield, 1989; Hollis & Martin, 1997) and mainly unpublished molecular work by DO.

Six of the families defined by White and Hodkinson (1985) correspond, to a large extent, to the respective taxa presented here (Table 1). Only their Aphalaridae and Spondyliaspidae are polyphyletic as has been suggested previously (e.g. Burckhardt, 1987a, 1991). Li's (2011) classification, in contrast, differs substantially from ours (Table 2). Four of six of his superfamilies are polyphyletic, the Hemipteripsylloidea contains two genera (*Hemipteripsylla*, *Togepsylla*) which we consider to be synonyms and the Triozoidea corresponds to the Triozidae as defined by Hollis (1984), White and Hodkinson (1985) and the present work.

TABLE 1. Comparison between the classifications of White & Hodkinson (1985: Table 17) and the one presented here.

White & Hodkinson	Burckhardt & Ouvrard
APHALARIDAE	
Togepssyllinae	Aphalaridae, Togepssyllinae
Strophingiinae	Liviidae, Euphyllurinae, Strophingiini
Liviinae	Liviidae, Liviinae
Aphalarinae	
Phytolymini	Homotomidae, Macrohomotominae, Phytolymini
Gyropsyllini	Aphalaridae, Aphalarinae, Gyropsyllini
Colposceniini	Aphalaridae, Aphalarinae, Colposceniini
Aphalarini	Aphalaridae, Aphalarinae, Aphalarini
Caillardiini	Aphalaridae, Aphalarinae, Caillardiini
Xenaphalarini	Aphalaridae, Aphalarinae, Xenaphalarini
Rhinocolinae	
Rhinocolini	Aphalaridae, Rhinocolinae; <i>Aphorma</i> = Liviidae, Liviinae
Pachypsyllidini	Liviidae, Euphyllurinae, Pachypsyllidini
Paurocephalinae	Liviidae, Liviinae
Euphyllurinae	
Diclidophlebiini	Liviidae, Liviinae
Euphyllurini	Liviidae, Euphyllurinae, Euphyllurini; <i>Katacephala</i> = Liviidae, Euphyllurinae, Diaphorinini; <i>Syntomoza</i> = Liviidae, Liviinae
Ctenarytainini	Aphalaridae, Spondyliaspidae
Diaphorininae	Liviidae, Euphyllurinae, Diaphorinini
Diaphorinini	
Psylloseini	
Aphalaroidinae	Psyllidae, Aphalaroidinae
SPONDYLIASPIDIDAE	
Arepuninae	Psyllidae, Aphalaroidinae
Euphalerinae	Psyllidae, Macrocorsinae; <i>Pachyparia</i> = Psyllidae, Aphalaroidinae; <i>Phellopsylla</i> , <i>Cometopsylla</i> = Aphalaridae, Spondyliaspidae
Pachypsyllinae	Aphalaridae, Pachypsyllinae
Spondyliaspidae	Aphalaridae, Spondyliaspidae
PSYLLIDAE	
Acizziinae	
Acizziini	Psyllidae, Acizziinae; <i>Trigonon</i> , <i>Mitrapsylla</i> = Psyllidae, Ciriacreminae; <i>Platycorypha</i> , <i>Neopsyllia</i> = Psyllidae, Psyllinae; <i>Freysuila</i> = Psyllidae, Aphalaroidinae
Macrocorsini	Psyllidae, Macrocorsinae; <i>Auchmerina</i> = Psyllidae, Ciriacreminae; <i>Caradocia</i> , <i>Geijerolyma</i> = Liviidae, Euphyllurinae, Diaphorininae
Anomoneurinae	

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TABLE 1. (Continued)

White & Hodkinson	Burckhardt & Ouvrard
Anomoneurini	Psyllidae, Psyllinae; <i>Epipsylla</i> = Liviidae, Euphyllurinae, Diaphorininae
?Cyamophilini	Psyllidae, Psyllinae
Ciriacreminae	Psyllidae, Ciriacreminae; <i>Delina</i> , <i>Panisopelma</i> , <i>Russelliana</i> = Psyllidae, Aphalaroidinae
Ciriacremini	
Arytaininae	Psyllidae, Psyllinae
Psyllinae	Psyllidae, Psyllinae
CALOPHYIDAE	
Apsyllinae	Aphalaridae, Rhinocolinae
Calophyinae	Calophyidae, Calophyinae
PHACOPTERONIDAE	
Bharatianinae	Calophyidae, Mastigimatinae
Phacopteroninae	Phacopteronidae, <i>Epicarsa</i> = Carsidaridae
HOMOTOMIDAE	
Homotominae	Homotomidae, Homotominae
Mycopsyllinae	Homotomidae, Macrohomotominae, Edenini
Macrohomotominae	Homotomidae, Macrohomotominae, Macrohomotomini
Macrohomotomini	
CARSIDARIDAE	
Mastigimatinae	Calophyidae, Mastigimatinae
Carsidarinae	Carsidaridae
Tenaphalarini	
Carsidarini	
TRIOZIDAE	
Neolithinae	Triozidae
Triozamiinae	Homotomidae, Dynopsyllinae, Dynopsyllini
Triozinae	Triozidae
Triozini	
Pauropsyllini	

TABLE 2. Comparison between the classifications of Li (2011: Table 4) and the one presented here.

Li	Burckhardt & Ouvrard
Section Scissilis	
HEMIPTERIPSYLLOIDEA	Aphalaridae, Togeipsyllinae
Hemipteripsyllidae	
Hemipteripsyllinae	
APHALAROIDEA	
Paurocephalidae	
Paurocephalinae	Liviidae, Liviinae
Pseudophacopteroninae	Phacopteronidae
Liviidae	Liviidae, Liviinae
Aphalaridae	
Aphalarinae	
Colposcenini (sic)	Aphalaridae, Aphalarinae, Colposceniini
Aphalarini	Aphalaridae, Aphalarinae, Aphalarini
Coeloclarinae	
Coeloclarini	Aphalaridae, Aphalarinae, Gyropsyllini
Xenaphalarini	Aphalaridae, Aphalarinae, Xenaphalarini
Caillardinae (sic)	Aphalaridae, Aphalarinae, Caillardiini; <i>Microphyllura</i> (sic) = Liviidae, Euphyllurinae, Diaphorinini
Eumetoecini	
Caillardini (sic)	
Euphylluridae	
Sinuonemopsyllinae	Liviidae, Liviinae; <i>Leprostictopsylla</i> = Liviidae, Euphyllurinae, Euphyllurini
Sinuonemopsyllini	
Bharatianinae	Calophyidae, Mastigimatinae
Bharatianini	
Camarotosceninae	Liviidae, Liviinae
Camarotoscenini	
Diceraopsyllinae	Homotomidae, Dinopsyllinae, Diceraopsyllini
Diceraopsyllini	
Rhinocolinae	Aphalaridae, Rhinocolinae
Rhinocolini	
Pachyipsylloidini	Liviidae, Euphyllurinae, Pachyipsylloidini
Euphyllurinae	Liviidae, Euphyllurinae, Diaphorinini; <i>Paraphyllura</i> = Psyllidae, Macrocorsinae; <i>Syntomoza</i> = Liviidae, Liviinae
Euphyllurini	
PSYLLOIDEA	
Calophyidae	

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TABLE 2. (Continued)

Li	Burckhardt & Ouvrard
Symphorosinae	Calophyidae, Symphorosinae
Metapsyllinae	Calophyidae, Metapsyllinae
Calophyinae	Calophyidae, Calophyinae
Spondyliaspidae	Aphalaridae, Spondyliaspidae; <i>Synpsylla</i> = Calophyidae, Mastigmatinae
Euphaleridae	
Euphalerinae	Psyllidae, Macrocorsinae; <i>Mecistoneura</i> = Psyllidae, Psyllinae; <i>Yangus</i> = Psyllidae, Aphalaroidinae
Diaphorininae	Liviidae, Euphyllurinae, Diaphorinini; <i>Euryopsylla</i> = Aphalaridae, Spondyliaspidae
Cornopsyllinae	Liviidae, Euphyllurinae, Pachypsyloidiini; <i>Trisetipsylla</i> = Psyllidae, Psyllinae; <i>Epiacizzia</i> = Psyllidae, Macrocorsinae
Psyllidae	
Anomoneurinae	Psyllidae, Psyllinae
Anomoneurini	
Psyllinae	Psyllidae, Psyllinae; <i>Pugionipsylla</i> = Psyllidae, Macrocorsinae
Acizzinae (sic)	Psyllidae, Acizziinae
Ciriacreminae	Psyllidae, Ciriacreminae; <i>Gelonopsylla</i> = Psyllidae, Psyllinae
Cyamophilinae	
Cyamophilini	Psyllidae, Psyllinae; <i>Auchmerina</i> (misinterpretation of <i>Insnesia</i>) = Psyllidae, Ciriacreminae
Cacopsyllinae	Psyllidae, Psyllinae; <i>Tridentipsylla</i> (misspelling of <i>Tridencopsylla</i>) = Psyllidae, Macrocorsinae
HOMOTOMIDEA	
Phacopteronidae	
Phacopteroinae (sic)	Phacopteronidae
Homotomidae	
Homotominae	Homotomidae, Homotominae, Homotomini
Homotomini	
Section Escissilis	
CARSIDAROIDEA	
Strogylocephalidae	Calophyidae, Calophyinae
Macrohomotomidae	
Macrohomotominae	
Macrohomotomini	Homotomidae, Macrohomotominae, Macrohomotomini
Dynopsyllinae	
Dynopsyllini	Homotomidae, Dynopsyllinae, Dynopsyllini
Cecidopsyllidae	Calophyidae, Mastigmatinae

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TABLE 2. (Continued)

Li	Burckhardt & Ouvrard
Carsidaridae	Carsidaridae
Tenaphalarinae	
Tenaphalarini	
Carsidarinae	
Carsidarini	
TRIOZOIDEA	Triozidae
Carsitriidae	
Leptynopteridae	
Neotrioziidae	
Trioziidae	
Trioziinae	
Triozopsinae	
Asiotrioziinae	
Metatriozidinae	
Bactericerinae	

Material and methods

The classification proposed here includes all published family and genus-group names of extant and fossil Psylloidea as defined by Ouvrard *et al.* (2010). Psylloidea are regarded here as consisting of one superfamily comprising extant and Cenozoic taxa. The families Liadopsyllidae and Malmopsyllidae are not considered here. The classification contains families, subfamilies and tribes but no subtribes. For each family-group name the author, year of publication and original rank is cited. No attempt is made to list all citations and ranks published in the literature. Also misspellings are not listed systematically. The complete taxonomic literature and all citations as well as the history of names can be found on the Psyl'list website (Ouvrard, 2012). Synonyms, including new ones, of family-group names are listed under the respective valid name. For each valid family, subfamily or tribe we provide a diagnosis or refer to a literature source and, where necessary and available, discuss briefly the current state of knowledge on internal relationships, and add comments.

All valid genus-group names are listed with author and year as well as type-species and designation. Synonyms, including new ones, are listed in parentheses after the valid genus name without authors nor dates (information available on the Psyl'list website).

Additional lists are provided for taxa incertae sedis, nomina dubia, unavailable names, new species combinations and new genus-group synonymies.

The arrangement of taxa is in alphabetical order.

The phylogenetic considerations (Fig. 1) for the present classification are based on mostly unpublished molecular work by DO and on morphology based studies by DB of a vast material housed in the four major world psyllid collections (Natural History Museum, London; Naturhistorisches Museum, Basel; Muséum d'histoire naturelle, Genève; National Museum of Natural History, Washington, DC) and many additional smaller collections with more local focus (e.g. Zoological Museum, St. Petersburg; Agricultural University, Beijing; Australian National Insect Collection, Canberra; New Zealand Arthropod Collection, Auckland; Muséum National d'Histoire Naturelle, Paris; Moravian Museum, Brno; Zoologisches Museum der Humboldt Universität, Berlin). Representatives of virtually all described psyllid genera, including types of taxa described from amber inclusions, and a bulk of undescribed material were examined.

Psyloidea

Psyllidae Latreille, 1807: 168.

Aphalaridae, sensu novo

Aphalarinae Löw, 1879: 606.

Diagnosis: Adult metatibia with an open crown of sclerotised apical spurs (sometimes grouped). Larva without or with lobed tarsal arolium lacking unguitactor.

Internal phylogeny: The Aphalaridae contains five probably monophyletic subfamilies. Adult Rhinocolinae, Spondyliaspidae and Togeapsyllinae lack a horn-shaped meracanthus, which is usually tubercular but sometimes knob-like. This may constitute a synapomorphy grouping the three subfamilies. In Aphalarinae and Pachyapsyllinae the meracanthus is well-developed and horn-shaped.

Aphalarinae

Aphalarinae Löw, 1879: 606.

Diagnosis: Loginova (1964b), Brown and Hodkinson (1988).

Internal relationships: Five tribes are recognised (White & Hodkinson, 1985) which, however, have not been phylogenetically analysed. Their monophyly is therefore questionable. Bekker-Migdisova (1985) added a sixth tribe based on fossils.

Comments: Loginova (1964b) introduced a formalised phenetic classification consisting of four tribes. White and Hodkinson (1985) adopted this classification adding the Phytolymini and Gyropsyllini, and Bekker-Migdisova (1985) erected the extinct Paleopsylloidini. The Phytolymini was subsequently transferred to the Homotomidae (Ouvrard, 2002). Klimaszewski (1987) proposed, based on the analysis of 10 morphological characters, a slightly different classification which was reevaluated and rejected by Burckhardt and Lauterer (1997a). The monophyly of Aphalarinae in its current definition is likely but not that of its constituent tribes.

Aphalarini

Aphalarini Löw, 1879: 606.

Diagnosis: Loginova (1964b).

Aphalara Foerster, 1848: 67; type-species: *Aphalara polygoni* Foerster, 1848, by subsequent designation of Crawford (1911); (= *Pseudaphorma*, *Rumicita*).

Brachystetha Loginova, 1964: 452; type-species: *Brachystetha nitrariae* Loginova, 1964, by original designation.

Craspedolepta Enderlein, 1921: 118; type-species: *Aphalara artemisiae* Foerster, 1848, by original designation; (= *Aphalara* (*Anomocera*), *Aphalara* (*Magnaphalara*), *Cerna*, *Neocraspedolepta*, *Paracraspedolepta* **syn. nov.**, *Tetrafollicula*, *Xanioptera*, *Xanioptera* (Loginova)).

Epheloscyta Loginova, 1976: 11; type-species: *Epheloscyta kalopanacis* Loginova, 1976, by original designation.

Hodkinsonia Burckhardt *et al.*, 2004: 2059; type-species: *Burckhardtia montana* Brown & Hodkinson, 1988, by original designation and monotypy; (= replacement name for *Burckhardtia* Brown & Hodkinson nec Frech).

Neaphalara Brown & Hodkinson, 1988: 33; type-species: *Neaphalara fortuneae* Brown & Hodkinson, 1988, by original designation and monotypy.

Caillardiini

Caillardiini Loginova, 1964: 447.

Eumetoecini Li, 2011: 356; **syn. nov.**

Diagnosis: Loginova (1964b).

Caillardia de Bergevin, 1931: 418; type-species: *Caillardia haloxylis* de Bergevin, 1931, by original designation.

Eumetoecus Loginova, 1961: 620; type-species: *Aphalara kochiae* Horvath, 1897, by original designation and by monotypy.

Rhodochlanis Loginova, 1964: 457; type-species: *Psyllodes halimocnemis* Becker, 1864, by original designation.

Rhombaphalara Loginova 1964: 456; type-species: *Rhombaphalara halocnemi* Loginova, 1964, by original designation and monotypy.

Colposceniini

Colposceniini Bekker-Migdisova, 1973: 109.

Stigmaphalarini Vondráček, 1957: 140; nomen nudum, no included genera, recognised by Loginova, 1974: 150.

Diagnosis: Loginova (1964b).

Colposcena Enderlein, 1929: 106; type-species: *Aphalara aliena* Löw, 1881, by original designation; (= *Phanerostigma*, *Stigmaphalara*, *Parascenia*† **syn. nov.**).

Crastina Loginova, 1964: 454; type-species: *Crastina myricariae* Loginova, 1964, by original designation; (= *Crastina* (*Eustigmatia*) **syn. nov.**)

Lanthanaphalara Tuthill, 1959: 13; type-species: *Lanthanaphalara mira* Tuthill, 1959, by original designation and monotypy.

Necropsylla† Scudder, 1890: 276; type-species: *Necropsylla rigida*† Scudder, 1890, by original designation.

Gyropsyllini

Gyropsyllini White & Hodkinson, 1985: 270.

Coelocarinae Li, 2011: 351; **syn. nov.**

Diagnosis: White and Hodkinson (1985), Brown and Hodkinson (1988), Hodkinson (1992a).

Gyropsylla Brèthes, 1921: 87; type-species: *Paurocephala spegazziniana* Lizer, 1919, by original designation and monotypy; (= *Metaphalara*, *Coelocara sensu* Li nec Tuthill **syn. nov.**).

Limataphalara Hodkinson, 1992: 84; type-species: *Limataphalara brevicephala* Hodkinson, 1992, by original designation and monotypy.

Eogyropsylla† Klimaszewski, 1993: 11; type-species: *Eogyropsylla eocenica*† Klimaszewski, 1993, by original designation.

Paleopsylloidini†

Paleopsylloidini† Bekker-Migdisova, 1985: 81.

Diagnosis: Bekker-Migdisova (1985).

Paleopsylloides† Bekker-Migdisova, 1985: 82; type-species: *Strophingia oligocaenica*† Enderlein, 1915, by original designation and monotypy.

Xenaphalarini

Xenaphalarini Loginova, 1964: 447.

Diagnosis: Loginova (1964b).

Eurotica Loginova, 1962: 217; type-species: *Aphalara distincta* Loginova, 1960, by original designation.

Proeurotica† Bekker-Migdisova, 1985: 82; type-species: *Psylla exhumata*† Cockerell, 1915, by original designation and monotypy.

Xenaphalara Loginova, 1961: 618; type-species: *Aphalara signata* Löw, 1881, by original designation and monotypy.

Pachyphyllinae

Pachyphyllini Crawford, 1914: 106.

Diagnosis: Tuthill (1943b), White and Hodkinson (1985).

Celtiaspis Yang & Li, 1982: 183, 197; type-species: *Celtiaspis sinica* Yang & Li, 1982, by original designation.

Pachyphylla Riley, 1885: 71; type-species: *Psylla venusta* Osten-Sacken, 1861, by subsequent designation of Crawford (1914); (= *Pachyphylla* (*Blastophysa*))

Tetragonocephala Crawford, 1914: 107; type-species: *Tetragonocephala flava* Crawford, 1914, by original designation and monotypy.

Rhinocolinae

Rhinocolinae Vondráček, 1957: 137.

Anomalopsyllinae Vondráček, 1963: 263.

Apsyllini Bekker-Migdisova, 1973: 107, synonymised by Ouvrard *et al.* (2010): 176, by inference.

Diagnosis: Burckhardt and Lauterer (1989), Burckhardt and Basset (2000), Ouvrard *et al.* (2010).

Internal relationships: The phylogenetic relationships of the constituent genera were analysed by Burckhardt and Lauterer (1989) and Burckhardt and Basset (2000).

Agonoscena Enderlein, 1914: 234; type-species: *Psylla (Aphalara) targionii* Lichtenstein, 1874, by original designation.

Ameroscena Burckhardt & Lauterer, 1989: 684; type-species: *Ameroscena mexicana* Burckhardt & Lauterer, 1989 by original designation and monotypy.

Anomalopsylla Tuthill, 1952: 124; type-species: *Anomalopsylla insignita* Tuthill, 1952, by original designation and monotypy.

Apsylla Crawford, 1912: 421; type-species: *Psylla cistellata* Buckton, 1896, by original designation and monotypy.

Cerationotum Burckhardt & Lauterer, 1989: 698; type-species: *Cerationotum martini* Burckhardt & Lauterer, 1989 by original designation.

Crucianus Burckhardt & Lauterer, 1989: 685; type-species: *Crucianus pentaspadi* Burckhardt & Lauterer, 1989, by original designation.

Leurolophus Tuthill, 1942: 92; type-species: *Leurolophus vittatus* Tuthill, 1942, by original designation and monotypy; (= *Vicinilura*† **syn. nov.**).

Lisronia Loginova, 1976: 6; type-species: *Lisronia echidna* Loginova, 1976, by original designation and monotypy; (= *Rhachistoneura*)

Megagonoscena Burckhardt & Lauterer, 1989: 700; type-species: *Megagonoscena gallicola* Burckhardt & Lauterer, 1989, by original designation.

Moraniella Loginova, 1972: 848; type-species: *Paurocephala calodendri* Moran, 1968, by original designation and monotypy.

Notophyllura Hodkinson, 1986: 143; type-species: *Notophyllura cataphracta* Hodkinson, 1986, by original designation.

Protoscena† Klimaszewski, 1997: 70; type-species: *Protoscena baltica*† Klimaszewski, 1997, by original designation and monotypy.

Rhinocola Foerster, 1848: 91; type-species: *Chermes aceris* Linnaeus, 1758 by subsequent designation of Oshanin (1912).

Rhusaphalara Park & Lee, 1982: 15; type-species: *Rhusaphalara minimia* Park & Lee, 1982, by original designation and monotypy; (= *Koreaphalara*).

Tainarys Brèthes, 1920: 133; type-species: *Tainarys schini* Brèthes, 1920, by monotypy.

Spondyliaspidae

Spondyliaspidae Schwarz, 1898: 70.

Livillinae Scott, 1882: 462; unavailable, stem genus not included.

Ctenarytainini White & Hodkinson, 1985: 271.

Diagnosis: Burckhardt (1991).

Internal relationships: The intergeneric relationships are unknown. Burckhardt (1991) suggested that the tribe Ctenarytainini sensu White and Hodkinson (1985) and Taylor (1990) is probably not monophyletic.

Agelaeopsylla Taylor, 1990: 98; type-species: *Agelaeopsylla dividua* Taylor, 1990, by original designation.

Anoeconeossa Taylor, 1987: 105; type-species: *Aphalara fuscipennis* Froggatt, 1901, by original designation.

Australopsylla Tuthill & Taylor, 1955: 236; type-species: *Rhinocola revoluta* Froggatt, 1900, by original designation.

Blastopsylla Taylor, 1985: 17; type-species: *Blastopsylla moorei* Taylor, 1985, by original designation.

Blepharocosta Taylor, 1992: 132; type-species: *Rhinocola marmorata* Froggatt, 1900, by original designation.

Boreioglycaspis Moore, 1964: 221; type-species: *Glycaspis (Boreioglycaspis) melaleucae* Moore, 1964, by original designation.

Cardiaspina Crawford, 1911: 632; type-species: *Cardiaspis artifex* Schwarz, 1898, by original designation; (= *Cardiaspis*, *Pennapsylla* nomen nudum).

Creiis Scott, 1882: 462; type-species: *Livia longipennis* Walker, 1852, by monotypy.

Cryptoneossa Taylor, 1990: 106; type-species: *Cryptoneossa vulgaris* Taylor, 1990, by original designation.

Ctenarytaina Ferris & Klyver, 1932: 54; type-species: *Rhinocola fuchsiae* Maskell, 1890, by original designation; (= *Bosellius*, *Euryopsylla* **syn. nov.**, *Loginoviana* nomen nudum, *Papiana*).

Dasypsylla Froggatt, 1900: 293; type-species: *Dasypsylla brunnea* Froggatt, 1900, by original designation and monotypy; (= *Callistohermes*).

Eriopsylla Froggatt, 1901: 266; type-species: *Eriopsylla viridis* Froggatt, 1901, by original designation.

Eucalyptolyma Froggatt, 1901: 262; type-species: *Eucalyptolyma maideni* Froggatt, 1901, by original designation.

Eurhinocola Crawford, 1912: 422; type-species: *Eurhinocola gravelyi* Crawford, 1912, by original designation and monotypy.

Glycaspis Taylor, 1960: 384; type-species: *Aphalara flavilabris* Froggatt, 1903, by original designation.

Hyalinaspis Taylor, 1960: 387; type-species: *Cardiaspis rubra* Froggatt, 1903, by original designation.

Kenmooreana Taylor, 1984: 13; type-species: *Kenmooreana eudesmiae* Taylor, 1984, by original designation.

Lasiopsylla Froggatt, 1900: 261; type-species: *Lasiopsylla rotundipennis* Froggatt, 1900, by subsequent designation of Tuthill & Taylor (1955); (= *Uhleria*).

Leptospermonastes Taylor, 1987: 125; type-species: *Aphalara leptospermi* Froggatt, 1903, by original designation.

Phellopsylla Taylor, 1960: 388; type-species: *Psylla trigutta* Walker, 1858, by monotypy; (= replacement name for *Thea*).

Phyllolyma Scott, 1882: 456; type-species: *Psylla fracticosta* Walker, 1858, by monotypy; (= *Cometopsylla*).

Platyobria Taylor, 1987: 253; type-species: *Platyobria lewisi* Taylor, 1987, by original designation.

Spondylaspis Signoret, 1879: 85; type-species: *Spondylaspis bancrofti* Signoret, 1879, by subsequent designation of Taylor (1960) (= *Scenitopsylla*, *Spondytora* **syn. nov.**).

Syncarpiolyma Froggatt, 1901: 269; type-species: *Syncarpiolyma maculata* Froggatt, 1901, by original designation and monotypy.

Togepysyllinae

Togepysyllinae Bekker-Migdosova, 1973: 99.

Hemipteripsyllinae Yang & Li, 1981: 186.

Diagnosis: Brown and Hodkinson (1988), Hodkinson (1990).

Syncoptozus Enderlein, 1918: 344; type-species: *Syncoptozus maculipennis* Enderlein, 1918, by monotypy.

Togepysylla Kuwayama, 1931: 121; type-species: *Togepysylla takahashii* Kuwayama, 1931, by original designation and monotypy; (= *Hemipteripsylla*, *Tingidiforma* nomen nudum).

Calophyidae

Calophyidae Vondráček, 1957: 172.

Diagnosis: Not diagnosable in its present composition (Hollis, 1987; Burckhardt & Basset, 2000; Burckhardt & Mifsud, 2003).

Internal relationships: The Calophyidae comprises five probably monophyletic subfamilies.

Comments: Autapomorphies, morphological or molecular, supporting the monophyly of the Calophyidae have yet to be found. The monophyly of each of its five constituent subfamilies is, however, likely. Based on the metatibia with an internal comb of apical spurs and the lack of metabasitarsal spurs the *Atmetocraniinae*, *Calophyinae* and *Metapsyllinae* may be closely related. The former two share also the one-segmented asymmetric larval antennal flagellum (Burckhardt & Mifsud, 2003).

Atmetocraniinae, stat.nov.

Atmetocraniini Becker-Migdisova, 1973: 109.

Diagnosis: The single genus *Atmetocranium* has a strongly modified morphology. Tuthill (1952) lists following characters: absence of coronal suture, covered frons, lack of genal processes, much reduced propleura, small metacoxa lacking meracanthus, metabasitarsus lacking spurs, forewing with dichotomously branching veins and developed pterostigma, only five pairs of abdominal spiracles, female terminalia with fused valvulae. The larva is weakly sclerotised and lacks specialised setae. It has an asymmetrical undivided antennal flagellum, 2-segmented tarsi and lacks a tarsal arolium. The anal region consists of a sclerotised ring around the anus lacking wax pores.

Comments: The assignment of *Atmetocranium* to Calophyidae is provisional. It is based mostly on the metatibia with an internal comb of apical spurs and the one-segmented asymmetric larval antennal flagellum

shared by Atmetocraniinae and Calophyinae. Also the long terminal setae on antennal segment 10 and a long seta on segment 9 are present in some *Calophya* spp. and in *Atmetocranium*. The unsclerotised larval body lacking specialised setae is similar to some members of Mastigimatinæ.

Atmetocranium Tuthill, 1952: 123; type-species: *Pauropsylla myersi* Ferris & Klyver, 1932, by original designation and monotypy.

Calophyinae

Calophyinae Vondráček, 1957: 172.

Microceropsyllini Bekker-Migdisova, 1973: 104.

Strogylocephalidae Li, 2011: 1257; **syn. nov.**

Diagnosis: Defined by the metatibia with an internal comb of apical spurs and the absence of metabasitarsal spurs in the adult as well as the one-segmented asymmetric antennal flagellum and tarsal arolium lacking a pedicel in the fifth instar larva.

Calophya Löw, 1879: 598; type-species: *Psylla rhois* Löw, 1877, by monotypy; (= *Calophya* (*Neocalophya*), *Holotrioza*, *Microceropsylla*, *Paracalophya*, *Pelmatobrachia*).

Pseudoglycaspis Brown & Hodkinson, 1988: 167; type-species: *Pseudoglycaspis panamensis* Brown & Hodkinson, 1988, by original designation and monotypy.

Psyllites† Cockerell, 1915: 636; type-species: *Psyllites crawfordi*† Cockerell, 1915, by monotypy.

Strogylocephala Crawford, 1917: 166; type-species: *Strogylocephala fascipennis* Crawford, 1917, by original designation and monotypy; (= *Synaphalara*).

Mastigimatinæ

Mastigimatinæ Bekker-Migdisova, 1973: 99.

Bharatianinae White & Hodkinson, 1985: 272; **syn. nov.**

Cecidopsyllidae Li, 2011: 1277; **syn. nov.**

Diagnosis: Defined by the weakly sclerotised larvae lacking specialised setae, with 7–10 segmented antenna. Tarsal arolium shorter than claws, lacking petiole, with unguitactor.

Internal relationships: *Bharatiana* and *Mastigimas* are associated with the closely related plant genera *Toona* and *Cedrela* (Meliaceae), respectively. They may represent sister taxa. Species of *Cecidopsylla* and *Synpsylla* share long genal processes and a similar forewing venation, suggesting they may be closely related.

Allophorina Hodkinson, 1991: 83; type-species: *Allophorina lobata* Hodkinson, 1991, by original designation.

Bharatiana Mathur, 1973: 63; type-species: *Bharatiana octospinosa* Mathur, 1973, by original designation and monotypy.

Cecidopsylla Kieffer, 1905: 160; type-species: *Cecidopsylla schimae* Kieffer, 1905, by monotypy.

Mastigimas Enderlein, 1921: 121; type-species: *Mastigimas peruanus* Enderlein, 1921, by original designation and monotypy; (= *Coelocara*).

Synpsylla Yang, 1984: 57; type-species: *Synpsylla wendlandiae* Yang, 1984, by original designation and monotypy.

Metapsyllinae

Metapsyllinae Kwon, 1983: 31.

Diagnosis: Description by Kwon (1983). Head with short genal processes which are contiguous medially; median ocellus surrounded by vertex and genal processes. Antenna shorter than head width. Forewing coriaceous, lacking costal break. Metatibia with an internal comb of apical spurs and metabasitarsus lacking spurs. Proximal segment of aedeagus straight.

Comments: The erection of the Metapsyllinae as new subfamily by Li (2011: 434) is invalid as the taxon has already been erected by Kwon (1983).

Metapsylla Kuwayama, 1908: 157; type-species: *Metapsylla nigra* Kuwayama, 1908, by original designation.

Symphorosinae

Symphorosinae Li, 2002: 178, 187.

Diagnosis: Li (2002).

Comments: The male subgenital plate of *Symphorosus* is similar to that of *Cecidopsylla* and *Symphorosus* may be a member of Mastigimatinæ. Apart from this the two taxa share no detailed synapomorphies. *Symphorosus* Li, 2002: 178, 188; type-species: *Symphorosus longicellus* Li, 2002, by original designation and monotypy.

Carsidaridae

Prionocnemidae Scott, 1882: 466; invalid as not derived from an included genus name.

Carsidarinae Crawford, 1911: 481.

Tenaphalarini Heslop-Harrison, 1958: 577, 578.

Mesohomotomini Bekker-Migdisova, 1973: 101.

Diagnosis: Hollis (1987).

Internal relationships: Hollis (1987) discussed the phylogenetic relationships of the genera based on a cladistic analysis. He did not subdivide the family into subfamilies or tribes.

Allocarsidara Hollis, 1987: 100; type-species: *Tenaphalara malayensis* Crawford, 1919, by original designation.

Carsidara Walker, 1869: 329; type-species: *Carsidara marginalis* Walker, 1869, by monotypy; (= *Eustigmia*, *Thysanogyna*).

Carsidarina† Bekker-Migdisova, 1985: 86; type-species: *Livilla hooleyi*† Cockerell, 1921, by original designation and monotypy.

Epicarsa Crawford, 1911: 488; type-species: *Epicarsa corniculata* Crawford, 1911; by original designation and monotypy.

Mesohomotoma Kuwayama, 1908: 180; type-species: *Mesohomotoma camphorae* Kuwayama, 1908, by original designation and monotypy; (= *Udamostigma*).

Paracarsidara Heslop-Harrison, 1960: 244; type-species: *Carsidara dugesii* Löw, 1886, by original designation.

Protyora Kieffer, 1906: 390; type-species: *Tyora sterculiae* Froggatt, 1901, by monotypy; (= *Neocarsidara*).

Tenaphalara Kuwayama, 1908: 156; type-species: *Tenaphalara acutipennis* Kuwayama, 1908, by original designation and monotypy.

Tyora Walker, 1869: 330; type-species: *Tyora congrua* Walker, 1869, by monotypy; (= *Carsidaroida*, *Nesiope*).

Homotomidae

Homotomini Heslop-Harrison, 1958: 578.

Diagnosis: Hollis and Broomfield (1989).

Internal relationships: This is a well defined monophyletic group whose internal relationships were analysed by Hollis and Broomfield (1989) who recognised three subfamilies. Ouvrard (2002) suggested close relationship of *Phytolyma* with Homotomidae.

Dynopsyllinae

Dynopsyllini Bekker-Migdisova, 1973: 102.

Diagnosis: Hollis and Broomfield (1989).

Internal relationships: Hollis and Broomfield (1989) recognise two tribes.

Diceraopsyllini

Diceraopsyllini Hollis & Broomfield, 1989: 142.

Diagnosis: Hollis and Broomfield (1989).

Diceraopsylla Crawford, 1912: 425; type-species: *Diceraopsylla brunettii* Crawford, 1912, by original designation and monotypy.

Dynopsyllini

Dynopsyllini Bekker-Migdisova, 1973: 102.

Triozamiini Bekker-Migdisova, 1973: 115.

Diagnosis: Hollis and Broomfield (1989).

Internal relationships: Hollis and Broomfield (1989).

Afrodynopsylla Hollis & Broomfield, 1989: 146; type-species: *Afrodynopsylla gigantea* Hollis & Broomfield, 1989, by original designation and monotypy.

Austrodynopsylla Hollis & Broomfield, 1989: 144; type-species: *Austrodynopsylla encala* Hollis & Broomfield, 1989, by original designation and monotypy.

Dynopsylla Crawford, 1913: 295; type-species: *Dynopsylla cornuta* Crawford, 1913, by original designation and monotypy; (= *Crawfordella*, *Sphingocladia*).

Triozamia Vondráček, 1963: 266; type-species *Rhinopsylla lamborni* Newstead, 1914, by original designation and monotypy.

Homotominae

Homotomini Heslop-Harrison, 1958: 578.

Diagnosis: Hollis and Broomfield (1989).

Internal relationships: Hollis and Broomfield (1989) recognise two monotypic tribes.

Homotomini

Homotomini Heslop-Harrison, 1958: 578.

Psausiini Bekker-Migdisova, 1973: 102.

Diagnosis: Hollis and Broomfield (1989).

Homotoma Guérin-Méneville, 1844: 376; type-species: *Chermes ficus* Linnaeus, 1758, by original designation and monotypy; (= *Anisostropha*, *Austrohomotoma*, *Caenohomotoma*, *Harrisonella*, *Heterohomotoma*, *Labobrachia*, *Metapsausia*, *Psausia* Enderlein, 1914, *Psausia* Yang & Li, 1984).

Synozini

Synozini Bekker-Migdisova, 1973: 102.

Synoziiina (sic), misspelling, White & Hodkinson, 1985: 162.

Diagnosis: Hollis and Broomfield (1989).

Synozza Enderlein, 1918: 479; type-species: *Synozza cornutiventris* Enderlein, 1918, by original designation and monotypy.

Macrohomotominae

Macrohomotominae White & Hodkinson, 1985: 272.

Diagnosis: Hollis and Broomfield (1989).

Internal relationships: Hollis and Broomfield (1989) recognised two tribes. Here we add the Phytolymini which differs from the other tribes in the presence of a costal break in the forewing.

Edenini

Edenini Bhanotar, Ghosh & Ghosh, 1972: 109.

Diagnosis: Hollis and Broomfield (1989).

Mycopsylla Froggatt, 1901: 258; type-species: *Psylla fici* Tryon, 1895, by original designation; (= *Edenus*)

Macrohomotomini

Macrohomotominae White & Hodkinson, 1985: 272.

Diagnosis: Hollis and Broomfield (1989).

Macrohomotoma Kuwayama, 1908: 179; type-species: *Macrohomotoma gladiata* Kuwayama, 1908, by original designation and monotypy.

Pseudoeriopsylla Newstead, 1911: 105; type-species: *Pseudoeriopsylla nyasae* Newstead, 1911, by monotypy.

Phytolymini

Phytolymini White & Hodkinson, 1985: 107.

Diagnosis: Differs from other tribes in the Macrohomotominae in the presence of a costal break in the forewing.

Phytolyma Scott, 1882: 453; type-species: *Psylla lata* Walker, 1852 by monotypy

Liviidae, sensu novo

Liviinae Löw, 1879: 606.

Diagnosis: Adult metatibia with an open crown of sclerotised apical spurs (sometimes grouped). Larva generally with multiple lanceolate setae or sectasetae. Tarsal arolium bearing unguitactor.

Internal relationships: The family contains two probably monophyletic subfamilies.

Euphyllurinae, sensu novo

Euphyllurinae Crawford, 1914: 114.

Diagnosis: Adult metabasitarsus with 2 (rarely 1) sclerotised spurs. Larva lacking extra pore fields on caudal plate.

Internal relationships: Here we recognise four ill-defined tribes.

Comments: The four tribes recognised here are poorly defined and of doubtful phylogenetic significance.

The entire subfamily should be cladistically analysed.

Diaphorinini

Diaphorinini Vondráček, 1951: 127.

Psyllopsiini Vondráček, 1951: 128.

Cornopsyllini Li, 2011: 532; **syn. nov.**

Diagnosis: Hollis (1985), White and Hodkinson (1985), Burckhardt and Malenovský (2003).

Caradocia Laing, 1923: 704; type-species: *Caradocia godmani* Laing, 1923, by original designation and monotypy.

Cornopsylla Li, 1994: 177, 182; type-species: *Cornopsylla zanthoxylae* Li, 1994 by original designation.

Diaphorina Löw, 1880: 567; type-species: *Diaphora putonii* Löw, 1879, by monotypy; (= *Brachypsylla*, *Diaphora*, *Gonanoplicus*, *Pennavena*, *Eudiaphorina*).

Epipsylla Kuwayama, 1908: 178; type-species: *Epipsylla albolineata* Kuwayama, 1908, by original designation.

Geijerolyma Froggatt, 1903: 335; type-species: *Geijerolyma robusta* Froggatt, 1903, by original designation and monotypy.

Lautereropsis Burckhardt & Malenovský, 2003: 22; type-species: *Lautereropsis unifasciata* Burckhardt & Malenovský, 2003, by original designation.

Katacephala Crawford, 1914: 114; type-species: *Katacephala grandiceps* Crawford, 1914, by original designation; (= *Jenseniella*).

Megadicrania Loginova, 1976: 10; type-species: *Megadicrania tecticeps* Loginova, 1976, by original designation and monotypy.

Notophorina Burckhardt, 1987: 148; type-species: *Notophorina fusca* Burckhardt, 1987, by original designation.

Parapsylla Heslop-Harrison, 1961: 519; type-species: *Parapsylla relictata* Heslop-Harrison, 1961, by original designation and monotypy; (= *Agmapsylla*).

Peripsyllopsis Enderlein, 1926: 399; type-species: *Arytaina ramakrishni* Crawford, 1924, by original designation and monotypy; (= *Microphyllurus* **syn. nov.**).

Psyllopsis Löw, 1879: 587; type-species: *Psylla fraxinicola* Foerster, 1848, by subsequent designation of Oshanin (1912).

Tuthillia Hodkinson, Brown & Burckhardt, 1986: 53; *Tuthillia canabina* Hodkinson, Brown & Burckhardt, 1986, by original designation.

Euphyllurini

Euphyllurini Crawford, 1914: 114.

Diagnosis: Loginova (1973), White and Hodkinson (1985).

Brachyphyllura Li, 2011: 418, 1775; type-species: *Brachyphyllura nesoscolia* Li, 2011, by original designation and monotypy.

Cryptophyllura Li, 2011: 420, 1775; type-species: *Cryptophyllura polyacantha* Li, 2011, by original designation and monotypy.
Euphyllura Foerster, 1848: 93; type-species: *Psylla oleae* Boyer de Fonscolombe, 1840, by subsequent designation of Oshanin (1912); (= *Platystigma*).
Leprostictopsylla Li, 2011: 376, 1771; type-species: *Leprostictopsylla jiuzhaiensis* Li, 2011, by original designation and monotypy.
Ligustrinia Loginova, 1973: 864; type-species: *Syntomoza (Syringilla) herculeana* Loginova, 1967, by monotypy.
Neophyllura Loginova, 1973: 860; type-species: *Euphyllura arctostaphyli* Schwarz, 1904, by original designation; (= *Neophyllura (Arbutophila)* **syn. nov.**).
Syringilla Loginova, 1967: 341; type-species: *Syntomoza (Syringilla) humerosa* Loginova, 1967, by original designation.

Pachypsylloidini

Pachypsylloidini Loginova, 1964: 457.
 Diagnosis: Loginova (1964b, 1976d).
Eremopsylloides Loginova, 1964: 462; type-species: *Eremopsylloides amirabilis* Loginova, 1964, by original designation.
Pachypsylloides de Bergevin, 1927: 131; type-species: *Pachypsylloides dumonti* de Bergevin, 1927, by original designation and monotypy.
Sureaca **nomen nov.**, gender feminin, for *Acaerus* Loginova, 1976: 613; type-species: *Rhinocola turkestanica* Löw, 1881, by original designation; nec *Acaerus* Pascoe, 1882 (Coleoptera).

Strophingiini, stat. nov.

Strophingiinae White & Hodkinson, 1985, 270.
 Diagnosis: White and Hodkinson (1985).
Strophingia Enderlein, 1914: 233; type-species: *Psylla ericae* Curtis, 1835, by original designation.

Liviinae

Liviinae Löw, 1879: 606.
 Paurocephalinae Vondráček, 1963: 277; **syn. nov.**
 Diclidophlebiini Bekker-Migdisova, 1973: 100.
 Camarotosceninae Li 2011: 381; **syn. nov.**
 Sinuonemopsyllinae Li, 2011: 373; **syn. nov.**
 Diagnosis: Burckhardt and Mifsud (2003).
 Internal relationships: Burckhardt and Mifsud (2003) analysed the phylogenetic relationships of the Paurocephalinae. Here we add *Livia* and synonymise Liviinae and Paurocephalinae.
 Comments: Li (2011) erroneously attributed the authorship of Camarotosceninae to Haupt (1935).
Aphorma Hodkinson, 1974: 76; type-species: *Aphalara bagnalli* Laing, 1929, by original designation.
Camarotoscena Haupt, 1935: 228; type-species: *Rhinocola speciosa* Flor, 1861, by original designation and monotypy.
Diclidophlebia Crawford, 1920: 355; type-species: *Heteroneura oceanica* Crawford, 1919, by original designation and monotypy; (= *Aconopsylla*, *Gyroza*, *Haplaphalara*, *Heteroneura*, *Paraphalaroida*, *Primascena*† **syn. nov.**, *Sinuonemopsylla*, *Woldaia*).
Livia Latreille, 1802: 266; type-species: *Psylla juncorum* Latreille, 1798, by monotypy (= *Diraphia* Illiger, 1803, *Diraphia* Waga, 1842, *Neolivia*, *Vailakiella*)
Paurocephala Crawford, 1913: 293; type-species: *Paurocephala psylloptera* Crawford, 1913, by original designation and monotypy; (= *Marpsylla* **syn. nov.**, *Paurocephala (Thoracocorna)*, *Pauroterga* **syn. nov.**).
Syntomoza Enderlein, 1921: 117; type-species: *Euphyllura magna* Kuwayama, 1908, by original designation and monotypy; (= *Anomoterga*, *Homalocephala*).

Phacopteronidae Heslop-Harrison

Phacopteronidae Heslop-Harrison, 1958: 577–578.

Phacoseminae Kieffer, 1906: 387; the substitute name Phacopteronidae is maintained according to Article 40.2 of the International Code of Zoological Nomenclature.

Pseudophacopterini Bekker-Migdisova, 1973: 103.

Pseudophacopteroninae Li, 2011: 233; **syn. nov.**

Diagnosis: Heslop-Harrison (1958), White and Hodkinson (1985).

Internal relationships: unknown.

Comments: The family contains currently five poorly defined genera, four of which are extant and one fossil.

Cornegenapsylla Yang & Li, 1982: 124, 126; **stat. rev.**, removed from synonymy with *Phacopteron*; type-species: *Cornegenapsylla sinica* Yang & Li, 1982 by original designation and monotypy; (= *Neophacopteron* **syn. nov.**).

Phacopteron Buckton, 1896: 18; type-species: *Phacopteron lentiginosum* Buckton, 1896, by original designation and monotypy; (= *Phacosema*).

Phacosemoides Costa Lima & Guitton, 1962: 221; type-species: *Phacosemoides sicki* Costa Lima & Guitton, 1962, by original designation and monotypy.

Pseudophacopteron Enderlein, 1921: 116; type-species: *Pauropsylla tuberculata* Crawford, 1912, by original designation; (= *Chineura*).

Sulciana† Klimaszewski, 1998: 22; type-species: *Sulciana macroconi*† Klimaszewski, 1998, by original designation and monotypy.

Psyllidae, sensu novo

Psyllidae Latreille, 1807: 168.

Diagnosis: Metacoxa with horn-shaped meracanthus, metatibia usually with grouped apical spurs, metabasitarsus usually with 2 lateral spurs. Larva bearing triangular, petiolate tarsal arolium; often with capitate setae and sectasetae.

Internal relationships: The Psyllidae contains five probably monophyletic subfamilies. The phylogenetic relationships between them are unknown.

Acizziinae

Acizziinae White & Hodkinson, 1985: 271.

Diagnosis: Male proctiger with large posterior lobe. Larva lacking extra pore fields on caudal plate.

Acizzia Heslop-Harrison, 1961: 493; type-species: *Psylla acaciae* Maskell, 1894, by original designation (= replacement name for *Neopsylla*, *Neoacizzia* **syn. nov.**)

Aphalaroidinae

Aphalaroidinae Vondráček, 1963: 277.

Arepuninae White & Hodkinson, 1985: 271.

Diagnosis: Burckhardt (1987a). Larvae lacking sectasetae and additional pore fields.

Internal relationships: The phylogenetic relationships of Aphalaroidinae genera have been discussed by Burckhardt (1987a, 2005).

Aphalaroida Crawford, 1914: 38; type-species: *Aphalaroida pithecolobia* Crawford, 1914, by original designation.

Baccharopelma Burckhardt *et al.*, 2004: 2053; type-species: *Neopelma baccharidis* Burckhardt, 1987, by original designation (= replacement name for *Neopelma* Burckhardt *nec* Sclater, *Burckhardtia* Straube & Meritzki *nec* Brown & Hodkinson, *nec* Frech

Connectopelma Šulc, 1914: 1; type-species: *Panisopelma* (*Connectopelma*) *conifrons* Šulc, 1914, by monotypy (= *Delina*).

Ehrendorferiana Burckhardt, 2005: 317; type-species: *Ehrendorferiana austrocedri* Burckhardt, 2005, by original designation.

Freysuila Aleman, 1887: 26; type-species: *Freysuila dugesii* Aleman, 1887, by monotypy; (= *Aremica* (*Indana*))

- Pachyparia* Loginova, 1967: 401; type-species: *Pachyparia dimorpha* Loginova, 1967, by original designation and monotypy.
- Panisopelma* Enderlein, 1910: 280; type-species: *Panisopelma quadrigibbiceps* Enderlein, 1910, by original designation and monotypy.
- Prosopidopsylla* Burckhardt, 1987: 356; type-species: *Prosopidopsylla atridorsalis* Burckhardt, 1987, by original designation.
- Russelliana* Tuthill, 1959: 11; type-species: *Russelliana solanicola* Tuthill, 1959, by original designation and monotypy; (= *Arepuna*).
- Sphinia* Blanchard, 1852: 316; type-species: *Sphinia crocea* Blanchard, 1852, by monotypy.
- Telmapsylla* Hodkinson, 1992: 307; type-species: *Telmapsylla minuta* Hodkinson, 1992, by original designation and monotypy.
- Yangus* Fang, 1990: 107; type-species: *Yangus chiasiensis* Fang, 1990, by original designation and monotypy; (= *Pallipsylla*)
- Zonopelma* Burckhardt, 1987: 334; type-species: *Zonopelma australis* Burckhardt, 1987, by original designation.

Ciriacreminae

Ciriacreminae Enderlein, 1910: 138.

Diagnosis: Larva lacking extra pore fields on caudal plate; caudal plate with 4+4 sectasetae or lanceolate setae grouped together usually on a weakly raised tubercle.

Internal relationships: The predominantly Afrotropical genera *Ciriacremum*, *Kleiniella* and *Palmapenna* and the New World genera *Auchmerina*, *Auchmeriniella*, *Euceropsylla*, *Heteropsylla*, *Manapa* and *Mitrapsylla* constitute probably a monophyletic group each (Brown and Hodkinson (1988); Hollis (1976)).

- Auchmerina* Enderlein, 1918: 347; type-species: *Auchmerina limbatipennis* Enderlein, 1918, by original designation and monotypy
- Auchmeriniella* Brown & Hodkinson, 1988: 118; type-species: *Auchmeriniella maculata* Brown & Hodkinson, 1988, by original designation and monotypy.
- Ciriacremum* Enderlein, 1910: 139; type-species: *Ciriacremum filiverpatum* Enderlein, 1910, by original designation; (= *Bunoparia*).
- Euceropsylla* Boselli, 1929: 70; type-species: *Euceropsylla russoi* Boselli, 1929, by original designation and monotypy; (= *Aremica*).
- Heteropsylla* Crawford, 1914: 44; type-species: *Heteropsylla texana* Crawford, 1914, by original designation.
- Insnesia* Tuthill, 1964: 364; type-species: *Insnesia disjuncta* Tuthill, 1964, by original designation.
- Isogonoceraia* Tuthill, 1964: 368; type-species: *Isogonoceraia venusta* Tuthill, 1964, by original designation and monotypy.
- Kleiniella* Aulmann, 1912: 100; type-species: *Kleiniella superba* Aulmann, 1912, by original designation and monotypy (= *Desmiostigma*, *Syndesmophlebia*).
- Manapa* Brown & Hodkinson, 1988: 120; type-species: *Manapa tumida* Brown & Hodkinson, 1988, by original designation and monotypy.
- Mitrapsylla* Crawford, 1914: 134; type-species: *Mitrapsylla albalineata* Crawford, 1914, by original designation.
- Palmapenna* Hollis, 1976: 14; type-species: *Palmapenna hymenostegioides* Hollis, 1976, by original designation and monotypy.
- Trigonon* Crawford, 1920: 354; type-species: *Heteropsylla longicornis* Crawford, 1919, by original designation.

Macrocorsinae, stat. nov.

Macrocorsini Vondráček, 1963: 284.

Euphalerini Bekker-Migdisova, 1973: 112; **syn. nov.**

Diagnosis: Larva with extra pore fields on caudal plate.

Comments: The generic concepts in their present definition are artificial. A phylogenetic analysis of the whole subfamily is required to solve this problem.

Brinckitia Heslop-Harrison, 1961: 499; type-species: *Floria (Brinckitia) annosa* Heslop-Harrison, 1961, by original designation and monotypy.

Colophorina Capener, 1973: 41; type-species: *Colophorina cassiae* Capener, 1973, by monotypy.

Epiacizzia Li, 2002: 181, 188; type-species: *Epiacizzia edentalis* Li, 2002, by original designation and monotypy.
Euphaleropsis Li, 2004: 218, 225; type-species: *Euphaleropsis drypetis* Li, 2004, by original designation and monotypy.
Euphalerus Schwarz, 1904: 238; type-species: *Euphalerus nidifex* Schwarz, 1904, by monotypy.
Euryconus Aulmann, 1912: 117; type-species: *Euryconus enderleini* Aulmann, 1912, by original designation and monotypy (= *Otroacizzia*† **syn. nov.**).
Macrocorsa Vondráček, 1963: 284; type-species: *Macrocorsa congensis* Vondráček, 1963, by original designation and monotypy.
Paraphyllura Yang, 1984: 17; type-species: *Paraphyllura micheliae* Yang, 1984, by original designation and monotypy.
Peregrinivena Li, 2005: 153, 205; type-species: *Peregrinivena liangheana* Li, 2005, by original designation and monotypy.
Pugionipsylla Li in Li *et al.* (2006): 195; type-species: *Pugionipsylla lysidice* Li in Li *et al.* (2006), by original designation.
Retroacizzia Heslop-Harrison, 1961: 503; type-species: *Arytaina mopani* Pettey, 1925, by original designation and monotypy.
Tridencopsylla Li, 2002: 185, 189; type-species: *Psylla hungtouwensis* Fang & Yang, 1986, by original designation and monotypy.

Psyllinae

Psyllinae Latreille, 1807: 168.

Arytaininae Crawford, 1914: 106; **syn. nov.**

Alloeoneurini Vondráček, 1951: 127.

Anomoneurinae Klimaszewski, 1963: 92; **syn. nov.**

Cyamophilini Loginova, 1976: 596; **syn. nov.**

Cacopsyllinae Li, 2011: 744; **syn. nov.**

Diagnosis: Larva lacking extra pore fields on caudal plate; caudal plate often with sectasetae.

Internal relationships: Unknown.

Comments: The traditional separation of Arytaininae and Psyllinae is artificial and is not supported neither by morphological nor by molecular characters. Many genera are artificial in their present definition. A phylogenetic analysis of the subfamily is urgently needed.

Amorphicola Heslop-Harrison, 1961: 435; type-species: *Psylla amorphae* Mally, 1894, by original designation.

Anomoneura Schwarz, in Uhler (1896): 295; type-species: *Anomoneura mori* Schwarz in Uhler (1896), by monotypy.

Arytaina Foerster, 1848: 69; type-species: *Psylla genistae* Latreille, 1804, by subsequent designation of Oshanin (1912); (= *Amblyrhina*, *Chermes* (*Ataenia*), *Psyllopa*)

Arytainilla Loginova, 1972: 17; type-species: *Psylla delarbrei* Puton, 1873, by original designation; (= *Alloeoneura* (*Hispaniola*) nomen nudum [type species not designated], *Arytaina* (*Arytainilla*) nomen nudum [type species not designated], *Lindbergia* nomen nudum [no included species], *Lindbergiella* nomen nudum [type species not designated], *Spartina*).

Arytinnis Percy, 2003: 405; type-species: *Arytainilla pileolata* Loginova, 1976, by original designation.

Astragalita Loginova, 1976: 596, 600; type-species *Astragalita gracilis* Loginova, 1976, by original designation and monotypy.

Baeopelma Enderlein, 1926: 399; type-species *Psylla colorata* Löw, 1888, by original designation and monotypy; (= *Psylla* (*Labyrinthopsylla*)).

Cacopsylla Ossiannilsson, 1970: 140; type-species: *Chermes mali* Schmidberger, 1836, by original designation; (= *Edentipsylla* **syn. nov.**, *Psylla* (*Hepatopsylla*) **syn. nov.**, *Psylla* (*Osmopsylla*) **syn. nov.**, *Psylla* (*Thamnopsylla*) **syn. nov.**).

Catopsylla† Scudder, 1890: 277; type-species: *Catopsylla prima*† Scudder, 1890, by original designation.

Ceanothia Heslop-Harrison, 1961: 436; type-species: *Arytaina ceanothi* Crawford, 1914, by original designation.

Chamaepsylla Ossiannilsson, 1970: 140; type-species: *Psylla hartigii* Flor, 1861, by original designation and monotypy.

- Cyamophila* Loginova, 1976: 596; type-species: *Psylla fabra* Loginova, 1964, by original designation.
- Cyamophiliopsis* Li, 2011: 675; type-species: *Psylla zaisani* Klimaszewski, 1963, by original designation.
- Cylindropsylla* Li, 2011: 631, 1798; type-species: *Cylindropsylla tengchongica* Li, 2011, by original designation.
- Euglyptoneura* Heslop-Harrison, 1961: 434; type-species: *Arytaina minuta* Crawford, 1914, by original designation.
- Gelonopsylla* Li, 1992: 145, 149; type-species: *Gelonopsylla shandongica* Li, 1992 by original designation and monotypy.
- Limbopsylla* Brown & Hodkinson, 1988: 126; type-species: *Limbopsylla nata* Brown & Hodkinson, 1988, by original designation; (= *Indepsylla*† **syn. nov.**).
- Livilla* Curtis, 1835: 625; type-species: *Livilla ulicis* Curtis, 1835, by original designation and monotypy (= *Alloeoneura*, *Floria*, subgenus *Floriella*).
- Mecistoneura* Li, 2011: 484, 1782; type-species: *Psylla junatovi* Loginova, 1969, by original designation and monotypy.
- Nyctiphalerus* Bliven, 1955: 12; type-species: *Nyctiphalerus lynceus* Bliven, 1955, by original designation and monotypy.
- Padaukia* Hollis & Martin, 1993: 202; type-species: *Padaukia kino* Hollis & Martin, 1993, by original designation; (= *Peltapaurocephala* nomen nudum [no description]).
- Palaeolindbergiella* Heslop-Harrison, 1961: 509; **stat. rev.**, removed from synonymy with *Lindbergiella*; type-species: *Lindbergiella (Palaeolindbergiella) primitiva* Heslop-Harrison, 1961, by monotypy.
- Pexopsylla* Jensen, 1957: 15; type-species: *Pexopsylla cercocarpi* Jensen, 1957, by original designation and monotypy.
- Platycorypha* Tuthill, 1945: 235; type-species: *Platycorypha princeps* Tuthill, 1945, by original designation and monotypy; (= *Neopsyllia*, *Parapsyllopsis*† **syn. nov.**, *Paropsylla*† **syn. nov.**).
- Pseudacanthopsylla* Samy, 1972: 455; type-species: *Pseudacanthopsylla retamae* Samy, 1972, by original designation and monotypy.
- Psylla* Geoffroy, 1762: 482; type-species: *Chermes alni* Linnaeus, 1758, by subsequent designation under the plenary powers of the ICZN Opinion 731, 1965; (= *Asphagidella*, *Asphagis*, *Psyllia*).
- Purshivora* Heslop-Harrison, 1961: 437; type-species: *Arytaina chelifera* Crawford, 1914, by original designation.
- Spanioneura* Foerster, 1848: 94; type-species: *Spanioneura fonscolombii* Foerster, 1848, by monotypy.
- Trisetipsylla* Yang & Li, 1984: 257; type-species: *Trisetipsylla sinica* Yang & Li, 1984, by original designation and monotypy.

Triozidae

- Triozinae Löw, 1879: 605, 609.
- Pauropsyllinae Crawford, 1914: 42.
- Siphonaleyrodinae Takahashi, 1932: 48.
- Bactericerini Heslop-Harrison, 1958: 577, 578.
- Eutriozini Loginova, 1964: 473.
- Hemischizocraniini Bekker-Migdisova, 1973: 115.
- Leptinopterinae (sic) Bekker-Migdisova, 1973: 104.
- Paracomecini Bekker-Migdisova, 1973: 115.
- Epitriozini Kwon, 1984: 79.
- Trichohermini Kwon, 1983: 82.
- Neolithinae White & Hodkinson, 1985: 273.
- Rhinopsyllidae Klimaszewski, 1993: 65.
- Carsitriidae Li, 2011: 1303; **syn. nov.**
- Neotriozidae Li, 2011: 1307; **syn. nov.**
- Triozopsinae Li, 2011: 1383; **syn. nov.**
- Asiotriozinae Li, 2011: 1512; **syn. nov.**
- Metatriozidinae Li, 2011: 1513; **syn. nov.**
- Diagnosis: Hollis (1984), Burckhardt (1988), Burckhardt and Lauterer (1997b).

Internal relationships: White and Hodkinson (1985) recognised the three subfamilies Neolithinae, Triozamiinae and Triozinae. Hollis and Broomfield (1989) transferred the Triozamiinae to the Homotomidae. The erection of the Neolithinae by White and Hodkinson (1985) is based on a misidentification of a larva which is referable to a species related to *Neotrioza tavaresi* Crawford rather than *Neolithus* (D. Burckhardt, unpubl.). *Schedoneolithus*, the only other member of the subfamily shares the large frons but shows otherwise no detailed synapomorphies with *Neolithus*, making the monophyly of Neolithinae doubtful. White and Hodkinson (1985) defined the Triozinae by the presence of genal processes, the anal break being in distance from the apex of vein Cu_{1b} in the forewing and the lack of a rhinarium on antennal segment 3 in the adults as well as the dorsally completely fused sclerites of head and thorax in the larva. The first character is variable in many triozid genera and the other three are present also in members of the Neolithinae, leaving the subfamily undefined and, therefore, paraphyletic. Recently Li (2011) proposed a classification treating the triozids as a superfamily with four families and several subfamilies. His artificial classification based on the Chinese fauna does not reflect phylogeny. In conclusion, there is currently no scientifically convincing suprageneric classification for Triozidae.

Comments: This is a species-rich, probably monophyletic family. In contrast, most of the genera are ill-defined and artificial, and the phylogenetic relationships between genera remain largely unknown. Here we do not use further subdivisions into subfamilies and tribes as none of the currently proposed groupings is supported by convincing characters. The use of the generic names varies greatly between authors. Here we list many genera as valid which are considered synonyms by some authors. This is particularly the case with genera synonymised with *Trioza* which is treated, by most authors, as an artificial receptacle for species not showing any particular morphological modifications. A sound phylogenetic analysis is required for obtaining a better base for a stable generic classification.

Aacanthocnema Tuthill & Taylor, 1955: 252; type-species: *Trioza casuarinae* Froggatt, 1901, by original designation.

Acanthocasuarina Taylor in Taylor *et al.* (2011): 27; type-species: *Acanthocasuarina acutivalvis* Taylor in Taylor *et al.* (2011), by original designation.

Afrotrioza Hollis, 1984: 25; type-species: *Afrotrioza bersama* Hollis, 1984, by original designation and monotypy.

Anomocephala Tuthill, 1942: 75; type-species: *Anomocephala unica* Tuthill, 1942, by original designation and monotypy.

Asiotrioza Li, 2011: 1512, 1900; type-species: *Asiotrioza zhongfeiensis* Li, 2011, by original designation and monotypy.

Bactericera Puton, 1876: 286; type-species: *Bactericera perrisii* Puton, 1876, by monotypy (= *Allotrioza*, *Carsitria* **syn. nov.**, *Eubactericera*, *Klimaszewskiella* replacement name for *Smirnovia* Klimaszewski, 1968, *Paratrioza*, *Rhinopsylla*)

Baeoalitrizus Li, 2011: 1356; type-species: *Baeoalitrizus yangi* Li, 2011, by original designation and monotypy.

Berchemitrioza Li, 2011: 1386, 1886; type-species: *Berchemitrioza acutata* Li, 2011, by original designation.

Calinda Blanchard, 1852: 309; type-species: *Calinda testacea* Blanchard, 1852, by subsequent designation of Burckhardt (1988).

Casuarinicola Taylor in Taylor *et al.* (2010): 3; type-species: *Casuarinicola australis* Taylor in Taylor *et al.* (2010), by original designation.

Cecidotrioza Kieffer, 1908: 159; type-species: *Cecidotrioza baccarum* Kieffer, 1908, by monotypy; (= *Homotrioza*).

Ceropsylla Riley, 1885: 76; type-species: *Ceropsylla sideroxyli* Riley, 1884, by monotypy.

Cerotrioza Crawford, 1918: 454; type-species: *Cerotrioza bivittata* Crawford, 1918, by original designation and monotypy.

Chouitrioza Li, 1989: 217, 221 type-species: *Chouitrioza sinica* Li, 1989, by original designation and monotypy.

Colopelma Enderlein, 1926: 400; type-species: *Trioza thomasi* Löw, 1888, by original designation.

Conicotrioza Li, 2005: 193, 211; type-species: *Conicotrioza cylindrata* Li, 2005, by original designation and monotypy.

Crawforda Caldwell, 1940: 397; type-species: *Crawforda triopsyllina* Caldwell, 1940, by original designation and monotypy.

Dolichotrioza Li, 2002: 172, 187; type-species: *Dolichotrioza sinuata* Li, 2002, by original designation and monotypy.

Dyspersa Klimaszewski, 1968: 11; type-species: *Trioza apicalis* Foerster, 1848, by original designation.

Egeirotioza Boselli, 1931: 268; type-species: *Trioza ceardi* de Bergevin, 1926, by original designation and monotypy; (= *Evegeirotioza* **syn. nov.**)

Engytatoneura Loginova, 1972: 33; type-species: *Engytatoneura lindbergi* Loginova, 1972, by original designation and monotypy.

Eotrioza Konovalova, 1987: 34; type-species: *Eotrioza ussuriensis* Konovalova, 1987, by original designation and monotypy.

Epitrioza Kuwayama, 1910: 55; type-species: *Epitrioza mizuhonica* Kuwayama, 1910, by original designation and monotypy.

Eryngiofaga Klimaszewski, 1968: 10; type-species: *Trioza mesomela* Flor, 1861, by original designation.

Eutrioza Loginova, 1964: 474; type-species: *Eutrioza opima* Loginova, 1964, by monotypy.

Furcitrioza Li, 2011: 1348, 1880; type-species: *Furcitrioza lecanthae* Li, 2011, by original designation and monotypy.

Genotriozus Li, 2011: 1366, 1884; type-species: *Genotriozus octoimaculatus* Li, 2011, by original designation.

Hemischizocranium Tuthill, 1956: 158; type-species: *Hemischizocranium bessi* Tuthill, 1956, by original designation and monotypy.

Hemitrioza Crawford, 1914: 104; type-species: *Hemitrioza sonchi* Crawford, 1914, by original designation and monotypy.

Heterotrioza Dobreanu & Manolache, 1960: 94; type-species: *Trioza obliqua* Thomson, 1877, by monotypy (= *Trioza* (*Halotrioza*) **syn. nov.**, *Triozidus*).

Hevaheva Kirkaldy, 1902: 113; type-species: *Hevaheva perkinsi* Kirkaldy, 1902, by monotypy.

Hippophaetrioza Conci & Tamanini, 1984: 240; type-species: *Trioza binotata* Löw, 1883, by original designation (= *Hippophaetrioza* (*Maculatrioza*) **syn. nov.**).

Izpania Klimaszewski, 1962: 254; type-species: *Izpania acona* Klimaszewski, 1962, by original designation and monotypy.

Kuwayama Crawford, 1911: 503; type-species: *Paratrioza medicaginis* Crawford, 1910, by original designation; (= replacement name for *Epitrioza*, *Succinopsylla*† **syn. nov.**).

Lauritrioza Conci & Tamanini, 1986: 238; type-species: *Trioza alacris* Flor, 1861, by original designation and monotypy.

Leptotrioza Miyatake, 1972: 29; type-species: *Neotriozella bicolor* Crawford, 1915, by original designation and monotypy.

Leptynoptera Crawford, 1919: 147; type-species: *Leptynoptera sulfurea* Crawford, 1919, by original designation and monotypy.

Leuronota Crawford, 1914: 67; type-species: *Trioza maculata* Crawford, 1910, by original designation; (= *Paracomeca*).

Levidea Tuthill, 1938: 245; type-species: *Levidea lineata* Tuthill, 1938, by original designation and monotypy.

Megatrioza Crawford, 1915: 264; type-species: *Megatrioza armata* Crawford, 1915, by original designation and monotypy.

Metatrioza Tuthill, 1939: 53; type-species: *Metatrioza pubescens* Tuthill, 1939, by original designation and monotypy.

Neolithus Scott, 1882: 445; type-species: *Neolithus fasciatus* Scott, 1882, by monotypy.

Neotrioza Kieffer, 1905: 175; type-species: *Neotrioza machili* Kieffer, 1905, by monotypy.

Neotriozella Crawford, 1911: 503; type-species: *Trioza immaculata* Crawford, 1910, by original designation; (= replacement name for *Neotrioza*).

Ozotrioza Kieffer, 1905: 178; type-species: not designated.

Parastenopsylla Yang, 1984: 202; type-species: *Stenopsylla proboscidea* Yu, 1956, by original designation; (= *Indotrioza*).

Pariaconus Enderlein, 1926: 401; type-species: *Kuwayama nigricapita* Crawford, 1918, by original designation.

Pauropsylla Rübsaamen, 1899: 264; type-species: *Pauropsylla udei* Rübsaamen, 1899, by monotypy; (= *Neotrioza* sensu Li, 2011: 1313, nec Kieffer, 1905: 175, misinterpretation, *Sympauropsylla*).

Paurottrizana Caldwell, 1940: 396; type-species: *Paurottrizana adaptata* Caldwell, 1940, by original designation and monotypy.

- Petalolyma* Scott, 1882: 459; type-species: *Psylla basalis* Walker, 1858, by monotypy.
- Phylloplecta* Riley, 1884: 319; type-species: *Psylla tripunctata* Fitch, 1851, by monotypy; (= *Choricymoza*, *Sinitrioza*).
- Powellia* Maskell, 1879: 223; type-species: *Powellia vitreoradiata* Maskell, 1879, by monotypy.
- Pseudotrioza* Miyatake, 1972: 27; type-species: *Pseudotrioza hiurai* Miyatake, 1972, by original designation and monotypy.
- Rhegmoza* Enderlein, 1918: 480; type-species: *Rhegmoza tinctoria* Enderlein, 1918, by original designation and monotypy.
- Rhinopsyllida*† Klimaszewski, 1997: 37; type-species: *Rhinopsyllida acutealla*† Klimaszewski, 1997, by original designation and monotypy.
- Schedoneolithus* Tuthill, 1959: 26; type-species: *Schedoneolithus dunaliae* Tuthill, 1959, by original designation and monotypy.
- Schedotrioza* Tuthill & Taylor, 1955: 251; type-species: *Trioza eucalypti* Froggatt, 1901, by original designation.
- Siphonaleyrodes* Takahashi, 1932: 48; type-species: *Siphonaleyrodes formosanus* Takahashi, 1932, by original designation and monotypy.
- Spanioza* Enderlein, 1926: 400; type-species: *Trioza galii* Foerster, 1848, by original designation.
- Stenopsylla* Kuwayama, 1910: 53; type-species: *Stenopsylla nigricornis* Kuwayama, 1910, by original designation and monotypy (= *Cryptotrioza*, *Dasymastix*, *Eustenopsylla*, *Philippinocarsia* **syn. nov.**).
- Swezeyana* Caldwell, 1940: 389; type-species: *Swezeyana elongagena* Caldwell, 1940, by original designation.
- Torulus* Li, 1991: 37, 41; type-species: *Torulus sinicus* Li, 1991, by original designation and monotypy.
- Trachotrioza* Li, 2011: 1350, 1881; type-species: *Trachotrioza beijingensis* Li, 2011, by original designation.
- Trichohermes* Kirkaldy, 1904: 280; type-species: *Trioza walkeri* Foerster, 1848, by original designation; (= replacement name for *Trichopsylla*).
- Trioacantha*† Klimaszewski, 1998: 23; type-species: *Trioacantha indocilia*† Klimaszewski, 1998, by original designation and monotypy.
- Trioza* Foerster, 1848: 67, 82; type-species: *Chermes urticae* Linné, 1758, by subsequent designation of Oshanin (1912); (= *Metatriozidus*, *Triozopsis*).
- Trisetitrioza* Li, 1995: 21, 25; type-species: *Trisetitrioza clavellata* Li, 1995, by original designation and monotypy; (= *Neorhinopsylla*).
- Triozoida* Crawford, 1911: 491; type-species: *Triozoida johnsonii* Crawford, 1911, by original designation; (= *Myrmecephala*, *Optomopsylla*).

Psylloidea incertae sedis

Palaeoaphalarinae Klimaszewski in Klimaszewski and Popov (1993): 14.

Comments: The original description is insufficient to place this subfamily.

Lapidopsylla† Klimaszewski in Klimaszewski and Popov (1993): 21; type-species: *Lapidopsylla thornessbayae*† Klimaszewski in Klimaszewski and Popov (1993), 1993, by original designation.

Comments: A poorly defined genus referred to Aphalarinae (Klimaszewski & Popov, 1993).

Palaeoaphalara† Klimaszewski in Klimaszewski and Popov (1993): 15; type-species: *Palaeoaphalara jarzembowskii*† Klimaszewski in Klimaszewski and Popov (1993), by original designation.

Comments: A poorly defined genus referred to Palaeoaphalarinae (Klimaszewski & Popov, 1993).

Plesioaphalara† Klimaszewski in Klimaszewski and Popov (1993): 18; type-species: *Plesioaphalara arcana*† Klimaszewski in Klimaszewski & Popov, 1993, by original designation.

Comments: A poorly defined genus referred to Aphalarinae (Klimaszewski & Popov, 1993).

Nomina dubia

Labicria Enderlein, 1918: 348; type-species: *Labicria barbata* Enderlein, 1918 by original designation and monotypy.

Comments: The type of the Brazilian *Labicria barbata* is destroyed (D. Burckhardt, unpubl.) and we have not seen any fresh material fitting the original description.

Unavailable names

Cephalopsyllini Heslop-Harrison, 1960: 160, *nomen nudum*, no included genera.

Dentotrizia Park & Taylor, 1996: 177; *nomen nudum*, no included species.

Metapaurocephala Heslop-Harrison, 1952: 966; *nomen nudum*, no type designated.

Neoacizzia Park & Taylor, 1996: 177; *nomen nudum*, no included species.

Parapaurocephala Heslop-Harrison, 1952: 962; *nomen nudum*, no description; type-species: *Paurocephala longicella* Tuthill, 1943, by original designation; (= '*Paurocephala*' *longicella* group sensu Burckhardt & Basset, 2000)

Paraphyllolyma Heslop-Harrison, 1952: 966; *nomen nudum*, no type designated.

Phacopteronella Heslop-Harrison, 1960: 504; *nomen nudum*, no description, no type designated.

Pseudotingidiforma Heslop-Harrison, 1952: 966; *nomen nudum*, no type designated.

New combinations

Acizzia albizzialis (Li, 2011: 660, 1802); **comb. nov.**, from *Neoacizzia*.

Acizzia dealbergiae (Li, 2011: 650, 1802); **comb. nov.**, from *Neoacizzia*.

Acizzia huangi (Li, 2011: 649, 1801); **comb. nov.**, from *Neoacizzia*.

Acizzia kalkorae (Li, 2011: 644, 1801); **comb. nov.**, from *Neoacizzia*.

Acizzia unioniseta (Li, 2011: 657, 1802); **comb. nov.**, from *Neoacizzia*.

Bactericera zhaoi (Li, 1997: 16); **comb. nov.**, from *Carsitria*.

Cacopsylla cephaloeuria (Li, 2011: 750, 1813); **comb. nov.**, from *Edentipsylla*.

Cacopsylla dichohippophae (Li, 2011: 752, 1814); **comb. nov.**, from *Edentipsylla*.

Cacopsylla euryptera (Li, 2011: 761, 1814); **comb. nov.**, from *Edentipsylla*.

Cacopsylla melaocoela (Li, 2011: 765, 1814); **comb. nov.**, from *Edentipsylla*.

Cacopsylla meniscata (Li, 2011: 747, 1813); **comb. nov.**, from *Edentipsylla*.

Cacopsylla procurva (Li, 2011: 760, 1814); **comb. nov.**, from *Edentipsylla*.

Cacopsylla tumdensis (Li, 2011: 751, 1813); **comb. nov.**, from *Edentipsylla*.

Colposcencia weitschati† (Klimaszewski, 1997: 163); **comb. nov.**, from *Parascencia*†.

Cornegenapsylla euphoriae (Yang, 1984: 165); **comb. nov.**, from *Neophacopteron*.

Cornegenapsylla sinica Yang & Li, 1982: 124; **comb. rev.**, from *Phacopteron*.

Ctenarytaina pandai (Li, 2011: 519); **comb. nov.**, from *Euryopsylla*.

Diclidophlebia subita† (Klimaszewski, 1998: 21); **comb. nov.**, from *Primascena*†.

Egeirotrioza gracilis (Baeva, 1968: 58); **comb. rev.**, from *Evegeirotrioza*.

Egeirotrioza rufa (Loginova in Loginova-Dudykina and Parfentiev, 1958: 89); **comb. rev.** from *Evegeirotrioza*.

Euryconus muta† (Klimaszewski, 1997: 32); **comb. nov.**, from *Otroacizzia*†.

Euryconus prosapia† (Klimaszewski, 1997: 33); **comb. nov.**, from *Otroacizzia*†.

Euryconus soriae† (Peñalver & García-Gimeno, 2006: 200); **comb. nov.**, from *Otroacizzia*†.

Euryconus tertia† (Klimaszewski, 1997: 34); **comb. nov.**, from *Otroacizzia*†.

Gyropsylla longilabiata (Li, 1991: 39); **comb. nov.**, from *Coelocara*.

Heterotrioza portulacoides (Conci & Tamanini, 1984: 10); **comb. nov.**, from *Trioza* (*Halotrioza*).

Kuwayama dominicana† (Klimaszewski, 1995: 190); **comb. nov.**, from *Succinopsylla*†.

Leurolophus reposta† (Klimaszewski, 1997: 26); **comb. nov.**, from *Vicinilura*†.

Limbopsylla mortua† (Klimaszewski, 1997: 28); **comb. nov.**, from *Indepsylla*†.

Paurocephala baltazarae (Navasero & Calilung, 2001: 130); **comb. nov.**, from *Marpsylla*.

Peripsyllopsis longicella (Li, 2002: 177); **comb. nov.**, from *Microphyllurus*.

Platycorypha carabeus† (Klimaszewski, 1997: 30); **comb. nov.**, from *Parapsyllopsis*†.
Platycorypha olima† (Klimaszewski, 1997: 36); **comb. nov.**, from *Paropsylla*†.
Spondylaspis wanganella (Klimaszewski, 1997: 58); **comb. nov.**, from *Spondytora*.
Sureaca callygoni (Baeva, 1965: 41); **comb. nov.**, from *Pachypsylloides*.
Sureaca deminutus (Loginova, 1970: 607); **comb. nov.**, from *Pachypsylloides*.
Sureaca loginovae (Burckhardt & Halperin, 1992: 41); **comb. nov.**, from *Acaerus*.
Sureaca luridus (Loginova, 1970: 609); **comb. nov.**, from *Pachypsylloides*.
Sureaca memoratus (Loginova, 1970: 605); **comb. nov.**, from *Pachypsylloides*.
Sureaca negevensis (Burckhardt & Halperin, 1992: 44); **comb. nov.**, from *Acaerus*.
Sureaca tumidulus (Loginova, 1970: 606); **comb. nov.**, from *Pachypsylloides*.
Sureaca turkestanica (Löw, 1881: 253); **comb. nov.**, from *Rhinocola*.

New synonymies

Acizzia Heslop-Harrison, 1961 = *Neoacizzia* Li, 2011 **syn. nov.**
Bactericera Puton, 1876 = *Carsitria* Li, 1997 **syn. nov.**
Cacopsylla Ossiannilsson, 1970 = *Edentipsylla* Li, 2005 **syn. nov.**, *Psylla* (*Hepatopsylla*) Ossiannilsson, 1970 **syn. nov.**, *Psylla* (*Osmopsylla*) Loginova, 1978 **syn. nov.**, *Psylla* (*Thamnopsylla*) Loginova, 1978 **syn. nov.**
Colposcena Enderlein, 1929 = *Parascenia*† Klimaszewski, 1997 **syn. nov.**
Cornegenapsylla Yang & Li, 1982 = *Neophacopteron* Yang, 1984 **syn. nov.**
Craspedolepta Enderlein, 1921 = *Paracraspedolepta* Conci, 1993 **syn. nov.**
Crastina Loginova, 1964 = *Crastina* (*Eustigmatia*) Loginova, 1974 **syn. nov.**
Ctenarytaina Ferris & Klyver, 1932 = *Euryopsylla* Li, 2011 **syn. nov.**
Diclidophlebia Crawford, 1920 = *Primascena*† Klimaszewski, 1998 **syn. nov.**
Egeirotrioza Boselli, 1931 = *Evegeirotrioza* Li, 2011 **syn. nov.**
Euryconus Aulmann, 1912 = *Otroacizzia*† Klimaszewski, 1997 **syn. nov.**
Gyropsylla Brèthes, 1921 = *Coelocara* sensu Li nec Tuthill **syn. nov.**
Heterotrioza Dobreanu & Manolache, 1960 = *Trioza* (*Halotrioza*) Conci & Tamanini, 1984 **syn. nov.**
Hippophaetrioza Conci & Tamanini, 1984 = *Hippophaetrioza* (*Maculatrioza*) Li & Yang, 1990 **syn. nov.**
Kuwayama Crawford, 1911 = *Succinopsylla*† Klimaszewski, 1995 **syn. nov.**
Leurolophus Tuthill, 1942 = *Viciniura*† Klimaszewski, 1997 **syn. nov.**
Limbopsylla Brown & Hodkinson, 1988 = *Indepsylla*† Klimaszewski, 1997 **syn. nov.**
Neophyllura Loginova, 1973 = *Neophyllura* (*Arbutophila*) Loginova, 1973 **syn. nov.**
Paurocephala Crawford, 1913 = *Marpsylla* Navasero, 2001 **syn. nov.**, *Pauroterga* Navasero, 2010 **syn. nov.**
Peripsyllopsis Enderlein, 1926 = *Microphyllurus* Li, 2002 **syn. nov.**
Platycorypha Tuthill, 1945 = *Parapsyllopsis*† Klimaszewski, 1997 **syn. nov.**, *Paropsylla*† Klimaszewski, 1997 **syn. nov.**
Spondylaspis Signoret, 1879 = *Spondytora* Klimaszewski, 1997 **syn. nov.**
Stenopsylla Kuwayama, 1910 = *Philippinocarsia* Li & Yang, 1986 **syn. nov.**

Acknowledgments

This paper is dedicated to David Hollis (Natural History Museum, London). His work marked a new era of psyllid classification away from a phenetic point of view based on the Palaearctic fauna going back to Franz Löw, to a phylogenetic approach including the world fauna. DB is very grateful to David for generously sharing his ideas. Many thanks go also to the other psyllid workers, above all Ian D. Hodkinson and Pavel Lauterer, as well as DB's former Ph.D. students and post-doctoral fellows, for collaboration and many stimulating discussions over the years. Further DB thanks the colleagues from the many institutions which loaned material or in whose collections he could study specimens.

For constructive and helpful comments on the manuscript we are grateful to Ian D. Hodkinson (former John Moores University, Liverpool, UK), Pavel Lauterer and Igor Malenovský (Moravian Museum, Brno, Czech

Republic), Diana Percy (Natural History Museum, London, UK), Dalva L. Queiroz (EMBRAPA, Curitiba, Brazil) and Gabrijel Seljak (Agriculture and Forestry Service, Nova Gorica, Slovenia).

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