A NEW SUBSPECIES, REPLACEMENT NAMES, AND SPELLING FIXATIONS FOR SPECIES OF DELTOCEPHALINAE AND MACROPSINAE (HEMIPTERA: CICADELLIDAE)

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Abstract. — Nomenclatural and taxonomic changes are made to align the classification of Deltocephalinae with the International Code of Zoological Nomenclature. The new subspecies, Tetartostylus pavaholatus spinus, is described, Balclutha frontalis Ferrari is reinstated as valid, and nine replacement names are given: Balclutha flavidella, Cephalus villiersi, Exitianus evansi, Hecalus chilensis, Macropsis ishiharai, Scaphytopius delongi, Scaphytopius {Cloanthanus} linnavuori, Sorhoanus lii, and Thamnottettix matsunurai. Additionally, the principle of first revisor is applied to fix the correct spellings of 13 species spelled multiple ways within their original descriptions.

Key Words: Membracoidea, leafhopper, new names, subspecies, nomenclature

Inconsistency often becomes apparent when one brings together many disparately published species into a single classification. Although no single classification is likely to please all researchers, due to inherent subjectivity, all names used in classifications must meet the requirements of the International Rules of Zoological Nomenclature (ICZN; International Commission on Zoological Nomenclature 1999). While preparing the Leafhoppers of the World Database (LOWD), we discovered many changes needed purely on nomenclatural grounds.

Necessary replacement names for pre-occupied leafhopper genera already were provided recently, along with consequent new species combinations (Seven 1997; McKamey 2003, 2006; Dmitriev and Dietrich 2006). The first paper dealing with purely species-level changes uncovered while compiling LOWD dealt with the subfamily Cicadellinae (McKamey 2006). This paper, the second installment, is on the Deltocephalinae and Macropsinae.

The limits of Macropsinae are not in dispute. The limits of Deltocephalinae, however, have been variably defined (Metcalf 1967a, b; Hamilton 1975; Oman et al. 1990) to sometimes include several taxa that are otherwise treated as separate subfamilies, such as the Aphrodinae. Even in the most restricted sense, as applied here, Deltocephalinae is the largest subfamily of leafhoppers, containing about 5,400 species. They are cosmopolitan and many are known to transmit phytopathogens, such as reoviruses and rhabdoviruses (Conti 1985).
No nomenclatural problems have been discovered in Aphrodinae, Arrugadinae, Acostemminae, Drakensbergeniinae, Eupelicinae, Koebeliinae, Mukariniinae, Paraboloponinae, Penthimiinae, or Selenocephalinae, which are taxa considered to be closely related to Deltocephalinae in recent phylogenetic analyses (C. Dietrich and J. Zahniser, unpublished).

References before 1986 have key letters consistent with the bibliographies by Metcalf (1964a) and Oman et al. (1990).

MACROPSINAE

Macropsis ishiharai McKamey and Hicks, new name

Macropsis ishiharai, nomen novum for Macropsis orientalis Ishihara 1961a: 238, preoccupied by Macropsis (Macropsis) orientalis (Distant 1916a: 239).

Both species are valid and without synonyms. Macropsis orientalis (Distant) was described from India and M. orientalis Ishihara was described from Thailand. The new name is dedicated to the author of the junior homonym for his contributions to Auchenorrhyncha taxonomy.

DE尔TOCEPHALINAE

Tetartostylus parabolatus spinus

Tetartostylus parabolatus spinus, new subspecies here described by bibliographic reference: Tetartostylus parabolatus var. spinosus Linnavuori 1961a: 483 [n. var.].

Distribution: South Africa [type repository not stated in original description].

Note: Linnavuori’s use of “var.” was in the sense of a subspecies; he designated a name-bearing type (“...a male (type) (Loc. No. 251).”) for the taxon.

Placottettix taeniatifrons “var.” meridionalis Metcalf, unavailable

Like the former subspecies, Metcalf (1967a: 386) named Placottettix taeniatifrons “var.” meridionalis, not as a new subspecies but as a nomen novum for Thanmotettix aliena Fieber (1885a). Note that a new subspecies is not required to be described for it because the preoccupied name, T. aliena, was placed as a junior synonym of Placottettix taeniatifrons (Kirschbaum 1868b: 89) by Nast (1972a: 353).

Balclutha flavidella McKamey and Hicks, new name


Balclutha lineata (Melichar 1903b: 208) was a valid name until placed in synonymy under Balclutha rosea (Scott 1876d: 83) by Knight (1987a: 1208) but see below. A secondary junior homonym, Balclutha lineata (Osborn 1924c), was formed when Linnavuori (1959b: 340) referred the species from the genus Nesosteles to Balclutha, and up to now was still in use as a valid name, but has not been used by at least 10 authors. Balclutha lineata (Osborn 1924c) has one junior synonym: Eugnathodus flavidus Osborn (1926c). Eugnathodus flavidus Osborn is a junior primary homonym of E. flavidus Naudé (1926a: 88), which was valid until 1973 (most recently, Knight (1987a: 1206) placed it as a junior synonym of Balclutha incisa (Matsumura 1902a)).

Balclutha lineata (Osborn) fails to meet the prevailing usage requirements (ICZN Art. 23.9.1) and lacks a valid synonym. It therefore requires a nomen novum. Eugnathodus flavidus Osborn does not require a replacement name because it has a valid synonym, namely, the nomen novum given above for B. lineata (Osborn).
The new name was chosen to retain the meaning (flavus: Latin for yellowish) of the junior homonym.

**Balclutha frontalis Ferrari,**
*reinstated as valid*

*Gnathodus roseus* Scott 1876d: 83.
Knight 1987a: 1208 [implicit reinst. as *Balclutha rosea*] Preoccupied by *Typhlocyba rosea* Provancher (1872c), which is a junior synonym of *Balclutha punctata* (Fabricius 1775a).

*Gnathodus frontalis* Ferrari 1882a: 117. Knight 1987a: 1208 [implicit reinst. syn. under *Balclutha rosea* (Scott)].

*Gnathodus lineatus* Melichar 1903b: 208. Knight 1987a: 1208 [n. syn.].

*Nesosteles hebe* Kirkaldy 1906c: 343. Knight 1987a: 1208 [n. syn.].

*Nesosteles dryas* Kirkaldy 1907d: 65. Knight 1987a: 1209 [n. syn.].

*Gnathodus pallidulus* Matsumura 1908a: 11. Knight 1987a: 1209 [implicit n. syn.].

*Balclutha montana* Melichar 1914b: 138. To *Balclutha rosea* (Scott); Knight 1987a: 1209 [n. syn.].

*Balclutha orientalis* Matsumura 1914a: 169. To *Balclutha rosea* (Scott); Knight 1987a: 1209 [n. syn.].


*Blachitha flava* Haupt 1927a: 37. Linnavuori 1962a: 39 [n. syn.].

*Eugnathodus calcara* DeLong and Davidson 1933a: 57. Knight 1987a: 1209 [implicit reinst. syn.].

*Agelhus philippinensis* Merino 1936a: 382. Knight 1987a: 1209 [n. syn.].


*Balclutha haupti* Metcalf 1955a: 266 [nom. nov. for *Balclutha flava* Haupt 1927a]. To *Balclutha rosea* (Scott); Knight 1987a: 1209 [listed as syn.].

*Balclutha rosea* (Scott) was treated as valid by Linnavuori (1959b: 339, 1960a: 339, 1960b: 60), Metcalf (1967c: 2434), Knight (1987a: 1208) [who revised the genus], Webb and Vilbaste (1994a: 57), and Dai et al. (2004a: 750). Linnavuori (1975c: 631) and Giustina (1989a: 92), however, listed it as a synonym of *Balclutha frontalis*. The senior homonym of *Balclutha rosea* (Scott), namely *Typhlocyba rosea* Provancher (1872c: 378), is a junior synonym of *Balclutha punctata* (Fabricius 1775a: 687) (Baker 1896a; Metcalf 1967c).

**Cephalius villiersi** McKamey and Hicks, new name


Both species are valid without synonyms. *Cephalius chobauti* Puton was described from Algeria and *C. chobauti* Villiers from Mauritania. The new name is based on the author of the junior homonym.

**Exitianus evansi** McKamey and Hicks, new name


The senior homonym, whose valid name is now *Euscelis pallidus* Osborn (1926c: 348), is recorded from Cuba and the United States. It was a valid species of *Exitianus* until Linnavuori (1959b: 315) placed it in synonymy under *Exitianus exitiosa* (Uhler 1880a: 72).

The junior homonym, *Eutettix pallida* Evans, was referred to *Exitianus* by Evans (1966a: 228). Ross (1968a), in his revision of Old World *Exitianus*, included *Eutettix pallida* Evans in *Exitianus*, having been described from female
types, and suggested that it might prove to be a junior synonym of *E. plebeius* (Kirkaldy 1906c: 331). Fletcher and Lariviere (2001) indicated that *E. pallidus* "is not a true *Exitianus.*" At present, however, the species is treated as valid in *Exitianus,* and therefore requires a new replacement name.

The new name is based on the author of the junior homonym.

**Hecalus chilensis** McKamey and Hicks, new name


Both species are valid without synonyms. *Hecalus australis* Linnavuori and DeLong was described from Chile and *H. australis* Evans was described from Australia.

The homonymy arose through a series of events: *Parabolocratus australis* Evans was moved to his new genus *Linnavuoriella* (Evans 1966a: 135). *Linnavuoriella* was synonymized under *Hecalus* by Morrison (1973a) who did not list the species. Linnavuori (1975a) treated *Linnavuoriella* as a valid genus, but he did not cite Morrison’s (1973a) paper, suggesting that Linnavuori was unaware of the change. The new combination *Hecalus australis* (Evans) was first published by Day and Fletcher (1994a: 1215).

The new name is based on the species’ country of origin.

**Scaphytopius delongi** McKamey and Hicks, new name

*Scaphytopius delongi,* nomen novum for *Hebenarus abruptus* DeLong 1944c: 44, preoccupied by *Scaphytopius* (Convelinus) *abruptus* Ball 1909c: 165.

Van Duzee (1910a: 230) placed the senior homonym as a junior synonym of *Scaphytopius* (Convelinus) *fuscifrons* (Van Duzee 1894f: 206), which occurs in the United States. Oman (1949a: 101) synonymized *Hebenarus* under *Scaphytopius,* which resulted in the homonymy, but did not list the senior homonym. The *nomen novum* for the junior homonym denotes a valid species described from Mexico.

The new name is based on the author of the junior homonym.

**Scaphytopius (Cloanthanus) linnavuorii** McKamey and Hicks, new name

*Scaphytopius (Cloanthanus) linnavuorii,* nomen novum for *Scaphytopius (Cloanthanus) divisus* DeLong and Linnavuori 1978b: 116, preoccupied by *Scaphytopius divisus* (DeLong 1944a: 171).

Both species are valid without synonyms. *Scaphytopius divisus* (DeLong 1944a) was described from Mexico and *Scaphytopius divisus* DeLong and Linnavuori (1978b) was described from Peru. The new name is based on one author of the junior homonym.

**Sorhoanus lii** McKamey and Hicks, new name


Both species are valid without synonyms. *Sorhoanus binotatus* Kuoh was described from China and *S. binotatus* Li and Dai was described from Taiwan. The new name is based on the author of the junior homonym.

**Thamnotettix matsumurai** McKamey and Hicks, new name

The senior homonym *Thamnotettix infuscatus* Gillette and Baker is a junior synonym of *T. confinis* Zetterstedt (1828a: 527), which has a widespread distribution: United States, Canada, Europe (Scandinavia to western Mediterranean), northern Africa, Russia, eastern Baltic States (Metcalf 1967a), and Mongolia (Dlabola 1965c). *Thamnotettix infuscatus* Matsumura, a valid species without synonyms, was described from Russia.

The new name is based on the author of the junior homonym.

**Fixed Correct Original Spellings**

The principle of first reviser (ICZN Art. 24) is here applied to fix the spellings of 13 species that were spelled multiple ways in their original descriptions. All are valid species without synonyms.


*Acinopterus perdicoensis* Linnavuori and DeLong 1977d: 250. The spelling “*perdicoensis*” (p. 250) is deemed incorrect.

*Allygus* (*Syringius*) *rebellatrix* Dlabola 1995a: 317. The spelling “*rebelatrix*” (p. 318) is deemed incorrect.

*Amplicephcilus latus* DeLong 1984d: 169. The spelling “*lastus*” (p. 171) is deemed incorrect.

*Angubahita atra* DeLong 1982a: 185. The spelling “*arta*” in the species heading is deemed incorrect.

*Bendara lyrata* DeLong 1980h: 64. The spelling “*lyrata*” [in note, p. 64] is deemed incorrect.

*Deltocephalus diagnalis* DeLong 1984f: 110. The spelling “*diagnalus*” in the species heading is deemed incorrect.

*Haldorus nigrifrons* Linnavuori and DeLong 1979a: 51. The spelling “*nigrifrons*” (p. 51) is deemed incorrect.

*Macrosteles purpurea* Kuoh [in Kuoh and Lu 1986a: 121]. The spelling “*purpurea*” (p. 121) is deemed incorrect.

*Neurotettix flangenus* Shen and Dai (2002: 89) appears as such in the abstract, the introduction, at the head of the species description and in the Chinese summary (and is therefore presumed to be the intended name). It is misspelled as *N. robustus* (presumably a *lapis calami*) in the key and in the figure caption.

*Paratanus bipunctatus* DeLong and Cwikla 1985a: 725. The spelling “*bipunctatus*” in the abstract is deemed incorrect.

*Perubahita longifalix* Linnavuori and DeLong 1978b: 114. The spelling “*longifal*” (p. 114) is deemed incorrect.

*Scaphoideus wideaeagous* Wang and Li 2004a: 17. The spelling “*windeaeagous*” in English summary (p. 18) is deemed incorrect.

**Acknowledgments**

We thank the many researchers of Membraeoida who have encouraged the LOWD project since its beginning, and to F. C. Thompson, L. Deitz and two anonymous reviewers for suggestions on earlier drafts of this manuscript.

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