

NOMENCLATURAL CHANGES IN THE PENTATOMOIDEA (HEMIPTERA-
HETEROPTERA: CYDNIDAE, PENTATOMIDAE). II. SPECIES LEVEL
CHANGES

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Abstract.—Numerous species level nomenclatural problems in the Pentatomoidea (Heteroptera) are discussed and corrected. These corrections have necessitated nine specific replacement names: *Carbula linnavuorii* for *C. litigatrix*: Linnavuori, 1975 (not Kirkaldy 1909); *C. nigricornis schoutedeni* for *C. n. obtusangula* Schouteden, 1916; *Dalpada neoclavata* for *Cimex clavatus* Fabricius, 1798; *Diploxyx cachani* for *D. bimaculata* Cahan, 1952; *Eysarcoris distanti* for *Neocarbula capitatus* Distant, 1918; *Menida parva* for *Rhaphigaster parvulus* Signoret, 1858; *Menida versicoloratus* for *Pentatoma versicolor* Palisot de Beauvois, 1811; *Pentatoma zhengi* for *P. venosa* Zheng and Ling, 1983; and *Runibea dallasi* for *Pentatoma proxima* Dallas, 1851.

Key Words: nomenclature, systematics, Heteroptera, Pentatomoidea, Pentatomidae, Cydnidae

While preparing a catalog of the Pentatomidae of the World, I have found many nomenclatural problems. Interestingly, a reviewer of an earlier paper concerning nomenclatural changes in the Pentatomidae (Rider and Rolston 1995) commented that his biggest surprise was that there were not more problems to be corrected. Since the above paper, another paper on nomenclatural changes already has been published (Rider 1997); two others soon will appear in print (Rider 1998, Rider and Fischer 1998). In the present paper, I address a number of species level nomenclatural problems.

The problems dealt with in this paper are strictly of a nomenclatural nature. I do not intend to validate the taxonomy involved with the current problems. If current workers are correct taxonomically in their recent papers, then the names should be as proposed herein.

CYDNIDAE: CYDNINAE

Pangaeus serripes (Westwood 1837),
revised status

Cimex aethiops Fabricius 1787: 296 (primary junior homonym of *Cimex aethiops* Goeze 1778, Scutelleridae)

Cydnus serripes Westwood 1837: 19; Stål 1876: 26.

Aethus margo Dallas 1851: 116.

Pangaeus aethiops: Stål 1868: 7.

Pangoeus [sic] *serripes*: Signoret 1882: 247, pl. 8 fig. 106.

Pangaeus serripes: Uhler 1886: 3; Lethierry and Severin 1893: 70.

Pangaeus (Pangaeus) aethiops: Froeschner 1960: 479, 504–507, figs. 14, 24, 46, 103, 127, 155, 177, 235.

Goeze's (1778) description of *Cimex aethiops* predates Fabricius' (1787) usage of the same name by nine years. *Cimex aethiops* Goeze currently is considered to be

a junior synonym of the scutellerid *Eurygaster austriaca* (Schrank), a species occurring throughout much of Europe. The next available name for *C. aethiops* Fabricius is *Cydnus serripes* Westwood; therefore, the proper name for this tropical American cydnid is *Pangaesus serripes*.

PENTATOMIDAE: PENTATOMINAE

Agonoscelis versicoloratus (Turton 1802),
revised status

Cimex versicolor Fabricius 1794: 120 (primary junior homonym of *Cimex versicolor* Gmelin 1790; *Menida*)

Cimex versicoloratus Turton 1802: 648 (new name for *Cimex versicolor* Fabricius 1794)

Cimex pubescens Thunberg 1822: 2.

Aelia infusata Westwood 1837: 8, 32.

Cimex acinorum Germar 1838: 177–178.

Agonoscelis versicolor: Dallas 1851: 179; Stål 1865: 178; Lethierry and Severin 1893: 151.

Agonoscelis pubescens: Kirkaldy 1909: 98.

Gmelin's (1790) usage of the binomen *Cimex versicolor* precedes Fabricius' (1794) by four years. Turton (1802) recognized this case of homonymy and proposed the replacement name *C. versicoloratus*. No one used Turton's name, although Kirkaldy (1909) also realized that *C. versicolor* Fabricius was preoccupied; he used the next available name, *Agonoscelis pubescens* (Thunberg). Virtually no one has followed Kirkaldy in using *A. pubescens*; most workers are still using *A. versicolor* as the valid name. *Agonoscelis versicoloratus* is a relatively common species, occurring throughout much of Africa south of the Sahara desert. Gmelin's (1790) *C. versicolor* is a member of the pentatomid genus *Menida* (see also discussion below).

There currently are four subspecies of *Agonoscelis versicoloratus* that are affected by this name change. Along with the nominate form, their correct combinations are: *Agonoscelis versicoloratus fallaciosa* Linnavuori, *A. v. gambiensis* (Westwood), and

A. v. tibialis Horváth. Horváth's name, *tibialis*, has, in the past, only been used as a varietal name, which actually may be its proper status.

Antestiopsis thunbergii (Gmelin 1790),
revised status

Cimex variegatus Thunberg 1783: 48–49, pl. 2 fig. 62; Thunberg 1822: 3 (primary junior homonym of *Cimex variegatus* Poda 1761, Stenocephalidae)

Cimex thunbergii Gmelin 1790: 2158; Turton 1802: 652 (new name for *Cimex variegatus* Thunberg 1783)

Cimex olivaceus Thunberg 1822: 2–3. (primary junior homonym of *Cimex olivaceus* Fabricius 1777, Miridae)

Pentatoma orbitalis Westwood 1837: 8, 35.

Cimex facetus Germar 1838: 172.

Pentatoma lineaticollis Stål 1853: 220.

Strachia pentatomoides Walker 1867: 325.

Antestiopsis faceta: Leston 1952: 269.

Antestiopsis orbitalis: Leston 1953: 58.

Antestiopsis lineaticollis: Le Pelley 1959: 54, 185.

Antestiopsis orbitalis orbitalis: Greathead 1966: 520, 521–525, figs. 2, 8, 14–16, 34, pl. 19 figs. 1, 2.

This taxon was first described by Thunberg in 1783 as *Cimex variegatus*. This name, however, is a junior primary homonym of *Cimex variegatus* Poda, 1761, a species in the heteropteran family Stenocephalidae. Gmelin (1790), realizing that *Cimex variegatus* Thunberg was preoccupied, proposed *C. thunbergii* as a replacement name. Owing to the great variability in the dorsal coloration, this species has been redescribed a number of times by different authors. In his relatively recent revisionary work on the group, Greathead (1966) settled upon *Antestiopsis orbitalis* (Westwood) as the proper name for this taxon. Even so, other authors continue to use the other specific epithets (*A. faceta* [Germar], *A. lineaticollis* [Stål], *A. variegatus*), and Greathead used these other names for the various forms. *Cimex thunbergii* is

clearly the oldest valid name for this species.

There currently are three subspecies of this taxon recognized. Besides the nominate form, there also is *Antestiopsis thunbergii bechuana* (Kirkaldy) and *A. t. ghesquierei* Carayon.

Antheminia eurynota remota (Horváth 1908)

Carpocoris remotus Horváth 1908: 296; McDonald 1966: 21–22, 50, figs. 148–154, 448.

Carpocoris (Antheminia) remotus: Kirkaldy 1909: 57; Van Duzee, 1917: 37.

Antheminia eurynota tamaninii Kerzhner 1972: 369, figs. 57–60.

Codophila (Antheminia) remota: Thomas 1974: 441.

Codophila remota: Froeschner 1988: 573.

Antheminia eurynota remota: Kerzhner 1993: 103–104.

Tamanini (1958, 1962) worked extensively on four closely related pentatomid genera: *Antheminia* Mulsant and Rey, *Carpocoris* Kolenati, *Codophila* Mulsant and Rey, and *Dolycoris* Mulsant and Rey. He concluded that *Antheminia* should be recognized as a subgenus of *Codophila*, a fact reported on by Thomas (1974). Thomas also diagnosed the two American species, *C. remota* (Horváth) and *C. sulcata* (Van Duzee), placing them both in *Codophila (Antheminia)*. Most Old World workers, however, still recognize both *Antheminia* and *Codophila* as valid genera, including even Tamanini in 1981. This generic realignment also results in the new combination *Antheminia sulcata* (Van Duzee).

Because many New World workers may have missed the synonymical note published by Kerzhner (1993), this information is repeated here. Kerzhner concluded that *remota* is conspecific with the Old World species *A. eurynota* Horváth; both taxa were described by Horváth (1908) with *A. eurynota* having page priority. Moreover, Kerzhner found that the American species

resembled most closely (genitalia were identical) specimens earlier (Kerzhner 1972) described by himself as *Antheminia eurynota tamaninii*. Kerzhner did not comment on *A. sulcata*, which needs to be re-examined as it is also closely related.

Carbula limpoponis (Stål 1853),
revised status

Cimex marginellus Thunberg 1822: 4–5 (primary junior homonym of *Cimex marginellus* Fabricius 1781, Miridae)

Pentatoma limpoponis Stål 1853: 219; Walker 1867: 296.

Pentatoma (Carbula) marginella: Stål 1865: 143.

Pentatoma (Carbula) limpoponis: Stål 1865: 143–144.

Carbula limpoponis: Stål 1876: 83; Lethierry and Severin 1893: 143; Kirkaldy 1909: 88; Cachan 1952: 412, 415–416.

Carbula marginella: Stål 1876: 83; Lethierry and Severin 1893: 143; Kirkaldy 1909: 88; Linnavuori 1982: 93, 96–97.

Carbula pedalis Bergroth 1891: 203–204; Lethierry and Severin 1893: 143; Kirkaldy 1909: 88.

Carbula litigatrix Kirkaldy 1909: 88 (unnecessary new name for *Cimex marginellus* Thunberg, 1822)

This species has had a long and confusing taxonomic history. Thunberg (1822) first described this species as *Cimex marginellus*, a combination used previously by Fabricius (1781) for a new species of Miridae. This species was described twice in subsequent years, once by Stål (1853) as *Pentatoma limpoponis* and once by Bergroth (1891) as *Carbula pedalis*. Most workers considered these three names to represent three valid species until Linnavuori (1975) placed *C. limpoponis* and *C. pedalis* as junior synonyms of *C. marginellus*. Linnavuori, however, mistakenly recognized *C. litigatrix* as a separate species. *Carbula litigatrix* was proposed by Kirkaldy (1909) as a replacement name for *Cimex marginellus* Thunberg, 1822, recog-

nizing that it was preoccupied by *C. marginellus* Fabricius, 1781. As such, *C. litigatrix* and *C. marginellus* must represent the same species, which leaves *C. litigatrix* sensu Linnavuori, 1975, without a name (see below). At any rate, *C. marginellus* Thunberg, 1822, is preoccupied; if *C. limpoponis* and *C. pedalis* are indeed synonyms of *C. marginellus* (per Linnavuori 1975), then both would have priority over Kirkaldy's replacement name (*C. litigatrix*).

The problem is compounded by the fact that Linnavuori (1982) described a new subspecies of this species as *C. marginella sindouana*. This subspecies should be tentatively represented by the new combination *C. limpoponis sindouana*. *Carbula* Stål is a large and important genus badly in need of a thorough revision. Only then will the true status of the above species be resolved.

***Carbula linnavuorii* Rider, new name**

Carbula litigatrix: Linnavuori 1975:51, 62–63, figs. 37a–f.

Linnavuori (1975) recognized *Carbula litigatrix* as being distinct from *C. marginella* (Thunberg). *Carbula litigatrix* was, however, originally proposed as a replacement name for the preoccupied *Cimex marginella* Thunberg, 1822; the two names must stand for the same species (see above discussion). This leaves *Carbula litigatrix* sensu Linnavuori, 1975 without a name. I propose *Carbula linnavuorii* as a new name.

***Carbula nigricornis schoutedeni* Rider,
new name**

Carbula nigricornis var. *obtusangula* Schouteden 1916: 305 (primary junior homonym of *Carbula obtusangula* Reuter 1881, *Carbula*)

Schouteden (1916) described *C. obtusangula* as a new variety of *Carbula nigricornis* Schouteden, evidently unaware that Reuter (1881) had used *C. obtusangula* for a new species of *Carbula* from the Oriental region. Reuter's species still is considered

to be a valid species and has been reported from China, Japan, and Okinawa. No subsequent workers have even mentioned Schouteden's variety, so it must still be treated as a valid subspecific name, thus requiring a new name; I propose *schoutedeni*.

***Dalpada neoclavata* Rider, new name**

Cimex clavatus Fabricius 1798: 532 (primary junior homonym of *Cimex clavatus* Linnaeus 1767, Miridae; *Cimex clavatus* Thunberg 1783, Alydidae; and *Cimex clavatus* Reich 1795, Alydidae)

Dalpada clavata: Dallas 1851: 184; Stål 1876: 43; Lethierry and Severin 1893: 98; Kirkaldy 1909: 193.

The binomen *Cimex clavatus* already had been used for three other hemipterans when Fabricius (1798) used it in describing his new species of Pentatomidae. Linnaeus (1767) used this name for a new species of Miridae, and Thunberg (1783) and Reich (1795) both used it to describe two separate species of Alydidae. Distant (1893) considered both *D. bulbifera* Walker and *D. consobrina* Walker to be junior synonyms of *D. clavata* (Fabricius, 1798), but Ghauri (1982) resurrected both names, considering them both to represent valid species. This leaves *Cimex clavata* without any known junior synonyms; thus I propose *Dalpada neoclavata* as a replacement name. This species is known to occur in China, India, Myanmar, Sri Lanka, and Thailand.

***Diploxys cachani* Rider, new name**

Diploxys bimaculata Cachan 1952: 382, 383–384, figs. 362–364, pl. 12 fig. 3 (secondary junior homonym of *Gonopsis bimaculata* Stål 1858, *Diploxys bipunctata*)

In 1858, Stål described *Gonopsis bimaculata*, a species that he himself (Stål 1865) later placed as a junior synonym of *Diploxys bipunctata* Amyot and Serville. Cachan (1952) subsequently described *Diploxys bimaculata* from Madagascar, thus creating a secondary junior homonym, which still ex-

ists. I propose *cachani* as a replacement name.

Eurus rotundatus Dallas, 1851,
revised status

Cimex dilatatus Thunberg 1822:5 (primary junior homonym of *Cimex dilatatus* Turton 1802, Miridae)

Eurus rotundatus Dallas 1851: 190, pl. 7 figs. 2a, b.

Brachymenum circuliventre Mayr 1864: 909.

Eurus dilatatus: Stål 1865: 109–110; Kirkaldy 1909: 201; Linnavuori 1982: 57, figs. 71c–f, 72a.

Turton (1802) proposed *Cimex dilatatus* as a replacement name for the preoccupied name *Cimex pictus* Gmelin, a member of the heteropteran family Miridae. This usage precedes Thunberg's name by twenty years. The next available synonym is *Eurus rotundatus* Dallas. This species occurs in South Africa.

***Eysarcoris distanti* Rider, new name**

Neocarbula capitata Distant 1918: 134–135, fig. 68 (secondary junior homonym of *Eusarcocoris capitatus* Distant 1902, *Eysarcoris*)

Stollia capitata: Kiritshenko 1961: 443.

Distant (1902) described the species *capitata* in *Eusarcocoris*, an unjustified emended form of the genus *Eysarcoris* Hahn. This Indian species still is regarded as a valid species in the genus *Eysarcoris*. In 1918, Distant described another Indian species as *Neocarbula capitata*. This species has only been referred to one other time as *Stollia capitata* (Kiritshenko 1961). Both *Neocarbula* Distant and *Stollia* Ellenrieder now are regarded as junior synonyms of *Eysarcoris*. Transferral of Distant's 1918 species into *Eysarcoris* creates a secondary homonym, which I propose to correct with the new name *distanti*.

Eysarcoris venustissimus (Schrank 1776),
revised status

Cimex melanocephalus Fabricius 1775: 716–717 (primary junior homonym of *Cimex melanocephalus* Linnaeus 1767, Miridae)

Cimex venustissimus Schrank 1776: 80.

Eysarcoris melanocephalus: Hahn 1835: 130, fig. 211; Lethierry and Severin 1893: 140.

Eusarcoris venustissimus: Autran and Reuter 1888: 199.

Eysarcoris fabricii Kirkaldy 1904: 281; Kirkaldy 1909: 84, 379 (unnecessary new name for *Cimex melanocephalus* Fabricius 1775)

Cimex melanocephalus Fabricius, 1775, is preoccupied by *C. melanocephalus* Linnaeus, 1767, a species in the heteropteran family Miridae. Kirkaldy (1904) proposed *Eysarcoris fabricii* as a replacement name, but an available junior synonym already existed, *Cimex venustissimus* Schrank, 1776. *Eysarcoris venustissimus* should be the valid name used for this common Old World species.

***Menida parva* Rider, new name**

Rhaphigaster parvulus Signoret 1858: 289 (primary junior homonym of *Rhaphigaster parvulus* Dallas 1851, *Acrosternum*)

Antestia parvula: Stål 1865: 211; Walker 1867: 281.

Menida parvula: Stål 1876: 99; Lethierry and Severin 1893: 174; Kirkaldy 1909: 133; Linnavuori 1982: 158, 160, figs. 258e, f, 261c; Linnavuori 1986: 131, 135, figs. 5a, 12c–f, 13a–f.

Menida signoreti Rider and Rolston 1995: 849 (primary junior homonym of *Menida signoreti* Stål 1876, *Menida*; new name for *Menida parvula* Signoret 1858)

Rider and Rolston (1995) proposed *Menida signoreti* as a replacement name for *Menida parvula* Signoret, 1858. They did not realize that Stål (1876) already had used this binomen in describing a species of

Menida Motshulsky, questionably from India. I herein propose *Menida parva* as another replacement name.

Menida versicolor (Gmelin 1790),
revised status

Cimex histrio Fabricius 1787: 296 (primary junior homonym of *Cimex histrio* Linnaeus 1758; *Dinocoris*)

Cimex versicolor Gmelin 1790: 2155. (new name for *Cimex histrio* Fabricius 1787)

Pentatoma bengalensis Westwood 1837: 8, 36–37.

Rhaphigaster concinnus Dallas 1851: 285–286.

Rhaphigaster strachioides Walker 1867: 365.

Menida histrio: Stål 1876: 98.

Menida ceylanica Breddin 1909: 280–281, fig. 19.

Menida bengalensis: Kirkaldy 1909: 131, 381.

Fabricius (1787) described the taxon *Cimex histrio* for a species currently contained in the genus *Menida*. He apparently did not realize that this binomen had been used first 29 years previously by Linnaeus (1758) for a pentatomid species now residing in the genus *Dinocoris* Burmeister. Several other workers realized this and adopted Westwood's (1837) name *C. bengalensis* as the valid species name. They apparently did not realize that Gmelin (1790) had proposed *C. versicolor* as a replacement name for *C. histrio* Fabricius. *Menida versicolor* occurs throughout the Indo-Pakistan and Oriental regions, whereas *Dinocoris histrio* Linnaeus occurs in the Neotropics.

Menida versicoloratus Rider, new name

Pentatoma versicolor Palisot de Beauvois 1811: 114, pl. 8 fig. 8 (secondary junior homonym of *Cimex versicolor* Gmelin 1790, *Menida*)

Menida versicolor: Stål 1876: 98; Lethierry and Severin 1893: 175; Kirkaldy 1909: 133; Leston 1956: 625; Schouteden 1964: 94.

Most recent workers consider *Pentatoma versicolor* Palisot de Beauvois, 1811, to be a valid species in the genus *Menida*. This creates a case of secondary homonymy (see above discussion), which I propose to correct by proposing *versicoloratus* as a replacement name. This species occurs in tropical Africa.

Pentatoma zhengi Rider, new name

Pentatoma venosa Zheng and Ling 1983: 236–237, 238, figs. 16–23; Ling and Zheng 1987: 41, 43–45, 48; Zheng et al. 1987: 217 (primary junior homonym of *Pentatoma venosa* Förster 1891, Pentatomidae)

Zheng and Ling (1983) apparently were unaware that the binomen *Pentatoma venosum* already had been used for a fossil species of Pentatomidae (Förster 1891) when they used that name for an extant species occurring in the Yunnan Province of China. I propose *zhengi* as a replacement name.

Runibia dallasi Rider, new name

Pentatoma? proxima Dallas 1851: 255 (primary junior homonym of *Pentatoma proxima* Westwood 1837, *Nezara viridula*)

Runibia proxima: Stål 1861: 141; Lethierry and Severin 1893: 160; Kirkaldy 1909: 111; Van Duzee 1917: 57; Rolston 1976: 4; Froeschner 1988: 591.

Dallas (1851) described *proxima*, tentatively placing it in the genus *Pentatoma* Olivier (note question mark) thereby creating a junior primary homonym with *Pentatoma proxima* Westwood, 1837. Westwood's species is a junior synonym of *Nezara viridula* (Linnaeus). Stål (1861) transferred Dallas's species to *Runibia* Stål where it still is considered to be a valid species. It has been reported from Cuba, Jamaica, and the U.S. (Texas). I propose *R. dallasi* to eliminate the case of homonymy.

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LITERATURE CITED

- Autran, E. and O. M. Reuter. 1888. Hemiptera Amurensia. *Revue d'Entomologie* 7: 199-202.
- Bergroth, E. 1891. Contributions à l'étude des pentatomides. *Revue d'Entomologie* 10: 200-235.
- Bredden, G. 1909. Rhynchoten von Ceylon gesammelt von Dr. Walter Horn. *Annales de la Société Entomologique de Belgique* 53: 250-309.
- Cachan, P. 1952. Les Pentatomidae de Madagascar (Hémiptères Hétéroptères). *Mémoires de l'Institut Scientifique de Madagascar (E)* 1(2): 231-462, pls. VI-XIV.
- Dallas, W. S. 1851. List of the Specimens of Hemipterous Insects in the Collection of the British Museum. *British Museum ed.*, London 2 pts., 592 pp. + 15 pls.
- Distant, W. L. 1893. On some allied Pentatomidae, with synonymical notes. *Annals and Magazine of Natural History* (6) 11: 389-394.
- Distant, W. L. 1902. Rhynchota—Vol. I. Heteroptera, pp. xxxviii + 438. *In* Blanford, W. T., ed., *The Fauna of British India, including Ceylon and Burma*. Secretary of state for India. Taylor and Francis, London.
- Distant, W. L. 1918. Rhynchota.—Vol. VII. Homoptera: Appendix, Heteroptera: Addenda, pp. viii + 210. *In* Blanford, W. T., ed., *The Fauna of British India, including Ceylon and Burma*. Secretary of state for India. Taylor and Francis, London.
- Fabricius, J. C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adjectis synonymis, locis, descriptionibus, observationibus*. Flensburgi et Lipsiae, Korte. xxvii + 832 pp.
- Fabricius, J. C. 1777. *Genera insectorum eorumque characteres naturales secundum numerum, figuram, situm, et proportionem omnium partium oris adjecta mantissa specierum nuper Detectarum*. Mich. Friedr. Bartschii, Chilonii. xiv + 310 pp.
- Fabricius, J. C. 1781. *Species insectorum exhibentes eorum differentias specificas, synonyma auctorum, loca natalia, metamorphosin adjectis observationibus, descriptionibus*. Tom. II. Carol. Ernest. Bohnii, Hamburgi et Kilonii. 517 pp.
- Fabricius, J. C. 1787. *Mantissa insectorum sistens species nuper detectas adjectis synonymis, observationibus, descriptionibus, emendationibus*. Tom. II. Christ. Gottl. Proft, Hafniae. 382 pp.
- Fabricius, J. C. 1794. *Entomologia systematica emendata et aucta, secundum classes, ordines, genera, species adjectis synonymis, locis, observationibus, descriptionibus*. Tom. IV. C. G. Proft, Hafniae. vi + 492 pp.
- Fabricius, J. C. 1798. *Entomologia systematica emendata et auct, secundum classes, ordines, genera, species, adjectis synonymis, locis, observationibus*. Supplementum. Proft et Storch, Hafniae. ii + 572 pp.
- Förster, B. 1891. Die Insekten des plattigen Steinmergels von Brunstatt. *Abhandlungen zur Geologischen Spezialkarte von Elsass-Lothringen* 3: 527.
- Froeschner, R. C. 1960. Cydnidae of the Western Hemisphere. *Proceedings of the United States National Museum* 111: 337-680.
- Froeschner, R. C. 1988. Family Pentatomidae Leach, 1815. The stink bugs, pp. 544-607. *In* Henry, T. J. and R. C. Froeschner, eds., *Catalog of the Heteroptera, or true bugs, of Canada and the continental United States*. E. J. Brill, Leiden, New York. xix + 958 pp.
- Germar, E. F. 1838. Hemiptera Heteroptera promontorii Bonae Spei nondum descripta, quae collegit C. F. Drége. *Revue Entomologique (Silbermann)* 5: 121-192. (1837.)
- Ghuri, M. S. K. 1982. New genera and new species of Halyini, mainly from South India (Heteroptera, Pentatomidae, Pentatominae). *Reichenbachia Staatliches Museum für Tierkunde in Dresden* 20: 1-24.
- Gmelin, J. F. 1790. *Caroli a Linné Systema Naturae; Edition 13 aucta, reformata*. Tome I, Pars IV. Beer, Lipsiae. pp. 1517-2224.
- Goeze, J. A. E. 1778. *Entomologische beyträge zu des ritter Linné zwölfften ausgabe des natursystems*. Vol. 2. Weidmans, Erben and Reich, Leipzig. lxxii + 352 pp.
- Greathead, D. J. 1966. A taxonomic study of the species of *Antestiopsis* (Hemiptera: Pentatomidae) associated with *Coffea arabica* in Africa. *Bulletin of Entomological Research* 56: 515-554, pls. 19, 20.
- Hahn, C. W. 1835. *Die Wanzenartigen Insekten*. C. H. Zeh'schen Buchhandlung, Nürnberg, Vol. 2: 121-142.

- Horváth, G. 1908. Hemiptera nova vel minus cognita e regione palæarctica. *Annales Musei Nationalis Hungarici* 5: 289–323. (1907.)
- Kerzhner, I. M. 1972. New and little-known Heteroptera from Mongolia and from adjacent regions of the USSR. *I. Nasekomye Mongolii* 1: 349–379.
- Kerzhner, I. M. 1993. Notes on synonymy and nomenclature of Palaearctic Heteroptera. *Zoosystematica Rossica* 2: 97–105.
- Kiritshenko, A. N. 1961. Synonymical notes on Heteroptera. *Acta Entomologica Musei Nationalis Pragae* 34: 443–444.
- Kirkaldy, G. W. 1904. Bibliographical and nomenclatorial notes on the Hemiptera.—No. 3. *Entomologist* 37: 279–283.
- Kirkaldy, G. W. 1909. Catalogue of the Hemiptera (Heteroptera) with Biological and Anatomical References, Lists of Foodplants and Parasites, etc. Vol. I. Cimicidae. Felix L. Dames, Berlin. xi + 392 pp.
- LePelley, R. H. 1959. *Agricultural Insects of East Africa*. East Africa High Commission, Nairobi. 307 pp.
- Leston, D. 1952. Notes on the Ethiopian Pentatomidae (Hem.) I. The genotype of *Antestia* Stål. *Revue de Zoologie et de Botanique Africaines* 45: 268–270.
- Leston, D. 1953. Notes on the Ethiopian Pentatomoidea. X. Some specimens from southern Africa in the South African Museum, with a note on the remarkable pygophore of *Elvisura irrorata* Spinola and description of a new species of *Piezodorus* Fieber. *Annals of the South African Museum* 51: 48–60.
- Leston, D. 1956. Results from the Danish expedition to the French Cameroons 1949–50. IX. Hemiptera, Pentatomoidea. *Bulletin de l'Institut Français d'Afrique Noire (A)* 18: 618–626.
- Lethierry, L. and G. Severin. 1893. *Catalogue Général des Hémiptères*. Tome 1 Hétéroptères. Pentatomoidea. F. Hayez, Académie Royale de Belgique, Bruxelles. x + 286 pp.
- Ling, Z.-P. and L.-Y. Zheng. 1987. A study on the systematics of *Pentatoma* Olivier (Heteroptera: Pentatomoidea). *Entomotaxonomia* 9: 39–50.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Editio decima, reformata. Laurentii Salvii, Holmiae Vol. 1: 823 + I pp.
- Linnaeus, C. 1767. *Systema naturae per regna tria naturae secundum classes, ordines, genera, species cum characteribus, differentiis, synonymis, locis editio duodecima, reformata*. Tome I, Pars II. Laurentii Salvii, Holmiae. pp. 537–1327.
- Linnavuori, R. 1975. Hemiptera Heteroptera of the Sudan with remarks on some species of the adjacent countries. Part 5. Pentatomoidea. *Boletim da Sociedade Portuguesa de Ciências Naturais* (2)15: 5–128.
- Linnavuori, R. 1982. Pentatomoidea and Acanthosomatidae (Heteroptera) of Nigeria and the Ivory Coast, with remarks on species of the adjacent countries in West and Central Africa. *Acta Zoologica Fennica* 163: 1–176.
- Linnavuori, R. 1986. Studies on African Pentatomoidea (Heteroptera). *Annales Entomologici Fennici* 52: 129–136.
- Mayr, G. L. 1864. Diagnosen neuer Hemipteren. *Verhandlungen des Zoologisch-Botanischen Gesellschaft in Wien* 14: 903–914.
- McDonald, F. J. D. 1966. The genitalia of North American Pentatomoidea (Hemiptera: Heteroptera). *Quaestiones Entomologicae* 2: 7–150.
- Palisot de Beauvois, A. M. F. J. 1811. *Insectes recueillis en Afrique et en Amérique, dans les royaumes d'Oware et de Benin, a Saint-Domingue et dans les États-Unis pendant les années 1786–1797*. Imprimerie de Fain et Compagnie, Paris. Parts 7–8: 101–136.
- Poda, N. 1761. *Insecta Musei Graecensis, quae in ordinibus, genera et species juxta Systema Naturae Linnaei digessit*. Widmanstad. 127 + 18 pp. + 2 pls.
- Reich, G. C. 1795. Kurze Beschreibung verschiedener neuen, oder noch wenig bekannten Thiere, welche Herr Le Blond der naturforschenden Gesellschaft zu Paris aus Cayenne als Geschenk überschickt hat. *Magazin des Thierreichs* 1: 128–134.
- Reuter, O. M. 1881. Diagnoses quatuor novarum Pentatomidarum. *Entomologist's Monthly Magazine* 17: 233–234.
- Rider, D. A. 1997. Rolstoniellini, replacement name proposed for Compastini Distant, 1902, a tribal name based on a generic junior homonym (Heteroptera: Pentatomoidea: Pentatomininae). *Journal of the New York Entomological Society* 103: 401–403.
- Rider, D. A. 1998. Nomenclatural changes in the Pentatomoidea (Hemiptera-Heteroptera). III. Generic level changes. *Proceedings of the Entomological Society of Washington* 100: 504–510.
- Rider, D. A. and C. Fischer. 1998. On the systematic position of *Pseudobebaeus truncatus* (Fallou 1888), new combination (Heteroptera: Pentatomoidea: Procliticini). *Entomological News*.
- Rider, D. A. and L. H. Rolston. 1995. Nomenclatural changes in the Pentatomoidea (Hemiptera-Heteroptera). *Proceedings of the Entomological Society of Washington* 97: 845–855.
- Rolston, L. H. 1976. An evaluation of the generic assignment of some American Pentatominini (Hemiptera: Pentatomoidea). *Journal of the New York Entomological Society* 84: 2–8.
- Schouteden, H. 1916. *Pentatomiens nouveaux du Con-*

- go Belge. *Revue Zoologique Africaine* 4: 298–313.
- Schouteden, H. 1964. Pentatomides de la Côte d'Ivoire.—II. *Revue de Zoologie et de Botanique Africaines* 70: 92–95.
- Schrank, F. von P. 1776. *Beyträge zur Naturgeschichte*. C. Fritsch, Leipzig. (6) + 138 pp. + 7 pls.
- Signoret, V. 1858. Hemipteres du Gabon. *In* Thomson, J., *Archives entomologiques ou recueil contenant des illustrations d'insectes nouveaux ou rares*. Paris. 2: 1–289.
- Signoret, V. 1882. Groupe des cydnides. 7^e partie. *Annales de la Société Entomologique de France* (6)2: 241–266, pls. 8, 9.
- Stål, C. 1853. Nya Hemiptera från Cafferlandet. *Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar* 10: 209–227.
- Stål, C. 1858. Orthoptera och Hemiptera från södra Afrika. *Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar* 15: 307–320.
- Stål, C. 1861. *Miscellanea hemipterologica*. *Stettiner Entomologisches Zeitung*. 22: 129–153.
- Stål, C. 1865. *Hemiptera Africana*. Vol. 1. Norstedtiana, Stockholm. iv + 256 pp.
- Stål, C. 1868. *Hemiptera Fabriciana*. *Fabricianska Hemipterarter, efter de i Köpenhamn och Kiel förvarade typexemplaren granskade och beskrifne*. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 7: 1–148.
- Stål, C. 1876. *Enumeratio Hemipterorum*. *Bidrag till en förteckning öfver alla hittills kända Hemiptera, jemte Systematiska Meddelanden*. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 14: 1–162.
- Tamanini, L. 1958. Due nuovi *Carpocoris* della sottoregione mediterranea (Heteroptera, Pentatomidae). *Annali del Museo Civico di Storia Naturale di Genova* 70: 165–172.
- Tamanini, L. 1962. Contributo allo studio delle *Codophila* (*Anthemina*) con speciale riguardo alle entità dell'Asia (Hem. Het., Pentatomidae). *Notulae Entomologicae* 42: 43–56.
- Tamanini, L. 1981. Gli Eterotteri della Basilicata e della Calabria (Italia meridionale) (Hemiptera Heteroptera). *Memorie del Museo Civico di Storia Naturale di Verona* (2)A3: 1–64.
- Thomas, D. B., Jr. 1974. The genus *Codophila* Mulsant in North America (Hemiptera: Pentatomidae). *The Pan-Pacific Entomologist* 50: 441–442.
- Thunberg, C. P. 1783. *Dissertatio entomologica, novae insectorum species, sistens*. Johan Edman, Upsala 2: 29–70.
- Thunberg, C. P. 1822. *Dissertatio entomologica de Hemipteris rostratis Capensibus*. Part 2. *Academiae Typographi, Upsala*.
- Turton, W. 1802. *A General System of Nature, Through the Three Grand Kingdoms of Animals, Vegetables, and Minerals; Systematically Divided into their Several Classes, Orders, Genera, Species, and Varieties, with their Habitation, Manners, Economy, Structure, and Peculiarities*. Lackington, Allen, and Co., London. Vol. 2, pt. III, 717 pp.
- Uhler, P. R. 1886. *Check-List of the Hemiptera-Heteroptera of North America*. Brooklyn Entomological Society, Henry H. Kahrs, Steam Printer, Brooklyn, N.Y. iv + 32 pp.
- Van Duzee, E. P. 1917. *Catalogue of the Hemiptera of America North of Mexico, Excepting the Aphididae, Coccidae and Aleurodidae*. University of California Publications in Entomology 2: xiv + 902 pp.
- Walker, F. 1867. *Catalogue of the specimens of heteropterous Hemiptera in the collection of the British Museum*. Part II. *Scutata*. E. Newman, London. pp. 241–417.
- Westwood, J. O. 1837. *In* Hope, F. W., ed., *A Catalogue of Hemiptera in the Collection of the Rev. F. W. Hope, M. A. with Short Latin Diagnoses of the New Species*. J. Bridgewater, London, Pt. 1: 46 pp.
- Zheng, L.-y. and Z.-p. Ling. 1983. Five new species of *Pentatoma* Olivier from China (Heteroptera: Pentatomidae). *Entomotaxonomia* 5: 233–238.
- Zheng, L.-y., G.-q. Liu, and Z.-p. Ling. 1987. A survey of hemipterous insects from Mt. Yulong, Yunnan Prov., China. *Entomotaxonomia* 9: 217–225.