

Museum, University of Nebraska State

Insecta Mundi

University of Nebraska › Lincoln

Year 1998

Corrections, clarifications, and additions
to the 1996 checklist of the Alticinae of
Central America, including Mexico
(Coleoptera: Chrysomelidae)

David G. Furth*

Vilma Savini†

*Department of Entomology, Smithsonian Institution, Washington, D. C.,

†Venezuela,

This paper is posted at DigitalCommons@University of Nebraska - Lincoln.

<http://digitalcommons.unl.edu/insectamundi/364>

Corrections, clarifications, and additions to the 1996 checklist of the Alticinae of Central America, including Mexico (Coleoptera: Chrysomelidae)

David G. Furth

Department of Entomology, Smithsonian Institution,
Washington, D. C. 20560 USA

and

Vilma Savini

Museo del Instituto de Zoología Agrícola,
Facultad de Agronomía, Universidad Central de Venezuela,
Apartado 4579, Maracay 2101-A, Venezuela

In our checklist of the Alticinae of Central America and Mexico (Furth and Savini, 1996), there were some species whose status or generic combination needs clarification. In preparing the 1996 checklist the authors referred to some unpublished notes of Jan Bechyné in order to understand his system of alticine names and to clarify to which genera he considered various species to belong. In almost all cases, these notes referred to published references; however, in a few cases they did not and, inadvertently, the authors listed some species in genera for the first time without fully explaining their new status or new combination. Below, we have tried to correct these as well as to clarify the status of certain species in our 1996 checklist. Also some new records have come to our attention.

New Combinations

The primary genus where some confusion was created was *Alagoasa* Bechyné, 1955. All of the New World species originally described as *Oedionychus* Berthold, 1827 or *Oedionychis* Latreille, 1829 should be placed in other genera, as implied by Wilcox (1975). By listing such species in our 1996 checklist, even though they were not indicated as "New Combinations," the following new combinations for *Alagoasa* were created:

albomarginata (Latreille, 1811); *amalia* (Horn, 1889); *antennalis* (Jacoby, 1886); *arcuatofasciata* (Jacoby, 1905); *atroguttata* (Jacoby, 1886); *brunneovittata* (Jacoby, 1894); *cazieri* Pallister, 1953; *championi* (Jacoby, 1886); *chevrolati* (Baly, 1878); *clypeata* (Jacoby, 1892); *discoidea* (Jacoby, 1886);

discolor (Jacoby, 1886); *donckieri* (Jacoby, 1905); *dugesi* (Jacoby, 1886); *duodecimmaculata* (Jacoby, 1886); *durangoënsis* (Jacoby, 1892); *exquisita* (Jacoby, 1886); *fimbriata* (Forster, 1771); *forreri* (Jacoby, 1886); *frontalis* (Jacoby, 1886); *fulvofasciata* (Jacoby, 1886); *gemmata* (Jacoby, 1886); *godmani* (Jacoby, 1880); *haroldi* (Jacoby, 1892); *högei* (Jacoby, 1886); *hondurensis* (Jacoby, 1886); *illigeri* (Jacoby, 1886); *imitans* (Jacoby, 1886); *inconspicua* (Jacoby, 1886); *infirma* (Jacoby, 1886); *insecta* (Harold, 1877); *jansoni* (Jacoby, 1886); *lateralis* (Jacoby, 1886); *longicollis* (Jacoby, 1886); *millepora* (Jacoby, 1905); *montana* (Jacoby, 1886); *olivaceae* (Jacoby, 1886); *ornata* (Jacoby, 1980); *panamensis* (Jacoby, 1886); *pavonina* (Jacoby, 1892); *persimilis* (Jacoby, 1905); *purulensis* (Jacoby, 1886); *quadrilineata* (Harold, 1881); *semipurpurea* (Jacoby, 1886); *signata* (Jacoby, 1886); *tibialis* (Jacoby, 1886); *transversalis* (Jacoby, 1886); *tridecimmaculata* (Jacoby, 1880); *trilineata* (Jacoby, 1886); *violaceomarginata* (Jacoby, 1886); *virgata* (Harold, 1880); *wagneri* (Harold, 1880). Certain other species not listed above had been placed in *Alagoasa* in the references cited in our 1996 checklist and those for which references were not given in 1996 are [references in brackets]: *inconstans* (Schaufuss, 1874) [Bechyné and Bechyné, 1967]; *nicaraguensis* (Jacoby, 1879) [Bechyné, 1955a]; *quaerula* (Harold, 1881) [Bechyné, 1956]; *seriata* (Baly, 1878) [Bechyné, 1957]; *tenuilineata* (Horn, 1889) [Bechyné, 1958].

The following species listed under *Alagoasa* in our 1996 checklist, thus established as "New Combinations," there, are herein established as belonging to *Walterianella* and are here considered

as "new combinations" in that genus: *arcuato-fasciata* (Jacoby, 1905); *atroguttata* (Jacoby, 1886); *championi* (Jacoby, 1886); *durangoënsis* (Jacoby, 1892); *imitans* (Jacoby, 1886); *signata* (Jacoby, 1886); *transversalis* (Jacoby, 1886).

The following species in other genera were also established as New Combinations in our 1996 checklist: *Asphaera icteridera* (Harold, 1876); *Asphaera mexicana* (Harold, 1876); *Brasilaphthona palpalis* (Jacoby, 1885); *Capraita conspurcata* (Jacoby, 1886); *Centralaphthona semicoerulea* (Jacoby, 1885); *Lysathia rockefelleri* (Pallister, 1953) [this is from the opinion of J. Bechyné, *in litteris*].

Corrections

The following are corrections or changes to the 1996 checklist: *Allochroma basalis* (Jacoby, 1886) was originally described in *Hylodromus*, and thus, on page 47 of the 1996 checklist generic combinations table, change *Euphenges* to *Allochroma* (new name); *Allochroma nigricolle* (Jacoby, 1886) is misspelled and should be *A. nigricollis*; *Altica torquata* LeConte, 1858, was placed in synonymy with *A. sylvia* Malloch, 1919, by LeSage (1991) but, it is not clear where this synonymy was established, since Wilcox (1975) considered them each to be valid species; *Asphaera reticollis* (Baly, 1874) is moved to *Omophoita* (see Bechyné, 1955a); *Blepharida atripennis* Horn, 1895 (described from Mexico) has been a synonym of *B. rhois* Chevrolat, 1836, and Pallister (1953) also recorded *B. rhois* in Mexico, therefore, in our 1996 checklist, the question mark (?) in front of that species and its Mexican distribution can be removed; *Capraita hypocrita* (Jacoby, 1886) is synonymous with *Walterianella venustula* (Schaufuss, 1874) (see Bechyné and Bechyné, 1963); *Disonycha abbreviata* Melsheimer, 1847, is only a variety (Wilcox, 1975) or subspecies (Balsbaugh and Hays, 1972) of *D. discoidea* (Fabricius, 1792); *Disonycha brevicollis* Jacoby, 1902 [not 1907], is considered a synonym of *D. brevilineata* Jacoby, 1884, in Blake (1955), however, it is not apparent when this synonymy was established; *Disonycha panamensis* Jacoby, 1884, was not described as *Haltica*; *Disonycha pensylvanica* (Illiger, 1807) was described as *Haltica*; *Disonycha reticollis* Jacoby, 1884, is correct, *i.e.*, remove parentheses; *Epitrix aeneicollis* Jacoby, 1891, is misspelled; *Epitrix parvula* (Fabricius, 1801) includes *E. hirtipennis* (Melsheimer, 1847) in the 1996 checklist, but White and Barber (1974) pointed out that *E. hirtipennis*

is a valid name (see also Wilcox, 1975), not a synonym of *E. parvula* and there has been some confusion about the use of *E. parvula*; in *Euphenges* remove *E. basalis* (Jacoby, 1886), because it is the same as *Allochroma basalis* (Jacoby, 1886); in *Gioia*: add *G. castanea* (Jacoby, 1891) from Panama and remove this species from *Centralaphthona* (Savini and Furth, 1996), add *G. crassicornis* (Jacoby, 1891) from Panama and remove its old combination listed as "*Aphthona*" *tumidicornis* (Csiki, 1939) in the 1996 checklist (Savini and Furth, 1996), add *G. delicata* Savini, 1994, from Costa Rica (Savini, 1994), and *G. jolyi* Savini, 1991 is also found in Colombia and Ecuador (Savini, 1994); *Kuschelina laeta* (Perbosc, 1839), its synonym is misspelled and should be *interjectionis* (Crotch, 1873); *Systema blanda* Melsheimer, its first synonym is misspelled and should be *taeniata* Say, 1824.

There are several problems with *Pedilia inornata* (Jacoby, 1891) in our 1996 checklist. First, there is considerable confusion about the synonymy of *Nephrica* Harold, 1877, with *Pedilia* Clark, 1865. This synonymy was established by Bechyné (1959); however, Bechyné and Bechyné (1966) seemed to ignore their own previous synonymy and treated them as separate genera. Scherer (1962), Wilcox (1975), and Seeno and Wilcox (1982) considered *Nephrica* as separate from *Pedilia*. Although these 2 taxa are quite similar (see Scherer, 1962), we prefer to consider *Nephrica* as a valid separate genus from *Pedilia* (see also Duckett, 1993), at least until more detailed study of several species can be conducted. Therefore, the correct name is *Nephrica inornata* Jacoby, 1891. This also means that the line on page 47 of our 1996 checklist with *Nephrica* as the old name and *Pedilia* as the new name should be eliminated. Second, after careful re-examination of the literature, collection notes, as well as a syntype of *Monomacra* (= *Lactica*) *inornata* (Jacoby, 1891), we conclude that the new synonymy of this with *Nephrica inornata* Jacoby, 1891 (established in our 1996 checklist) is not valid, and that they should each remain as valid species. Third, we listed *Nephrica inornata* as recorded from Mexico, Costa Rica and Venezuela; however, it is only known in the published literature from Panama, but Duckett (1993) has recently found specimens from the aforementioned countries.

There is also considerable confusion between *Nephrica* and *Phenrica* Bechyné, 1959. Bechyné (1956, 1957) actually described several species of *Phenrica* as *nomina nuda*. However, Bechyné and

Bechyné (1966) validly established all of the previously described species. As indicated above with *Pedilia*, the status of *Nephrica* is still in need of detailed study and clarification.

Clarifications

For clarification of the status of species (e.g., when/where they were newly transferred to the current genera) in the following genera, the references listed here (some not in the original 1996 checklist, indicated as [additional]) should be consulted: *Phenrica* Bechyné, 1959 (Bechyné and Bechyné, 1966 [additional]); *Physimerus* Clark, 1860 (Scherer, 1962); *Platiprosopus* Chevrolat, 1834 (Bechyné, 1955a and Bechyné and Bechyné, 1964), the synonymy and status of *P. acutangula* Chevrolat, 1834, with *P. pallens* (Fabricius, 1792) is valid but better explained in Bechyné, 1997 [additional]; *Phrynocephala* Baly, 1851 (Scherer, 1962 = reference #62, not Scherer, 1960, #61, as given in our 1996 checklist); *Resistenciana* Bechyné, 1956 (Bechyné and Bechyné, 1975); *Sphaeronychus* Dejean, 1836 (Seeno and Wilcox, 1982); *Stegnea* Baly, 1879 (Scherer, 1962, Seeno and Wilcox, 1982); *Strabala* Chevrolat, 1836 (Bechyné and Bechyné, 1975); *Syphrea* Baly, 1876 (Bechyné, 1955b [additional], Bechyné and Bechyné, 1960), this is particularly helpful to understand that Bechyné (1955b:224; footnote 1) synonymized all new world *Hermaeophaga* Foudras, 1860, under *Syphrea*, a fact not mentioned by Scherer (1962), several publications in the 1960s by Blake describing new *Hermaeophaga* species, Wilcox (1975), or Seeno and Wilcox (1982); *Tetragonotes* Clark, 1860 (Scherer, 1962); *Walterianella* Bechyné, 1955 (Bechyné, 1955c).

Chevrolat, 1836, is used rather than Chevrolat, 1837, for the following generic authorship: "*Aphthona*"; *Blepharida*; *Cacoscelis*; *Chlamophora*; *Diphaulaca*; *Monomacra*; *Notozona*; *Omophoita*; *Phyllotreta*; *Strabala*. This is because it was pointed out that the 1836 edition (second edition) of the Dejean catalogue, in which Chevrolat listed these genera, was valid (Madge, 1988; Pope, 1992; Konstantinov and Vandenberg, 1996).

The list of old names and new names of genera ("*Generic Synonyms Used in Checklist*", pages 46-47) in the 1996 checklist was meant to help the user try to understand some of the different combinations of generic names. This list might better be called "*Generic Combinations Used in Checklist*." As stated in the final sentence before this list, we did not mean to imply that the "old

names" in this list are synonyms in their entirety, rather that only parts of them have been used in various combinations or partly synonymized. Thus, at least some species originally described under the old names may now be validly found under the current names. The reader should also remember that, as stated in the Introduction of our 1996 checklist, the species synonymies given are only those established since the Heikertinger and Csiki catalog (1939-1940), and all older species synonymies and detailed catalog information can be found in that reference. The reader should refer to the references listed with each species in our 1996 checklist for more information, including nomenclatural changes.

Alagoasa nicaraguensis (Jacoby, 1879) was placed as a synonym of *A. decemguttatus* (Fabricius, 1801) by Wilcox (1975); however, we prefer to follow Bechyné (1955a) in considering it a valid species.

Additions

There have been some other species recorded in various places as being from Central America and Mexico; however, we have determined that for a variety of reasons these records were not accurate or were misidentified: *Altica tombacina* Mannerheim, 1853, from Mexico (Pallister, 1953); *Chaetocnema cribrifrons* LeConte, 1879, from Mexico (Pallister, 1953); *Chaetocnema laticollis* Baly, 1877, from **Nicaragua (Maes and Staines, 1991)**; *Lysathia occidentalis* Suffrian (1868) from Mexico (Wilcox, 1975); *Phyllotreta fallaciae* (Csiki, 1939) from Honduras (Passoa, 1983); *Phyllotreta jamaicensis* Baly, 1877 (not Jacoby, 1885), from Guatemala (Wilcox, 1975); *Pyxidaltica variegatus* (Jacoby, 1880) from Guatemala; (Wilcox, 1975); *Systema pallidula* Boheman, 1859 from California or Panama (Blake, 1935).

The following species were not listed by us in our 1996 checklist, but they have been determined by us to be reliable additions to this fauna from the cited literature:

Crepidodera peninsularis G. Horn, 1895, was described from Baja California, Mexico, but is listed in Heikertinger and Csiki (1939) as California and not listed in Wilcox (1975).

Disonycha varicornis Horn, 1889, was recorded from Mexico (Pallister, 1953, and Wilcox, 1975).

Distigmoptera texana Blake, 1943, was recorded from Mexico (Balsbaugh, 1980).

Kuschelina violascens LeConte, 1859, originally described from the USA as *Oedionychis* was

recorded from Mexico (Pallister, 1953).

Longitarsus bicolor Horn, 1894, was recorded from Baja California, Mexico (Wilcox, 1975).

Lupraea melanocyanea Blake, 1950, and *L. rubroviridis* Blake, 1950, from Mexico (Wilcox, 1975).

Species inadvertently omitted from the 1996 checklist: *Macrohaltica guatemalensis* (Jacoby, 1884) (originally described as *Haltica*) recorded from Mexico, Guatemala, USA (Heikertinger and Csiki, 1939, and Wilcox, 1975).

Nonarthra cyaneum Baly, 1874, was apparently introduced from Asia into Panama (Balsbaugh, 1981).

Orthaltica capensis Andrews and Gilbert, 1993, was described from Baja California, Mexico (Andrews and Gilbert, 1993).

Nephrica macrops Blake, 1956, although originally described as *Nephrica*, it does not have strongly emarginate eyes, thus, after examining the holotype, we feel that it better fits in *Phenrica* Bechyné, *i.e.*, *Phenrica macrops* (Blake) (=new combination).

Phyllotreta albionica (LeConte, 1857) was recorded from Baja California, Mexico (Fall, 1927).

Pseudogona militaris Jacoby, 1904, from Panama and *P. pallida* Jacoby, 1904, from Costa Rica, and *P. subcostata* Blake, 1956, from Costa Rica (Wilcox, 1975).

Psylliodes convexior LeConte, 1857, from Mexico (Horn, 1895).

In our 1996 checklist we listed *Syphrea petulans* (Harold, 1875) as a valid species; however, *S. petulans* is actually considered as a subspecies of *S. pretiosa* Baly, 1876 (Bechyné and Bechyné, 1978).

Systema basalis J. DuVal, 1856, from Cuba, Jamaica, Puerto Rico, Haiti, Nicaragua, Guatemala, Mexico (Blake, 1931); however, Wilcox (1975) and S. Clark (*in litteris*) question the accuracy of the mainland (*i.e.*, Central America, Mexico) identifications.

Systema gracilentata Blake, 1933, was described from Texas with additional specimens from Mexico (Blake, 1933).

Some literature published after our 1996 checklist has relevance on the Alticinae of Central America and Mexico. Bechyné and Bechyné (1997) added the following appropriate taxa: *Alagoasa trifasciata decempunctata* Latreille, 1833, from Panama, Venezuela, Colombia, and Trinidad; *Asphaera discicollis* Schaufuss, 1874, from Costa Rica, Panama, Venezuela, Colombia, Ecuador, Bolivia, Peru, Brazil, French Guyana, and Trinidad. They have also newly combined *Systema chloropus*

Harold, 1876, into *Prasona*.

Flowers and Janzen (1997) recorded food plants for many species which were not determined beyond genus or only as "near" a known species, they also reported the first record for the following species in Costa Rica: *Alagoasa seriata* (Baly, 1878); *Asphaera reichei* Harold, 1876; *Ayalalaia minor* Bechyné and Bechyné, 1960; *Ayalalaia salvadorensis* Bechyné and Bechyné, 1960; *Genaphthona transversicollis* (Jacoby, 1885); *Lupraea violacea* (Jacoby, 1885); *Monomacra violacea* Jacoby, 1884; *Notozona nicaraguensis* Jacoby, 1885; *Omophoita simulans* Jacoby, 1892; *Resistenciana obscura* (Jacoby, 1884) [apparently newly combined in this genus from its former *Monomacra*]; *Resistenciana panamensis* (Jacoby, 1884); *Syphrea bibiana* Bechyné, 1955; *Syphrea parvula* (Jacoby, 1884); *Systema sulphurea* Jacoby, 1891; *Walterianella tenuicincta* (Jacoby, 1886); and *Nasigona pallida* Jacoby, 1902, from Costa Rica, Bolivia, Peru, Brazil was recorded for the first time in Central America

Acknowledgements

We would like to especially thank Shawn Clark (West Virginia Department of Agriculture) and Edward Riley (Texas A. & M. University) for extensive comments on our 1996 checklist and for bringing some of these issues to our attention. Also Catherine N. Duckett (University of Puerto Rico) and Jean-Michel Maes (Museo Entomológico, Nicaragua) made useful comments.

References

- Andrews, F. G., and A. J. Gilbert. 1993. Studies on the Chrysomelidae (Coleoptera) of the Baja California Peninsula: a new species of *Orthaltica* (Alticinae), with notes on the genus in Baja California. Pan-Pacific Ent. 69(4):277-280.
- Balsbaugh, E. U. 1980. New collection records of three species of flea beetles: *Distigmoptera foveolata* Balsbaugh, *D. texana* Blake, and *Altica nancyae* Stirrett. J. Kans. Ent. Soc. 53(4):833-836.
- Balsbaugh, E. U. 1981. *Nonarthra cyaneum* Baly (Coleoptera: Chrysomelidae: Alticinae), a Pan-Pacific flea beetle. Pan-Pacific Ent. 57(3):411-414.
- Balsbaugh, E. U., and K. L. Hays. 1972. The leaf beetles of Alabama (Coleoptera: Chrysomelidae). Alabama Agric. Exper. Sta. Bull.

441. 223pp.
- Bechyné, J.** 1955a. Reise des Herrn G. Frey in Sudamerika: Alticinae (Col. Phytophaga). Ent. Arb. Mus. Frey 6:74-266.
- Bechyné, J.** 1955b. Contributions à l'étude de la faune entomologique du Ruanda-Urundi (Mission P. Basilewsky 1953). LXIV. Coleoptera Chrysomelidae Chrysomelinae et Alticinae. Ann. Mus. Roy. Congo Belge, Tervuren, Série 8vo 40:204-230.
- Bechyné, J.** 1955c. Troisième note sur les Chrysomeloidea Néotropicaux des collections de l'Institut Royal des Sciences Naturelles de Belgique (Col. Phytophaga). Première Partie. Bull. Inst. Roy. Sci. Nat. Belg. 31(5):1-23.
- Bechyné, J.** 1956. Beiträge zur Kenntniss der neotropischen Alticipiden und Galeruciden. Ent. Arb. Mus. Frey 7(3):965-1071.
- Bechyné, J.** 1957. Alticipides neotropicaux de la collection du Museo Civico di Storia Naturale "Giacomo Doria" di Genova (Coleopt. Chrysomelidae). Ann. Mus. Civ. Stor. Nat. Genova 69:51-74.
- Bechyné, J.** 1958. Notizen zu den neotropischen Chrysomeloidea (Col. Phytophaga). Ent. Arb. Mus. Frey 9(2):478-706.
- Bechyné, J.** 1959. Beiträge zur Kenntniss der Alticipidenfauna Boliviens (Coleopt. Phytoph.). Beitr. Neotrop. Fauna 1(4):269-381.
- Bechyné, J.** 1997. (V. Savini, Ed.). Evaluación de los datos sobre los Phytophaga dañinos en Venezuela (Coleoptera). Parte I. Bol. Ent. Venezolana, Serie Monografías 1:1-278.
- Bechyné, J., and B. S. Bechyné.** 1960. Beiträge zur Kenntnis der Salvadorensischen Chrysomeloidea (Col. Phytoph.). Pesquisas Zool. No.6:5-73.
- Bechyné, J., and B. S. Bechyné.** 1963. Beiträge zur Kenntnis der Salvadorensischen Chrysomeloidea (Col. Phytoph.). Iheringia Zool. No. 31:1-79.
- Bechyné, J., and B. S. Bechyné.** 1964. Notes sur quelques Chrysomeloidea néotropicaux (Coleoptera Phytophaga). Rev. Fac. Agron. Univ. Cent. Venez. 3(3):69-123.
- Bechyné, J., and B. S. Bechyné.** 1966. Evidenz der bisher bekannten *Phenrica*-Arten (Col. Phytophaga, Alticipidae). Ent. Tidskrift 87(3-4):142-170.
- Bechyné, J., and B. S. Bechyné.** 1967. Notes sur les Phytophaga Néotropicaux (Coleoptera). Rev. Facultad Agron. Univ. Central Venez. 4(2):5-47.
- Bechyné, J., and B. S. Bechyné.** 1975. Notas sobre la serie filetica de *Monomacra* y sus formas convergentes (Col. Phytophaga, Alticipidae). Rev. Fac. Agron. Univ. Cent. Venez. 8(4):25-140.
- Bechyné, J., and B. S. Bechyné.** 1978. Sobre algunos Alticipidae (Alticipinae y Oedionychinae) (Coleoptera: Phytophaga). Rev. Fac. Agron. Univ. Cent. Venez. 26:67-83.
- Blake, D. H.** 1931. Notes on West Indian and Central American flea-beetles (Halticipinae). Bull. Brooklyn Ent. Soc. 26:76-83.
- Blake, D. H.** 1933. Two new species of *Systema*, with notes on sexual differences in coloration. Proc. Ent. Soc. Wash. 35(8):180-183.
- Blake, D. H.** 1935. Notes on *Systema*. Bull. Brooklyn Ent. Soc. 30(3):89-109.
- Blake, D. H.** 1955. Revision of the vittate species of the chrysomelid beetle genus *Disonycha* from the Americas south of the United States. Proc. U. S. Nat. Mus. 104-(3338):1-86.
- Duckett, C. N.** 1993. A revision of the genus *Pedilia* Clark and a cladistic analysis of series *Paralactica* and the Disonychini (Coleoptera: Chrysomelidae: Alticipinae). Unpublished Ph. D. dissertation, Cornell University, Ithaca, NY. 242pp.
- Fall, H. C.** 1927. XIII Expedition of the California Academy of Sciences to the Gulf of California in 1921. Proc. Calif. Acad. Sci. (Ser. 4) 16(13):381-395.
- Furth, D. G., and V. Savini.** 1996. Checklist of the Alticipinae of Central America, including Mexico (Coleoptera: Chrysomelidae). Insecta Mundi 10(1-4):45-68.
- Heikertinger, F., and C. Csiki.** 1939. Coleopterorum Catalogus, Halticipinae, I, 25(166):1-336.
- Heikertinger, F., and C. Csiki.** 1940. Coleopterorum Catalogus, Halticipinae, II, 25(169):337-635.
- Horn, G. H.** 1895. Coleoptera of Baja California (Supplement I). Proc. Calif. Acad. Sci. (2)5:225-259.
- Konstantinov, A. S., and N. J. Vandenberg.** 1996. Handbook of Palearctic flea beetles (Coleoptera: Chrysomelidae: Alticipinae). Contributions on Entomology, International, 439pp.
- LeSage, L.** 1991. Family Chrysomelidae, Leaf Beetles. In: Y. Bousquet (ed.). Checklist of the Beetles of Canada and Alaska. Research Branch Agriculture Canada. Publication Number 1861/E:301-323. Canada Commercial Group, Ottawa.
- Maes, J.-M., and C. L. Staines.** 1991. Catalogo

- de los Chrysomelidae (Coleoptera) de Nicaragua. *Rev. Nicaraguense Ent. No.* 18:1-63.
- Madge, R. B.** 1988. The publication dates of Dejean's catalogues. *Arch. Nat. Hist.* 15(3):317-321.
- Pallister, J. C.** 1953. The leaf beetles of north central Mexico collected on the David Rockefeller Mexican Expedition (Coleoptera, Chrysomelidae). *Amer. Mus. Novitates* 1623:1-95.
- Passoa, S.** 1983. Lista de los insectos asociados con los granos basicos y otros cultivos selectos en Honduras. *Ceiba* 25(1):1-97.
- Pope, R. D.** 1992. The authorship of certain genera first defined in the catalogues of Dejean. *Coccinella* 4(1/2):17-18.
- Savini, V.** 1994. Dos especies nuevas y un nuevo registro para América Central del género *Gioia* (Coleoptera: Chrysomelidae). *Rev. Biol. Tropical* 42(1/2):189-193.
- Savini, V., and D. G. Furth.** 1996. Nuevas combinaciones, designacion de lectotipos y redescripciones en *Gioia* Bechyné (Coleoptera, Chrysomelidae, Alticinae). *Bol. Ent. Venezolana N. S.* 11(2):191-198.
- Scherer, G.** 1962. Bestimmungsschlüssel der neotropischen Alticina-Genera (Coleoptera: Chrysomelidae: Alticinae). *Ent. Arb. Museum Frey* 13(2):497-607.
- Seeno, T. N., and J. A. Wilcox.** 1982. Leaf beetle genera (Coleoptera: Chrysomelidae). *Entomography* 1:1-221.
- White, R. E., and H. S. Barber.** 1974. Nomenclature and definition of the tobacco flea beetle, *Epitrix hirtipennis* (Melsh.), and of *E. fasciata* Blatchley, (Coleoptera: Chrysomelidae). *Proc. Ent. Soc. Wash.* 76(4):397-400.
- Wilcox, J. A.** 1975. Leaf beetles (Red Version). Checklist of the Beetles of Canada, United States, Mexico, Central America, and the West Indies. *Biol. Res. Inst. Amer.* 1(7):1-166.