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Composition of the Subgenus *Zeugotaenia*, Genus *Chrysolina* (Coleoptera, Chrysomelidae), and Examination of the Nomenclatural Types

A. O. Bieńkowski and M. Ya. Orlova-Bieńkowskaya

Institute of Ecology and Evolution, *Russian Academy of Sciences*, *Moscow*, *119071 Russia*
e-mail: *bienkowski@yandex.ru*

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Abstract—*Zeugotaenia* Motschulsky, 1860 is resurrected as a valid name for the subgenus of *Chrysolina* with the type species *Chrysomela limbata* Fabricius, 1775. Diagnosis of the subgenus is compiled. Neotypes of *Chrysomela limbata* and *Ch. limbifera* Küster, 1846, and lectotypes of *Chrysomela findelii* Suffrian, 1851, *Ch. hochhuthii* Suffrian, 1851, and *Ch. discipennis* Faldermann, 1835 are designated. The types of *Chrysomela limbata jenisseiensis* Breit, 1920 and *Chrysolina limbata kavani* Bechyné, 1950 and the topotypes of *Chrysomela limbata luigionii* Depoli, 1936 are examined. *Chrysolina furva* Peyerimhoff, 1926 and *Ch. dohrnii* Fairmaire, 1865 do not belong to the subgenus *Zeugotaenia*.

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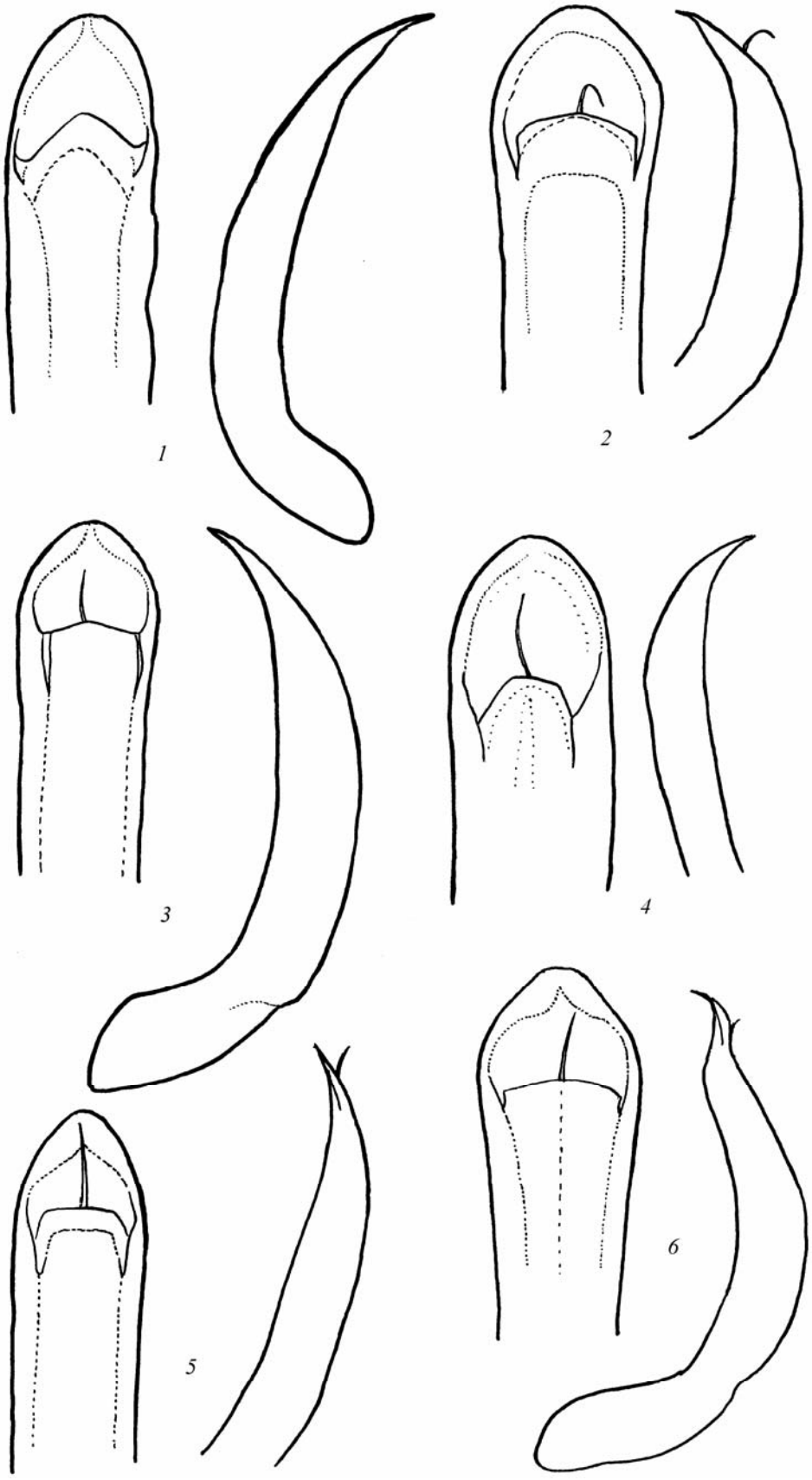
The present communication continues a series of publications (Bieńkowski, 2008a, 2008b, 2008c, 2009) dealing with the Palaearctic fauna of the leaf-beetle genus *Chrysolina* Motschulsky, 1860.

The genus *Zeugotaenia* proposed by Motschulsky (1860) was later considered a subgenus of *Chrysolina.* The following species group nominal taxa were attributed to this subgenus by various authors: *limbata* Fabricius, 1775, *findelii* Suffrian, 1851, *hochhuthii* Suffrian, 1851, *limbifera* Küster, 1846, *discipennis* Faldermann, 1835, *luigionii* Depoli, 1936, *kavani* Bechyné, 1950, *jenisseiensis* Breit, 1920, *furva* Peyerimhoff, 1926, and *dohrnii* Fairmaire, 1865 (Breit, 1920; Depoli, 1936; Bechyné, 1950; Medvedev and Okhrimenko, 1991; Bourdonné and Doguet, 1991; Bourdonné, 2005).

Medvedev and Okhrimenko (1991) have shown that *Ch. jenisseiensis* and *Ch. limbata* are separate species differing mainly in the structure of the aedeagus (figure, *1–5* and *6*). *Chrysolina jenisseiensis* occurs in the Caucasus, Siberia, and Mongolia, and *Ch. limbata* is distributed from Western Europe to Eastern Siberia and Mongolia. The intraspecific geographical forms *findelii*, *hochhuthii*, *limbifera*, *discipennis*, *luigionii*, and *kavani* are considered by various authors in different ways, from subspecies to infrasubspecies of *Ch. limbata* (see below). However, types of all the taxa listed have not been examined since the original descriptions. The genitalia of type specimens of none of the seven nominal taxa amalgamated in *Ch. limbata* have been investigated. Therefore, even the statement that these taxa belong to *Ch. limbata* requires confirmation because of the existence of the closely related species *Ch. jenisseiensis.* The former opinions about the identities of the intraspecific forms varied widely, being only based on the qualitative evaluation of the characters, without their statistical treatment.

Recent publications (Warchałowski, 1993; Kippenberg and Doberl, 1994) reasonably indicate that *Ch. limbata* possesses a clearly pronounced but insufficiently studied geographical variability. Its intraspecific structure requires a revision based on comparative examination of a great number of specimens col-

Chrysolina, details: (*1–6*) aedeagus, dorsal and lateral view [(*1*) *Ch. limbata*, neotype; (*2*) *Ch. limbifera*, neotype; (*3*) *Ch. hochhuthii*, lectotype; (*4*) *Ch. limbata kavani*, syntype; (*5*) *Ch. limbata luigionii*, topotype; (*6*) *Ch. jenisseiensis* [omitted in the original Russian text; no details available.—Ed.]; (*7–12*) left elytron, dorsal and lateral view [(*7*) *Ch. limbata*, neotype, male; (*8*) *Ch. hochhuthii*, lectotype, male; (*9*) *Ch. limbifera*, neotype, male; (*10*) *Ch. limbata kavani*, syntype, male; (*11*) *Ch. discipennis*, lectotype, female; (*12*) *Ch. findelii*, lectotype, female], (*13*, *14*) pronotum [(*13*) *Ch. limbata*, neotype, male; (*14*) *Ch. dohrnii*, male]; (*15*, *16*) maxillary palpus [(*15*) *Ch. limbata*, neotype, male; (*16*) *Ch. dohrnii*, male]; (*17*, *18*) fore tarsus [(*17*) *Ch. limbata*, neotype, male; (*18*) *Ch. dohrnii*, male].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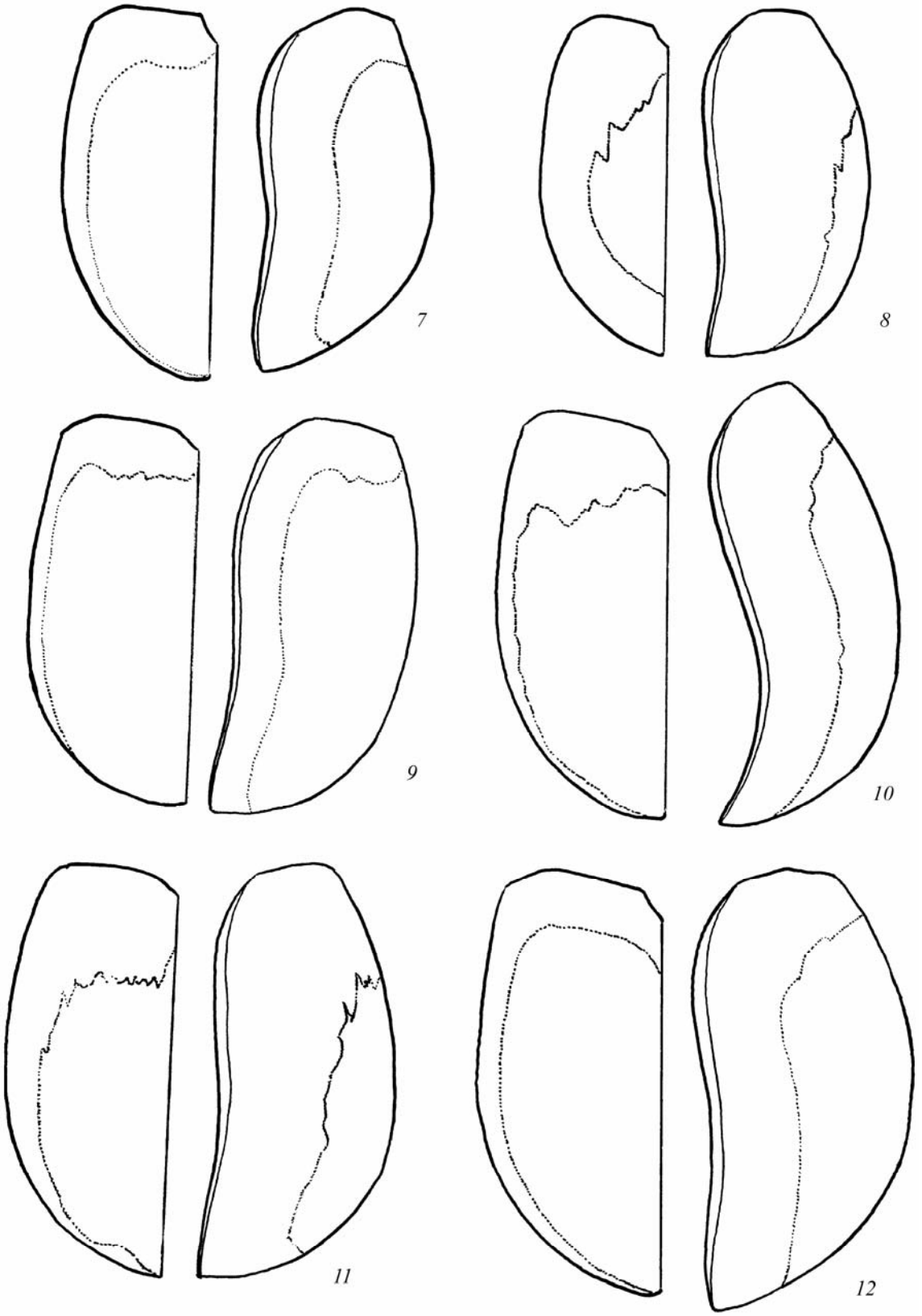

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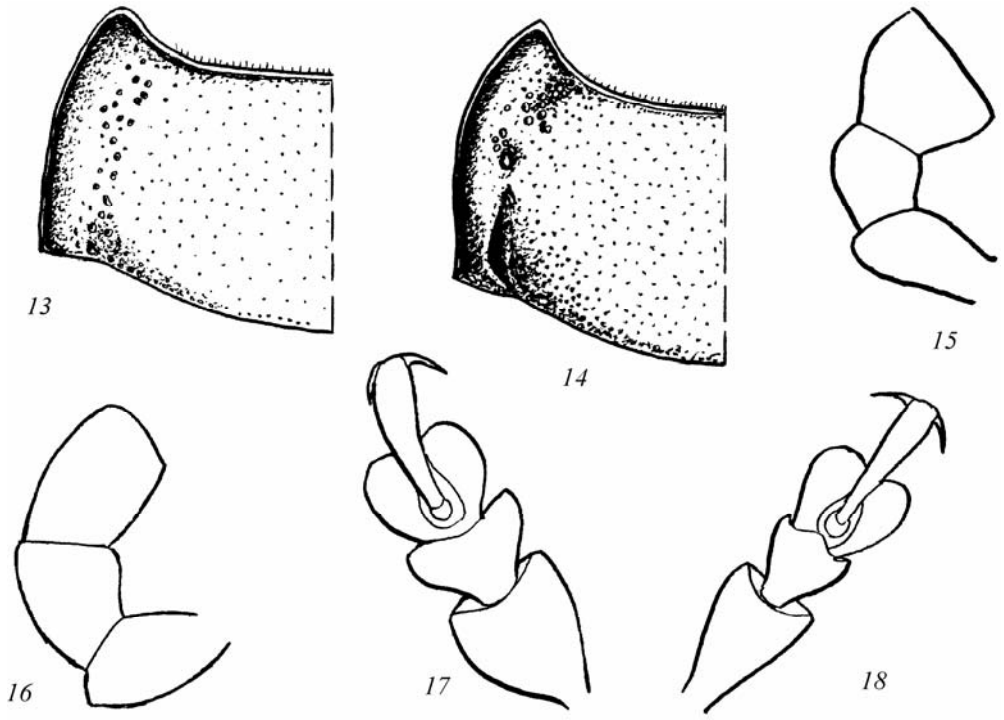

Figure (Contd.).

lected over the entire range. A complete taxonomic revision of the subgenus *Zeugotaenia* will be the object of our several publications. In the present communication, we give diagnosis and delimitation of the subgenus, and analyze the nomenclatural types of the nominal taxa attributed to this subgenus.

The following acronyms are used in the text: ZIN, the Zoological Institute, Russian Academy of Sciences, St. Petersburg; ZMD, Zoological Museum [Museum für Tierkunde], Dresden; ZMMU, Zoological Museum of the Moscow State University, Moscow; ZMHU, Zoological Museum of Helsinki University [Helsingin yliopiston eläinmuseo], Helsinki; IZUG, Institute of Zoology of Martin-Luther University, Halle; NHMV, Natural History Museum [Naturhistorisches Museum Wien], Vienna; NHMUH, Natural History Museum of Humboldt University [Museum für Naturkunde der Humboldt-Universität], Berlin; SMN, Senckenberg Museum of Nature [Naturmuseum Senckenberg], Frankfurt on Main; FTPM, Ferdinand Tirol Provincial Museum [Museo Provinciale Ferdinand Tirol], Innsbruck; NMP, National Museum [Národní muzeum], Prague; ZMUC, Zoological Museum, University of Copenhagen [Zoologisk Museum, Københavns Universitet].

Diagnosis of the Subgenus Zeugotaenia Motschulsky, 1860, status resurrected

Zeugotaenia Motschulsky, 1860 : 206, type species *Chrysomela limbata* Fabricius, 1775 : 101, by original designation.

Craspeda auct. nec Motschulsky, 1860 : 191.

Body dark metallic or black, elytra with red margination along base and sides (figure, *7–12*). Ultimate segment of maxillary palpus widened in both sexes, wider than penultimate segment (figure, *15*). Pronotum with deep narrow lateral furrows in basal half (figure, *14*). Punctures on elytra fine to moderately large, confused or partly forming striae distinct mainly at base and in inner half; intervals finely punctate. Wings normally developed (wide and longer than elytra when straightened) or reduced (narrow, only reaching abdominal apex). Pygidium with sharp furrow along entire length. Three basal tarsal segments with entire hair sole surfaces, widened in male (figure, *17*), narrow in female. Aedeagus tubulate, with apical margin regularly rounded or moderately protruding (figure, *1–6*).

Notes. Bechyné (1950) considered *Craspeda* Motschulsky, 1860 a valid name of this subgenus and

proposed the synonymy *Craspeda* (= *Zeugotaenia*). According to the original designation (Motschulsky, 1860), the type species of *Craspeda* is *Chrysomela besseri* Krynicki, 1832 irrespective of its taxonomic status, and not *Ch. limbata*, as some authors believe, e.g., Bourdonné (2005). Interpretation of *Ch. besseri* was fixed by designation of neotype, the species was shown to belong to the subgenus *Chalcoidea* Motschulsky, 1860 of *Chrysolina*, and the synonymy *Chalcoidea* (= *Craspeda*) (Bieńkowski, 2007) was proposed. Thus, *Zeugotaenia* is a valid name for the subgenus discussed here.

Analysis of the Nomenclatural Types of Chrysomela limbata Fabricius, 1775

Chrysomela limbata Fabricius, 1775 : 101.

The type locality according to the original description: "Anglia."

Material. Neotype: ♂, designated here, with the labels: "*limbata*," "NEOTYPE *Chrysomela limbata* Fabricius, 1775. Bieńkowski design., 2010" [red], ZMUC.

Notes. Fabricius did not indicate in the original description the number of specimens in the type series. He also included in his description (Fabricius, 1775) a reference to an earlier description of this taxon (Geoffroy, 1762). However, the species names proposed by Geoffroy (1762) were rejected by the International Commission on Zoological Nomenclature (*The Bulletin of Zoological Nomenclature*, 1994).

Fabricius's collection, including types of the taxa described by him, is deposited in ZMUC. Some species were also described by him from Hunter's collection deposited at the University of Glasgow. The type specimens of the *Chrysolina* species described by Fabricius are usually provided with labels indicating the species name and the word "type," or the species name, type locality, and name of the specimen owner, and these data are included in the original descriptions (Bontems, 1981; Bourdonné, 1984).

We found in Fabricius's collection four specimens (two males and two females) with one label "*limbata*," without other labels, in particular, those indicating that the specimens were types. In order to fix interpretation of the name "*limbata*," we consider it expedient to designate the neotype from this series. The chosen male (figure, *1*, *7*, *14*, *15*, *17*) corresponds to the original description (Fabricius, 1775) and to the current concept of the species. Hunter's collection includes no specimens of *Ch. limbata* (Staines, 2002).

In Warchałowski's (1993) opinion, Great Britain may be erroneously indicated as the type locality of *Ch. limbata.* This leaf beetle does not occur in Great Britain in recent years (Marshall, 1979). However, as long ago as 1831, Stephens substantiated the correctness of the indication of the type collecting site by his own records of *Ch. limbata* in Windsor and in Devonshire County, but even at that time he mentioned the species as a very rare one. Based on these facts, we can conclude that for the two last centuries *Ch. limbata* has become extinct in Great Britain or, similarly to some other leaf-beetle species (Burton, 2005), it has sharply decreased in number because of anthropogenous changes in the environment.

The current status of the name: valid species name *Chrysolina limbata* (e.g., Medvedev and Okhrimenko, 1991).

Chrysomela limbifera Küster, 1846

Chrysomela limbifera Küster, 1846 : 91.

The type locality according to the original description: "sudlichen Russland," "Caucasus."

Material. Neotype: ♂, designated here, with the labels: "Kaukasus," "Küsterische Sammlung," "*limbifera* Kust.," "NEOTYPE *Chrysomela limbifera* Küster, 1846. Bieńkowski design., 2010" [red], FTPM.

Notes. Mentioning of two collecting localities in the original description (Küster, 1846) presumes that the number of the type specimens exceeded one. Holotype was not designated. Küster's collection including leaf beetles was badly damaged, it first became a part of Menzels' (father and son) collection (Horn and Kahle, 1935–1937) and then, part of H. Kippenberg's collection which later will be deposited in FTPM.

The type specimens of species described by Küster are usually provided with the author's handwritten label with the name of the species (H. Kippenberg's personal communication). Küster's collection includes four specimens with the typographical label "*limbifera*." The specimens correspond to the original description. One of these (male) is provided with the label "Caucasus" written not by Küster, the others are not labeled and therefore we cannot consider them types. In view of the uncertain taxonomic position of "*limbifera*," for fixing the name we designate as neotype the male (figure, *2*, *9*) from this series. According

to its morphological characters, the male belongs to the species *Ch. limbata*, being similar to individuals inhabiting the Crimea, Rostov Province, and the Northwestern Caucasus.

Various authors treat the current status of the name as a junior synonym of the nominotypical subspecies (Warchałowski, 1993) or the subspecies *Ch. limbata discipennis* (Medvedev and Okhrimenko, 1991).

Chrysomela discipennis Ménétriés, 1848

Chrysomela discipennis Ménétriés, 1848 : 268 (52).

The type locality according to the original description: "Turcomanie," "Irkoutsk," "Kiachta," "steppes de la Mongolie."

Material. Lectotype: ♀, designated here, with the labels: "Lehmann in itinere ad Bokhoram" [Lehmann on the journey to Bukhara], "Menetr.," "Coll Mannerh.," "*Discipennis* Falderm.," "LECTOTYPE *Chrysomela discipennis* Ménétriés, 1848. Bieńkowski design., 2010" [red], ZMHU; paralectotypes with the labels: "type," "Turcm.," "*Zeugotaenia discipennis* Turcm. D. Kirg. Fald." [D. Kirg. = "Kirghiz steppes," the territory between the Volga and Ural rivers], 1 ♀, ZMMU, coll. V.I. Motschulsky; "*Chr. discipennis* Fald.-Lehmann," 1 ♀, ZIN. The paralectotypes are provided with red labels similar to that of the lectotype.

Notes. A common reference to the original description of *Ch. discipennis* is "Faldermann, 1835, Mém. Ac. Pétersb. II, p. 268, t. 4, f. 14" (Suffrian, 1851; Suffrian and Fairmaire, 1854; Gemminger and Harold, 1874; Weise, 1884; Marseul, 1887; Heyden et al., 1906; Weise, 1916; Brovdi, 1977; Medvedev, 1982; Medvedev and Okhrimenko, 1991; Warchałowski, 1993; Bieńkowski, 2001). However, no Faldermann's paper with such a date-line exists, and none of the known publications of the author (Faldermann, 1833, 1835a, 1835b, 1837, 1838) includes description of *Ch. discipennis*.

According to the International Code of Zoological Nomenclature (2000, 12.2.7), the name *Chrysomela discipennis*, first published in the catalog of Dejean's collection (Dejean, 1837) as "*Discipennis*. Faldermann. Turcomania," is invalid, being devoid of any description, illustration, or reference to an earlier publication. The name might be included in the catalog based on labels of the unidentified specimens sent by Faldermann. The earliest description of this taxon was made by Ménétriés (1848). Despite the fact that Ménétriés ascribes the authorship of the name to Faldermann, giving the following reference to Dejean's (1837) catalog: "*Chrysomela discipennis*, Fald. Dej. Catal. 3e edit. p. 434," it is Ménétriés's (1848) paper that should be considered to include the original description of *Ch. discipennis*. It is noteworthy that the mentioned paper of Ménétriés is published in Mémoires de l'Académie Impériale des Sciences de St. Pétersbourg, Vol. 6, with the description of *Ch. discipennis* given on page 268 and with the figure number 14 (i.e., all the data, except for the year and the volume number, coincide with those in the common reference to the nonexistent Faldermann's publication!).

Chrysomela discipennis was described from a series of specimens, without designation of holotype. We succeeded in finding three type specimens (females) in ZIN, ZMMU, and ZMHU. The labels of two of the specimens indicate the surname of the collector, A. Lehmann, and that of the third specimen, indicates the collecting site "Turcm" [= Turcomanie].

The word "Turcomanie" meant in the XVII–XIX centuries two different territories: (1) part of the Transcaucasia, about 40°N (present Armenia) (Sanson, 1652) (that might be why Suffrian (1851) and Medvedev and Okhrimenko (1991) indicated "Armenia" as the type locality of *Ch. discipennis*); (2) the northeastern environs of the Caspian Sea (present Mangyshlak Province of Kazakhstan) (Vandermaelen, 1827).

Lehmann, who collected part of the type specimens of *Ch. discipennis*, was a doctor and naturalist of the Russian diplomatic mission which in 1841 set off across Bashkiria for Khiva and Bukhara (cities in the territory of the present Uzbekistan). Taking into account the expedition route, we conclude that "Turcomanie" in Ménétriés's (1848) paper means not Armenia, but the northeastern environs of the Caspian Sea.

The type series of *Ch. discipennis* included specimens from northwestern Kazakhstan, Eastern Siberia, and Mongolia which might belong to different subspecies. To fix both the interpretation of the name "*discipennis*" and the type locality we designate the specimen from ZMHU, collected by A. Lehmann (figure, *11*), as lectotype, and the others, as paralectotypes. All the specimens habitually correspond to the original description and are also similar to individuals of *Ch. limbata* from northwestern Kazakhstan. The normally developed wings of the specimens prove their

identification as *Ch. limbata*. According to our data, representatives of the closely related *Ch. jenisseiensis* always possess strongly reduced wings, while individuals of *Ch. limbata* can be macropterous and brachypterous.

The current status of the name varies: a valid species name (Bechyné, 1950; Lopatin, 1966), the subspecies *Ch. limbata discipennis* (Medvedev, 1982; Medvedev and Okhrimenko, 1991; Medvedev, Dubeshko, 1992), or a junior synonym of *Ch. limbata* (Iablokoff-Khnzorian, 1968).

Chrysomela findelii Suffrian, 1851

Chrysomela findelii Suffrian, 1851 : 70.

The type locality according to the original description: "Kaernthen," "Istrien," "Fiume."

Material. Lectotype: ♀, designated here, with the labels: "*Findelii* St. Fiume," "Zool. Mus. Leipzig G. Kunze Sammlung," "SYNTYPE *Chrysomela Findelii* Suffrian, 1851. Bieńkowski rev., 2004" [red], ZMD.

Notes. The species was described from a series of specimens collected in southern Austria and Croatia, without designation of holotype (Suffrian, 1851). We found in ZMD one type specimen originating from Kunze's collection. Kunze was mentioned in the original description as one of the collectors. Suffrian's collection in IZUG includes only one specimen (male) of *Ch. findelii*, but this male was collected in 1858, i.e., seven years after the description of this taxon. To fix both the interpretation of the name and the type locality we designate lectotype, its identification as *Ch. limbata* is based on the fact that the closely related species *Ch. jenisseiensis* does not occur in Western Europe.

The current status of the name: the subspecies name *Ch. limbata findelii* (Kaszab, 1962; Mohr, 1966; Medvedev and Okhrimenko, 1991; Strejček, 1993; Warchałowski, 1993).

Chrysomela hochhuthii Suffrian, 1851

Chrysomela hochhuthii Suffrian, 1851 : 72.

The type locality according to the original description: "Baikalsee," "Indersk."

Material. Lectotype: ♂, designated here, with the labels: "15467," "*Hochhuthii* Wagn. *limbata* var. Kryn. Baikal," "LECTOTYPE *Chrysomela hochhuthii* Suffrian, 1851. design. Bieńkowski, 2003" [red], IZUG.

Notes. The taxon was described from a series of specimens, without designation of holotype (Suffrian, 1851). The author also attributed to *Ch. hochhuthii* specimens which had been collected from "Kirgisensteppe" (part of the Caspian Lowland between the Volga and Ural rivers) and were described but not named by Krynicki (1832). Krynicki's specimens were not examined by Suffrian, but they are also syntypes (International Code of Zoological Nomenclature, 2000, 73.2.1).

We found in Suffrian's collection in IZUG a male of *Ch. hochhuthii*, collected near the Lake Baikal. The type series of *Ch. hochhuthii* included specimens which were collected in Eastern Siberia and the Caspian Lowland and might belong to different subspecies. To fix both the interpretation of "*hochhuthii*" and the type locality we designate as lectotype the male collected near the Lake Baikal (figure, *3*, *8*). The male corresponds to the original description by its external characters and is identified as *Ch. limbata* by the aedeagus structure.

The ZMMU collection also includes two females with the label "Indersk" (the present Inderborskii Village, the center of Inderskii District, Atyrau Province, Kazakhstan). However, there is no obvious evidence that these specimens belong to the type series, especially as during the entire XIX century Indersk was a popular place for entomological collecting.

Various authors treat the current status of the name in different ways: the subspecies *Ch. limbata hochhuthii* (Lopatin, 1977), junior synonym of the subspecies *Ch. limbata discipennis* (Medvedev, 1982; Medvedev and Okhrimenko, 1991), or junior synonym of *Ch. cinctipennis* (Harold, 1874) (Warchałowski, 1993).

Chrysomela limbata luigionii Depoli, 1936

Chrysomela limbata luigionii Depoli, 1936 : 139.

The type locality according to the original description: "Italia," "Abruzzo," "Gran Sasso," "Campo Pericoli, M. Portella."

Material. Topotypes: 1 ♀, 1 ♂, Italia, Abruzzo, Gran Sasso, 1650 m, Osella, Winkelmann, and Bayer leg., 27.VII.1995; 1 ♂, Gran Sasso, Meschnigg leg.; 2 ♂, Gran Sasso, W. Liebmann leg., 16.VII.1910; 8 ♂, 1 ♀, Gran Sasso, Albergo Campo Imperatore,

1900–2000 m, H. Kippenberg leg., 6.VI.2001; 3 ♀, Gran Sasso.

Notes. The taxon was described from a series of specimens collected in central Italy, holotype was not designated (Depoli, 1936). Types of the taxa described by G. Depoli are deposited in the University of Bologna. We have failed to find out, whether there are types of *Ch. limbata luigionii* among them, but have at our disposal a series of topotypes. According to the external characters and structure of the aedeagus (figure, *5*), these specimens correspond to the original description of *Ch. limbata luigionii* and belong to the species *Ch. limbata.*

The current status of the name corresponds to the initial one. Since the original description, the name was mentioned only once in the literature (Bieńkowski, 2001).

Chrysolina limbata kavani Bechyné, 1950

Chrysolina limbata kavani Bechyné, 1950 : 170.

The type locality according to the original description: "Slovaquie occidentale (Plav. Stvrtok)."

Material. Syntype: ♂, with the labels: "Male Karpaty Slovensko O. Kavan," "Rarbok 16.6.35," "Typus" [red], *"Chr. limbata* TIPE s/sp. *Kavani* m., 1949 Det. J. Bechyné.," "*Chrysolina limbata* (E) J. Kral det. 84," NMP.

Notes. The subspecies was described from a series of specimens without designation of holotype (Bechyné, 1950). We have examined one syntype (figure, *4*, *10*) which belongs to *Ch. limbata.* Rarbok, the type locality indicated on the label, is situated near Plavecký Štvrtok mentioned in the original description.

Various authors treat the name as a synonym of *Ch. limbata limbata* (Barabás, 1977), a synonym of *Ch. limbata discipennis* (Medvedev and Okhrimenko, 1991), or as a subspecies name (Kaszab, 1962; Mohr, 1966; Strejcek, 1993; Warchałowski, 1993).

Chrysomela limbata jenisseiensis Breit, 1920

Chrysomela limbata jenisseiensis Breit, 1920 : 81.

The type locality according to the original description: "Krasnojarsk," "Schiro-See."

Material. Syntype: ♂, with the labels: "Minus. okrug Oz. Shiro. [Minussinsk District, Lake Shiro—Transl.] 8.VII.99 N. Tyutchev," "Kr. v. Minussinsk Schiro See," "SYNTYPE *Chrysomela limbata jenisseiensis* Breit, 1920. Bieńkowski rev.," "*Chrysolina jenisseiensis* (Breit). Bieńkowski det."

Notes. The taxon was described from a long series of specimens, including males and females (Breit, 1920). The material from Breit's collection is deposited in NHMV, where we have found only one male with a geographical label corresponding to that of the type series. Both the external characters and structure of the aedeagus of the examined specimen correspond to the original description of *Ch. limbata jenisseiensis*, and we consider his specimen a syntype.

The current status of the name is that of a valid species name (Medvedev and Okhrimenko, 1991; Medvedev and Dubeshko, 1992).

The Species Excluded from the Subgenus Zeugotaenia

Chrysolina dohrnii (Fairmaire, 1865)

Chrysomela dohrnii Fairmaire, 1865 : 81.

Chrysolina (*Craspeda*) *dohrnii*: Bourdonné, 2005 : 305.

Material. 7 specimens, Lebanon, IZUG, NHMV, NHMUH, SMN.

Notes. This species inhabiting the Near East (Fairmaire, 1865) was placed by Bourdonné (2005) in the subgenus *Craspeda.* After examination of the material we have concluded that the specimens differ from representatives of the subgenus *Zeugotaenia* in the following characters: ultimate segment of maxillary palpus narrow and elongate in both sexes (figure, 76), three basal tarsal segments of male not widened (figure, *18*), lateral depression of pronotum very shallow (figure, *13*), and elytral striae absolutely regular and paired, well visible against background of finer punctation of intervals. Based on this combination of characters, we place *Ch. dohrnii* in the subgenus *Paradiachalcoidea* Daccordi, 1978, sensu Bieńkowski (2001).

Chrysolina furva
(Peyerimhoff in Deville et Peyerimhoff, 1926)

Chrysomela furva Peyerimhoff in Deville, Peyerimhoff, 1926 : 96.

Chrysolina (*Craspeda*) *furva*: Bourdonné, Doguet, 1991 : 58.

Notes. This species is endemic to the Atlas Mts. in Morocco. Its aedeagus (after Bourdonné and Doguet, 1991) is similar to that of *Ch. limbata.* According to

the original description (Peyerimhoff, 1926), its elytra are characterized by the presence of an indistinct margination only on sides, by sulciform striae deepened at sides and at apex, and by smooth, inconspicuously punctate intervals. Based on these characters, the species should be excluded from the subgenus *Zeugotaenia*. Its taxonomic position remains uncertain until examination of the material.

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REFERENCES

1. Barabás, L., "Poznámky o niektorých slovenských liskavkách (Col., Chrysomelidae)," Entomol. Problémy (Biol. Pracé) **14**, 9–12 (1977).
2. Bechyné, J., "7e contribution à la connaissance du genre *Chrysolina* Motsch. (Col. Phytophaga Chrysomelidae)," Entomol. Arbeit. Mus. G. Frey **1**, 47–185 (1950).
3. Bieńkowski, A.O., "A Study of the Genus *Chrysolina* Motschulsky 1860, with a Checklist of All the Described Subgenera, Species, Subspecies, and Synonyms (Coleoptera: Chrysomelidae: Chrysomelinae)," Genus **12** (2), 105–235 (2001).
4. Bieńkowski, A.O., *A Monograph of the Genus Chrysolina Motschulsky, 1860 (Coleoptera: Chrysomelidae) of the World. Part 1* (Techpolygraph-centre, Moscow, 2007).
5. Bieńkowski, A.O., "A Review of the *Chrysolina lineella* Species-group of the Subgenus *Anopachys* Motschulsky, 1860, Genus *Chrysolina* Motschulsky, 1860 (Coleoptera, Chrysomelidae, Chrysomelinae)," Entomol. Obozr. **87** (2), 425–437 (2008a) [Entomol. Rev. **88** (3), 359–369 (2008)].
6. Bieńkowski, A.O., "Little Known Leaf Beetles of the Genus *Chrysolina* (Coleoptera, Chrysomelidae) from China," Zool. Zh. **87** (1), 31–34 (2008b) [Entomol. Rev. **88** (4), 435–441 (2008)].
7. Bieńkowski, A.O., "New Data on the Systematics of the Leaf-Beetle Genus *Chrysolina* (Coleoptera, Chrysomelinae) from the Palaearctic Region," Zool. Zh. **87** (11), 1319–1324 (2008c) [Entomol. Rev. **88** (8), 954–959 (2008)].
8. Bieńkowski, A.O., "Findings of the Leaf Beetles *Chrysolina tundralis* and *Chrysolina roddi* (Coleoptera, Chrysomelidae) in the Middle Part of European Russia," Zool. Zh. **88** (1), 31–34 (2009) [Entomol. Rev. **89** (69–71) (2009)].
9. Bontems, Ch., "Les espèces de Linné et Fabricius du genre *Oreina* Chevrolat, 1837 (Col., Chrysomelidae, Chrysomelinae)," Nouv. Rev. Entomol. (N.S.) **11** (1), 93–109 (1981).
10. Bourdonné, J.-C., "Interprétation de trois types de *Chrysomela* de Fabricius (Coleoptera Chrysomelidae Chrysomelinae)," L'Entomologiste **40** (3), 97–103 (1984).
11. Bourdonné, J.-C., "Révision du sous-genre *Taeniosticha* Motschulsky, 1860 du genre *Craspeda* Motschulsky, 1860 (Coleoptera, Chrysomelidae). 1ère partie," Nouv. Rev. Entomol. (N.S.) **21**(2004) (4), 297–363 (2005).
12. Bourdonné, J.-C. and Doguet, S., "Données sur la biosystématique des *Chrysolina* l. s. (Coleoptera: Chrysomelidae: Chrysomelinae)," Ann. Soc. entomol. France (N.S.) **27** (1), 29–64.
13. Breit, J., "Chrysomela-Studien II," Koleopt. Rundschau **8** (7/12), 81–88 (1920).
14. *The Bulletin of Zoological Nomenclature* (International Trust for Zoological Nomenclature, 1994), Vol. 51, No. 1, Opinion 1754, p. 58.
15. Brovdii, V.M., *Chrysomelinae. Fauna of the Ukraine. Vol. 19. Beetles* (Naukova Dumka, Kiev, 1977) [in Russian].
16. Burton, H.M.C., Conservation Ecology of Biodiversity Action Plan Listed Reed Beetles of the Genus *Donacia* (Univ. of Sussex, 2005).
17. Dejean, P.F., *Catalogue des Coléoptères de la collection de M. le Comte Dejean, ... Troisième édition, révue, corrigée et augmentée* (Paris, 1837).
18. Dépoli, G., "Materiali per la fauna coleotterologica del Gran Sasso d'Italia," Bol. Soc. entomol. Ital. **68** (8), 133–141 (1936).
19. Deville, J.S.-C. and Peyerimhoff, P., "Nouveaux Coléoptères du Nord-Africain. Cinquante—cinquième note faune du Grand-Atlas marocain (suite)," Bul. Soc. entomol. France **1926**, 93–96 (1926).
20. Fabricius, J.C., *Systema Entomologiae, sistens Insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus. Flensburgi et Lipsiae* (1775).
21. Fairmaire, L., "Monographie des Chrysomèles de Suffrian," Ann. Soc. entomol. France, 4 ser. **5**, 37–82 (1865).
22. Faldermann, F., "Species novae Coleopterorum Mongoliae et Sibiriae incolarum," Bul. Soc. Nat. Mosc. **6**, 46–72 (1833).
23. Faldermann, F., "Coleopterorum ab illustrissimo Bungio in China boreali, Mongolia et montibus Altaicis collectorum, nee non ab illustrissimo Turczaninoffio

† Deceased.

et Stschukino e provincia Irkutzk missorum illustrationes," Mém. Acad. imp. St.-Petersburg **2**, 337–464 (1835a).
24. Faldermann, F., "Fauna Entomologica Transcaucasica. 1," Nouv. Mém. Soc. Nat. Mosc. **4**, 1–314 (1835b).
25. Faldermann, F., "Fauna Entomologica Transcaucasica. 2," Nouv. Mém. Soc. Nat. Mosc. **5**, 1–538 (1837).
26. Faldermann, F., "Fauna Entomologica Transcaucasica. 3," Nouv. Mém. Soc. Nat. Mosc. **6**, 1–338 (1838).
27. Gemminger, M. and Harold, E., "Catalogus Coleopterorum hucusque descriptorum synonymicus et systematicus. 11. Chrysomelidae. 1," Monachii, 3233–3478 + 4 p. unnumbered (1874).
28. Geoffroy, E.L., *Histoire abrégée des insectes qui se trouvent aux environs de Paris; dans laquelle ces animaux sont rangés suivant un ordre méthodique* (Paris, 1762), Vol. 1.
29. Heyden, L., Reitter, E., and Weise, J., *Catalogus coleopterorum Europae, Caucasi et Armeniae Rossicae, 2 ed.* (Berlin, Paskau, Caen, 1906).
30. Horn, W. and Kahle, J., "Über entomologische Sammlungen, Entomologen & Entomo-Museologie," Entomol. Beihefte aus Berlin-Dahlem **2–4**, 560 (1935–1937).
31. Iablokoff-Khnzorian, S.M., "Notes sur les Chrysomelidae de l'Arménie soviétique [Col.]," Ann. Soc. entomol. France (N.S.) **4** (2), 259–277 (1968).
32. *International Code of Zoological Nomenclature. 4th ed.* (St. Petersburg State Univ., St. Petersburg, 2000) [in Russian].
33. Kaszab, Z., *Levélbogarak Chrysomelidae. Fauna Hungariae. 63. Coleoptera 4* (Akadémiai kiado, Budapest, 1962). Kippenberg, H. and Döberl, M., "Familie: Chrysomelidae," in *Die Käfer Mitteleuropas* (Krefeld, 1994), Vol. 3 (additional), pp. 17–144.
34. Krynicki, J., "Enumeratio Coleopterorum Rossiae meridionalis et praeeipue in Universitatis Caesareae Charkoviensis circulo obvenientium, quae annorum 1827–1831 spatio observavit," Bul. Soc. Impér. Nat. Mosc. **5**, 65–179 (1832).
35. Küster, H.S., *Die Käfer Europa's. Nach der Natur beschrieben von Dr. H.C. Küster* (Nürnberg, 1846), Part 4.
36. Lopatin, I.K., "Chrysomelidae II. Ergebnisse der Zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei (Coleoptera)," Reichenbachia **7** (25), 229–239 (1966).
37. Lopatin, I.K., *Leaf Beetles (Chrysomelidae) of Middle Asia and Kazakhstan. Keys to the Fauna of the USSR* (Leningrad Branch, Nauka, Leningrad, 1977), Issue 113 [in Russian].
38. Marseul, S., "Monographie des Chrysomélides. III. 6. *Chrysomela*," L'Abeille. Ser. 4. **24**, 73–190 (181–298) (1887).
39. Marshall, J.E., "The Larvae of the British Species of *Chrysolina* (Chrysomelidae)," Systematic Entomol. **4**, 409–417 (1979).
40. Medvedev, L.N., *Leaf Beetles of the Mongolian People's Republic. A Key* (Nauka, Moscow, 1982) [in Russian].
41. Medvedev, L.N. and Dubeshko, L.N., *A Key to Leaf Beetles of Siberia* (Irkutsk Univ., Irkutsk, 1992) [in Russian].
42. Medvedev, L.N. and Okhrimenko, N.V., "On the Knowledge of Leaf Beetles of the Genus *Chrysolina* Motsch. (Coleoptera, Chrysomelidae) of the Caucasus," Entomol. Obozr. **70** (4), 866–874 (1991).
43. Ménétriés, E., "Descriptions des insectes recueillis par feu M. Lehmann," Mém. Acad. Imp. sci. St.-Pétersbourg **6**, 1–112 (1848).
44. Mohr, K.-H., "Chrysomelidae," in *Die Käfer Mitteleuropas* (Krefeld, 1966), Vol. 9.
45. Motschulsky, F., "Coléoptères de la Sibérie orientale et en particulier des rives de l'Amour," in *L. von Schrenck. Reisen und Forschungen im Amur-Lande. 2. Coleoptera* (1860), pp. 77–258.
46. Sanson, N., *Atlas of Asia (17 maps). Turcomanie Georgie Commanie. Map 5* (1652).
47. Staines, C.L., "Chrysomelidae (Coleoptera) Types in the Hunterian Museum, University of Glasgow," J. New York Entomol. Soc. **110** (3–4), 405–412 (2002).
48. Stephens, J.F., *Illustrations on British entomology; or, a Synopsis of Indigenous Insects. Mandibulata* (Baldwin and Cradock Publ., London, 1831), Vol. 4.
49. Strejček, J., "Chrysomelidae," in *Check-list of Czechoslovak Insects IV (Coleoptera)* (Folia Heyrovskyana, Praha, 1993), Suppl. 1, pp. 123–132.
50. Suffrian, E., "Zur Kenntniss der Europäischen Chrysomelen," Linn. Entomol. **5**, 1–280 (1851).
51. Suffrian, E. and Fairmaire, L., "Monographie des Chrysomèles d'Europe; suite 1," Ann. Soc. entomol. France **3** (2), 313–328 (1854).
52. Vandermaelen, Ph., *Turcomanie. Asie No. 40* (Ph. Vandermaelen, Bruxelles, 1827).
53. Warchałowski, A., "Chrysomelidae. Stonkowate. III," in *Fauna Polski* (Dział wydawnictw MiIZ PAN, Warszawa, 1993), Vol. 15.
54. Weise, J., "Chrysomelidae, Lief. III," Naturgeschichte der Insecten Deutschlands. Coleoptera **6** (3), 369–568 (1884).
55. Weise, J., "Chrysomelidae: 12. Chrysomelinae," in *Coleopterorum Catalogus* (W. Junk, Berlin, 1916), Vol. 68.