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Notes on the synonymy and distribution of some species of the genus *Meligethes* Stephens, 1830 (Coleoptera: Nitidulidae)

Замечания по синонимии и распространению некоторых видов рода *Meligethes* Stephens, 1830 (Coleoptera: Nitidulidae)

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KEY WORDS: synonymy, Coleoptera, Nitidulidae, *Meligethes*, *Clypeogethes*, distribution, variability.

КЛЮЧЕВЫЕ СЛОВА: синонимия, Coleoptera, Nitidulidae, *Meligethes*, *Clypeogethes*, распространение, изменчивость.

ABSTRACT. The paper presents data on synonymy and distribution of 6 Palaearctic sap beetles species from genus *Meligethes* Stephens, 1830. For each of these species there has recently been using two names, which regarded as appropriating to separate species. These pairs of synonyms are following: 1. *Meligethes* (*Astylogethes*) *subrugosus* Gyllenhal, 1808 = *M.* (*A.*) *caudatus* Guillebeau, 1897; 2. *M.* (*Clypeogethes*) *kraatzi* Reitter, 1871 = *M.* (*C.*) *brisouti* Reitter, 1871, **syn. n.**; 3. *M.* (*C.*) *angustatus* Küster, 1848 = *M.* (*C.*) *paschalis* Spornraft, 1975, **syn. n.**; 4. *M.* (*C.*) *exilis* Sturm, 1845 = *M.* (*C.*) *nigritus* (Lucas, 1849); 5. *M.* (*C.*) *obscurus* Erichson, 1845 = *M.* (*C.*) *distinctus* Sturm, 1845, **syn. n.**; 6. *M.* (*C.*) *punctatus* Ch. Brisout de Barneville, 1863 = *M.* (*C.*) *bidentatus* Ch. Brisout de Barneville, 1863.

РЕЗЮМЕ. В работе представлены данные по синонимии и распространению 6 палеарктических видов жуков-блестянок рода *Meligethes* Stephens, 1830. Для каждого из этих видов в последние годы использовались два названия, которые рассматривались как относящиеся к самостоятельным видам. Эти пары синонимов следующие: 1. *Meligethes* (*Astylogethes*) *subrugosus* Gyllenhal, 1808 = *M.* (*A.*) *caudatus* Guillebeau, 1897; 2. *M.* (*Clypeogethes*) *kraatzi* Reitter, 1871 = *M.* (*C.*) *brisouti* Reitter, 1871, **syn. n.**; 3. *M.* (*C.*) *angustatus* Küster, 1848 = *M.* (*C.*) *paschalis* Spornraft, 1975, **syn. n.**; 4. *M.* (*C.*) *exilis* Sturm, 1845 = *M.* (*C.*) *nigritus* (Lucas, 1849); 5. *M.* (*C.*) *obscurus* Erichson, 1845 = *M.* (*C.*) *distinctus* Sturm, 1845, **syn. n.**; 6. *M.* (*C.*) *punctatus* Ch. Brisout de Barneville, 1863 = *M.* (*C.*) *bidentatus* Ch. Brisout de Barneville, 1863.

Introduction

Examination of the vast material on some species of the genus *Meligethes* Stephens, 1830 allowed us to make some conclusions on variability and synonymy of some forms which sometimes were treated as separate "species". In particular, it concerns the following pairs: 1. *Meligethes* (*Astylogethes*) *subrugosus* Gyllenhal, 1808 = *M.* (*A.*) *caudatus* Guillebeau, 1897; 2. *M.* (*Clypeogethes*) *kraatzi* Reitter, 1871 = *M.* (*C.*) *brisouti* Reitter, 1871, **syn. n.**; 3. *M.* (*C.*) *angustatus* Küster, 1848 = *M.* (*C.*) *paschalis* Spornraft, 1975, **syn. n.**; 4. *M.* (*C.*) *exilis* Sturm, 1845 = *M.* (*C.*) *nigritus* (Lucas, 1849); 5. *M.* (*C.*) *obscurus* Erichson, 1845 = *M.* (*C.*) *distinctus* Sturm, 1845, **syn. n.**; 6. *M.* (*C.*) *punctatus* Ch. Brisout de Barneville, 1863 = *M.* (*C.*) *bidentatus* Ch. Brisout de Barneville, 1863. The specimens examined are mostly deposited in the collections of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIN) and the British Natural History Museum in London (BNHM). The study showed an impossibility to carry out a reliable identification of the "species" in each pair due to the lacking of reliable constant diagnostic characters. Moreover, the shape of tegmen and penis trunk, which were frequently considered to be most reliable and enough constant as source of characters for identification of closely related species, demonstrate a wide range of structural modifications and transitions not only among very close relatives of the genus *Meligethes*, but even within the specimens of one species. All descriptions (except one of *M.* (*C.*) *paschalis*) of the above mentioned pairs of the species were published in XIX century and provide neither detailed description of the species nor quite appropriate diagnosis. Recently for these "species" some attempts to elaborate discrimination of them were made. All these attempts were summarized in one recent review by P. Audisio [1993]. We shall consider argumentation for each case. However, the authors pay attention mostly on reason to change interpretation used by the latter writer and omitted the details of

history in interpretation of the mentioned names during more than a hundred years.

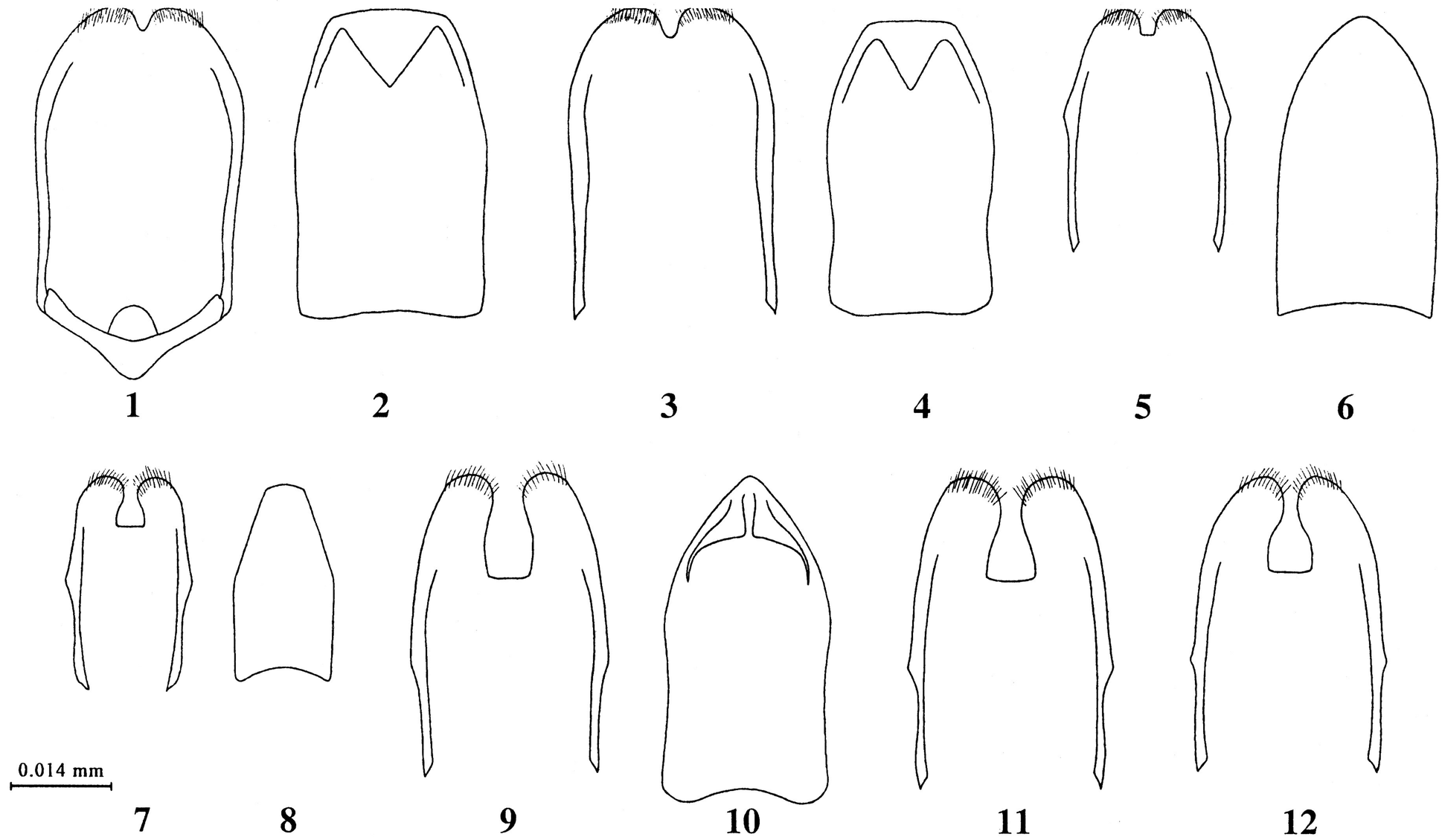
Other depositories: CNC — Canadian National Collections (Biosystematics Research Institute), Ottawa; DEI — Deutsche Entomologisches Institut, Münchenberg; FMNH — Field Museum of Natural History, Chicago; IRSN — Institut Royal des Sciences naturalles, Bruxelles; NME — Naturhistorisches Museum, Erfurt; NMW — Naturhistorisches Museum, Wien; NRS — Naturhistoriska Riksmuseet, Stockholm; SMNS — Staatliches Museum für Naturkunde, Stuttgart; TMB — Magyar Természettudományj Múzeum, Budapest; USMN — U.S. National Museum of Natural History, Washington; ZMB — Museum für Naturkunde an der Humboldt-Universität, Berlin; ZMO — Zoologisk Museum at Oslo University; ZMUC — Zoologisk Museum at Copenhagen University, København; ZML — Zoological Museum at Lund University; ZSM — Zoologische Staatssammlung, München.

Meligethes (*Clypeogethes*) *angustatus* Küster, 1848

Meligethes angustatus Küster, 1848: 44
= *Meligethes liguricus* Reitter, 1872: 128
= *Meligethes paschalis* Spornraft, 1975: 13, **syn. n.**

MATERIAL: about 50 exx. from Italy, including the type series M. (C.) *paschalis* (ZMB, ZSM); 1 ex. "Bolognola VI – 1955, Umbr. March. M.ti Sibillini", "*Meligethes angustatus* Küster, A.M.Easton det." (BMNH); 1 ex. "Lazio (Roma) Colli Albani Monte Caro, 25.IV.1975, P. Audisio leg.", "*Meligethes angustatus* Küst., det. P. Audisio 1976" (BMNH); 1 ex. – "Lazio (Roma). Colli Albani M. Artemisio, 29.V.1976, P. Audisio g, M. Bologna l", "*Meligethes paschalis* Sporn., det. P. Audisio 1976" (BMNH) and others (FMNH, SMNS, USMN, ZIN, ZML).

NOTES. *M.* (*C.*) *angustatus* was described by H.C. Küster [1848] who found out its similarity with *M.* (*C.*) *coerulescens* Kraatz, 1858. In the description of *M.* (*C.*) *paschalis* K. Spornraft [1975] considered it as a close relative of *M.* (*C.*) *difficilis* (Heer, 1843). To separate *M.* (*C.*) *angustatus* and *M.* (*C.*) *paschalis* P. Audisio [1993] used the peculiar shape of tegmen, penis trunk and ovipositor, which, however, are strongly variable (see Figs 1–12, 31–32). The variability in the shape of the tegmens is expressed in the depth of excision between its lateral lobes: it varies from very shallow to very deeply and moderately widely excised. The penis trunk apex is also variable and varies from transverse to sharply pointed. The ovipositor demonstrates a well expressed variability in the general width, shape of apex and particularly configuration and width of gonocoxites. Moreover, the examination of the specimens of *M.* (*C.*) *angustatus* and *M.* (*C.*) *paschalis* showed no specific differences in the external structures of both species. All mentioned characters are quite variable among the specimens from the same series and not infrequently one of recommended character of one specimen can be like that as described in "*angustatus*", while the others can be rather like those as described in "*paschalis*".



Figs 1–12. Genitalia of *M.* (*C.*) *angustatus* = *M.* (*C.*) *paschalis* males, Italy (all in ZIN). 1–10 — aedeagal sclerites of different specimens of the same series (1, 3, 5, 7, 9 — tegmen, ventral; 2, 4, 6, 8, 10 — penis trunk, dorsal); 11–12 — tegmen, ventral of different specimens with penis trunk as on Fig. 10.

Рис. 1–12. Гениталии самцов *M.* (*C.*) *angustatus* = *M.* (*C.*) *paschalis*, Италия (все в ЗИН). 1–10 — склериты эдеагуса различных экземпляров из одной серии (1, 3, 5, 7, 9 — тегмен, снизу; 2, 4, 6, 8, 10 — ствол пениса, сверху); 11–12 — тегмен, снизу, различных экземпляров, у которых ствол пениса как на рис. 10.

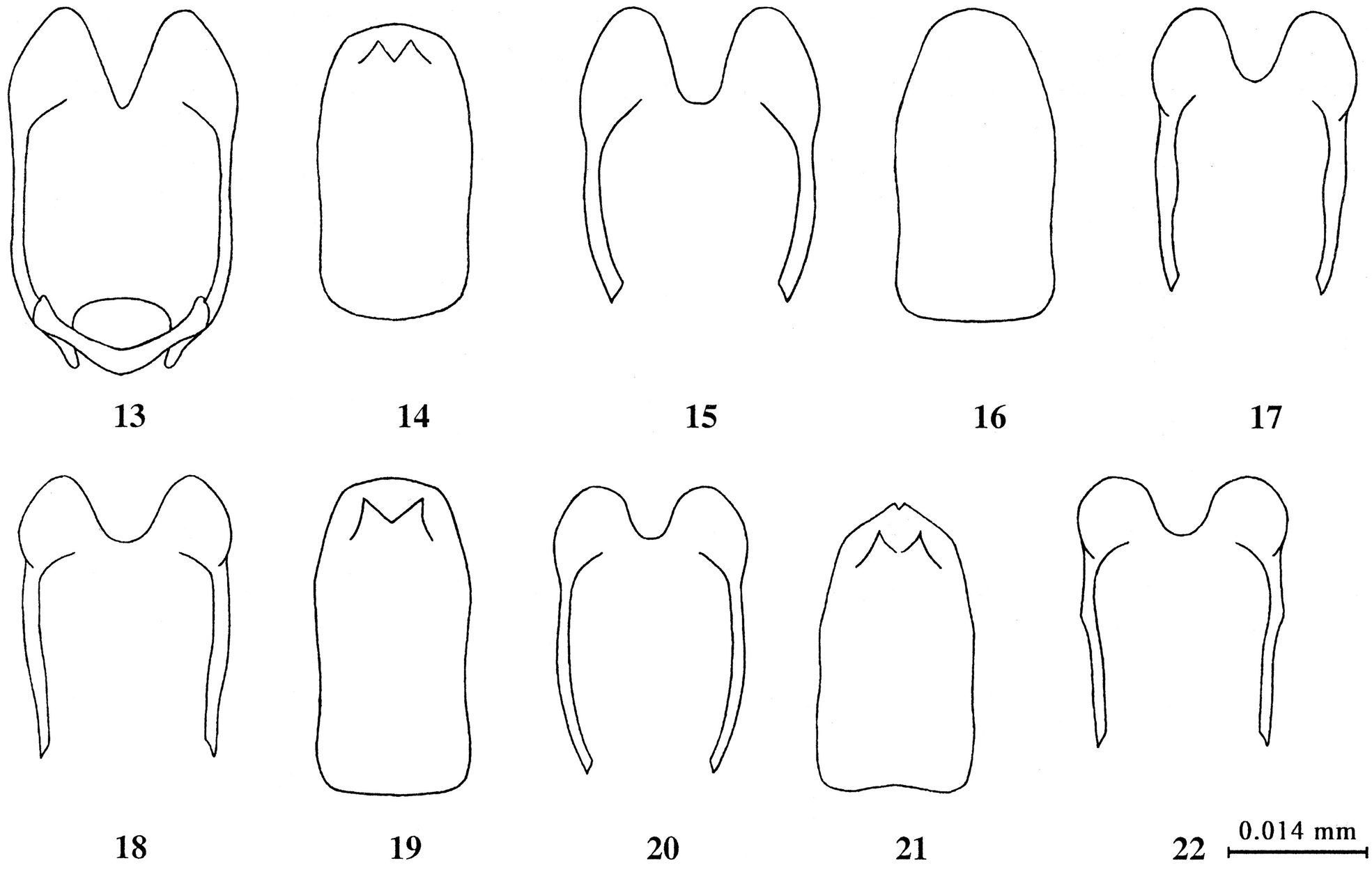
Thus, this species is characteristic of South Alps, but in the Italian part of its range gives populations with a somewhat wider variability, which can be associated with its inhabitance on *Lamium* species, which can be different from those, where the specimens of other populations live.

Meligethes* (*Clypeogethes*) *kraatzi Reitter, 1871

Meligethes kraatzi Reitter, 1871: 100
= *Meligethes brisouti* Reitter, 1871: 103, **syn. n.**
= *Meligethes frivaldzskyi* Reitter, 1875: 88
= *Meligethes assyricus* Obenberger, 1914: 104
= *Meligethes kraatzi* var. *basimargo* Reitter, 1919: 49
= *Meligethes therondi* Easton, 1957: 88

MATERIAL: more than 300 exx. from France, Spain, Italy, Greece, Morocco, Ukraine (including Crimea), Hungary, Rumania, Moldova, Russia (Krasnodarsky Kray, Samara, Orenburg Regions and Altai), Armenia, Turkey, Kazakhstan ["Tsivilsk (Kaz. gub.)" – in Cyrillics] (BMNH, CC, IRSN, NHM, SMNS, TMB, ZIN, ZMB, ZSM), partly named by P. Audisio as "*brisouti*" and "*kraatzi*", and also the type series of "*M. therondi*" (BMNH).

NOTES. In the original description of *M.* (*C.*) *kraatzi* [Reitter, 1871: 100] this form was compared with *M.* (*C.*) *rotundicollis* Ch. Brisout de Barneville, 1863. In the same publication *M.* (*C.*) *brisouti* [Reitter, 1871: 103] was described as well and considered as a close relative to *M.* (*C.*) *incanus* Sturm, 1845 and *M.* (*C.*) *viduatus* Sturm, 1845 (=*pedicularius* Gyllenhal, 1808), but E. Reitter did not regard them as close species. A.M. Easton [1957] in the "key to the species of the *rotundicollis* species-group" distinguished these species using such characters as shape of body and pronotum, elytra puncturation, configuration of the outer edge of protibiae, coloration of body and appendages, pubescence, shape of front margin of clypeus, male genitalia. He also regarded that these forms are also at least not overlapping ranges: Greece, Turkey, Caucasus for *M. kraatzi* and South France, Morocco, Spain for *M. brisouti* respectively [Easton, 1952]. A.G. Kirejtshuk [1977] recorded 2 species named according to the Easton's key: one for Ukraine — *M.* (*C.*) *frivaldszkyi*, and another for Iran — *M* (*C.*) *brisouti*. P. Audisio also compared *M.* (*C.*) *kraatzi* with *M.* (*C.*) *rotundicollis*, but in contrast to Reitter, he emphasized its similarity with *M.* (*C.*) *brisouti*. According to P. Audisio [1993] these species can be distinguished by the external characters mostly taken from the Easton's key, male genitalia and ovipositors. However, examination of the specimens from different collections (BMNH, CNC, IRSN, TMB, ZIN, ZMB etc.) showed no base to consider them as separate species, because all characters, used to discriminate these "species", demonstrate rather significant variability without any correspondence with geography or series of specimens. Both "forms" are more or less associated with montane and hill landscapes and they were collected on plant species from some genera of Brassi-



Figs 13–22. Genitalia of *M.* (*C.*) *exilis* = *M.* (*C.*) *nigritus* males. 13, 15, 17–18, 20, 22 — tegmen, ventral; 14, 16, 19, 21 — penis trunk, dorsal; 13–14 — "Is. Penziane"; 15–16 — Corsica; 17 — Gallia; 18–19 — Portugal; 20–21 — "Hammeren"; 22 — Spain; specimen on Fig. 17 with penis trunk as on Fig. 16 (all in ZIN).

Рис. 13–22. Гениталии самцов *M.* (*C.*) *exilis* = *M.* (*C.*) *nigritus*. 13, 15, 17–18, 20, 22 — тегмен, снизу; 14, 16, 19, 21 — ствол пениса, сверху; 13–14 — "Is. Penziane"; 15–16 — Корсика; 18–19 — Португалия; 20–21 — "Hammeren"; 22 — Испания; у экз. на рис. 17 ствол пениса почти такой же, как на рис. 16 (все в ЗИН).

caceae (Cruciferae). Thus, they scarcely can be more than varieties of the same species.

Meligethes* (*Clypeogethes*) *exilis Sturm, 1845

Meligethes (*Clypeogethes*) *exilis* Sturm, 1845: 53
= *Epuraea nigrita* Lucas, 1849: 218
= *Meligethes mucronatus* Rey, 1889: 28

MATERIAL: more than 400 exx. from Germany, France, Belgium, Germany, Switzerland, Portugal, Spain, Italy (including Sardinia), ? Sweden ("Hammeren"), Austria, Ukraine, Algeria, Morocco, (BMNH, CMC, IRSN, NMW, SMNS, TMB, ZIN, ZMB, ZMUC, ZSM).

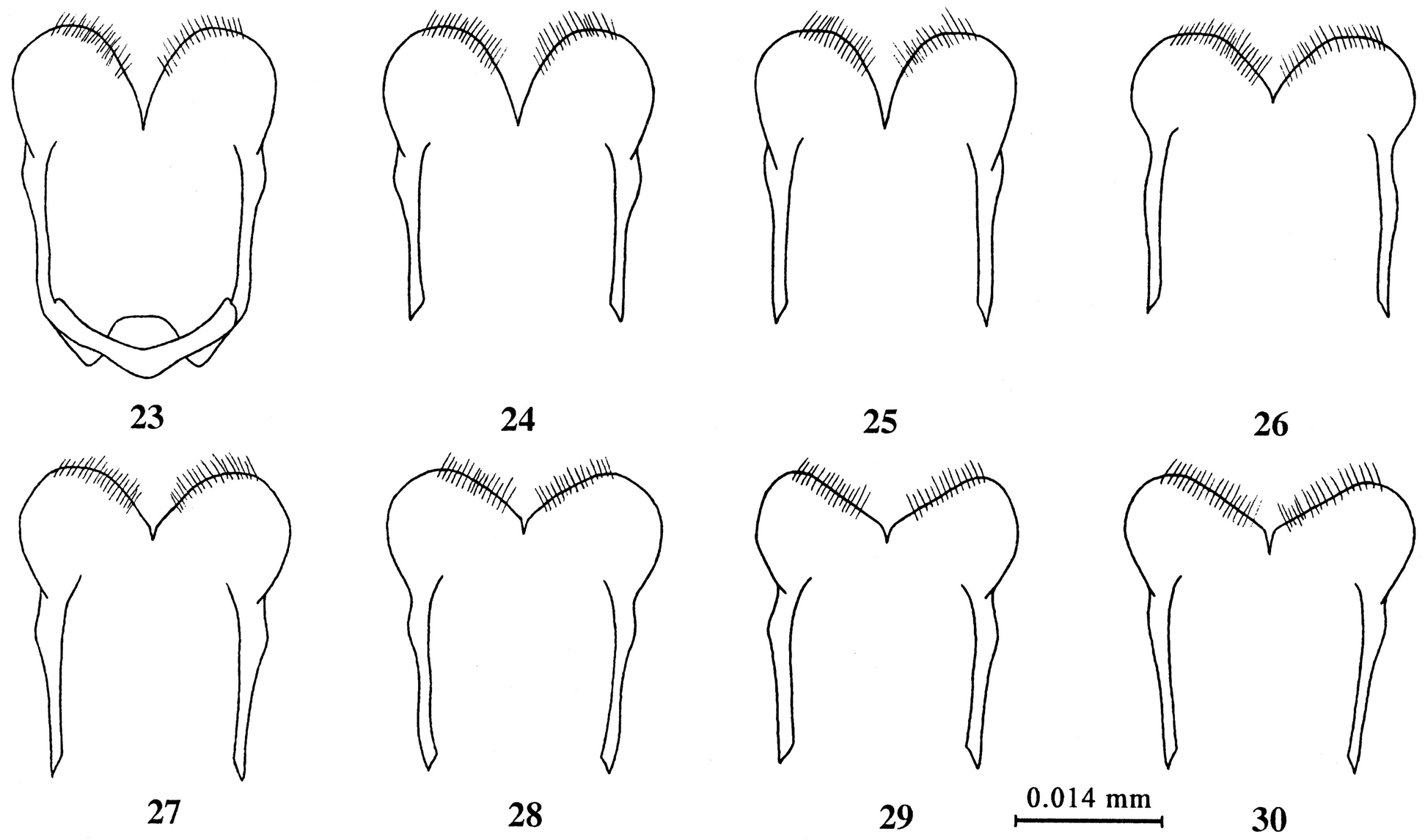
NOTES. J. Sturm [1845] did not provide any comparison for *M.* (*C.*) *exilis* in its original description, while in the original description of *M.* (*C.*) *nigritus* H. Lucas [1849] compared the latter with *Epuraea aenea* Fabricius, 1775 [i.e. *M.* (*C.*) *aeneus* (Fabricius, 1775)]. P. Audisio [1993] put *M.* (*C.*) *exilis* close to *M.* (*C.*) *nigritus* and *M.* (*C.*) *oreophilus* Audisio, 1984 distinguishing it from the last two species by the peculiar shape of tegmen and the penis trunk. He also considered *M.* (*C.*) *nigritus* as a close relative to *M.* (*C.*) *exilis* and *M.* (*C.*) *oreophilus* distinguishing it from the last two species by the shape of the tegmen and penis trunk. In a key to West Palaearctic species of the genus *Meligethes* P. Audisio [1993: 501] in order to separate *M.* (*C.*) *exilis* and *M.* (*C.*) *nigritus* proposed the following external characters as: "Spaces between dorsal punctures on the average shinier, but quite variable. Front tibiae as a rule black, more rarely yellowish. " in contrast to "Spaces between dorsal punctures on the average duller, but quite variable. Often at least front tibiae yellowish." But in accordance with the performed examination all the specimens of "*M. exilis*" from J. Corsica, Gallia and Spain (Figs 15–16, 17, 22) possess brown protibiae instead of black as given in the Audisio's key, while the specimens of "*M. nigritus*" from Portugal and Hammeren (Figs 18–19, 20–21) bear light brown protibiae instead of yellowish as it mentioned in the Audisio's key. The character of dorsal puncturation is also quite variable and provides no reliable difference. The shape of the tegmens of these species are strongly variable as well. The variability is observed in the depth and width of the excision between the lateral lobes, and in its shape (see Figs 13, 15, 17, 18, 20, 22). It has no sense to review the traditional synonymy as it was listed in the Junk's catalogue [Grouvelle, 1913] and here.

Meligethes* (*Clypeogethes*) *obscurus Erichson, 1845

Meligethes obscurus Erichson, 1845: 203
= *Meligethes palmatus* Erichson, 1845: 204 (#)
= *Meligethes distinctus* Sturm, 1845: 59, **syn. n.**
= *Meligethes minutus* Ch.Brisout de Barneville, 1863: 60
= *Meligethes* var. *parallelus* Reitter, 1871: 91 et 92
= *Meligethes* var. *confusus* Ch. Brisout de Barneville, 1872: 24
= *Meligethes minimus* Rey, 1889: 27

MATERIAL: about 500 exx. from Ireland, Belgium, France (including Corsica), Portugal, Italy, Hungary, Makedonia, Bosnia, Switzerland, Germany, Austria, Hungary, Serbia, Greece, Ukraine (including Crimea), Russia (Karachaevo-Cherkessia, Dagestan), Georgia (including Abkhazia), Azerbaijan ("Russ. Kurdist."), Turkmenia, Turkey, Iran (BMNH, IRSN, NMW, NRS, SMNS, TMB, ZIN, ZMB, ZML, ZSM), partly named by P. Audisio as "*obscurus*" and "*distinctus*", and the type series of *M. obscurus* (ZMB) and specimens .

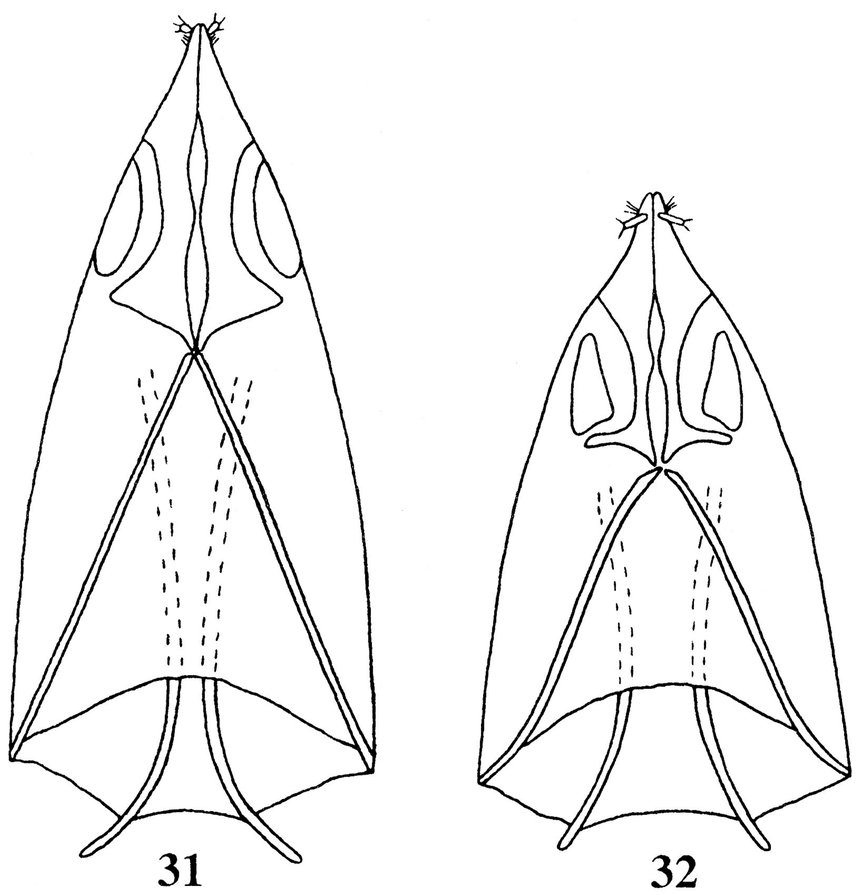
NOTES. The description of *M.* (*C.*) *distinctus* by J. Sturm [1845] contains no diagnostic data. W.F. Erichson [1845–1848] compared *M.* (*C.*) *obscurus* with *M.*



Figs 23–30. Genitalia of *M.* (*C.*) *obscurus* = *M.* (*C.*) *distinctus* males. Tegmen, ventral. 23–24 — Portugal; 25 — "Ins. Elba"; 26 — Turkmenistan; 27 — Karachaevo-Cherkessia; 28 — Pitsunda (Georgia); 29 — Dagestan; 30 — Turkey (all in ZIN).

Рис. 23–30. Гениталии самцов *M.* (*C.*) *obscurus* = *M.* (*C.*) *distinctus*. Тегмен, снизу. 23–24 — Португалия; 25 — "Ins. Elba"; 26 — Туркменистан; 27 — Карачаево-Черкессия; 28 — Пицунда (Грузия); 29 — Дагестан; 30 — Турция (все в ЗИН).

(*C.*) *gagathinus* Erichson, 1845 and in the redescription of *M.* (*C.*) *distinctus* he regarded it close to *M.* (*C.*) *erythropus* Sturm, 1845 [= *M.* (*C.*) *carinulatus* Förster, 1849] and *M.* (*C.*) *exilis*. P. Audisio and J. Jelínek [1990] consider *M.* (*C.*) *obscurus* as "...polytypic nature of *Meligethes obscurus* Auctorum including in fact three different species: *M. distinctus* Sturm (mainly distributed over Central and Eastern Europe), *M. obscurus* Erichson (Western Europe and North Africa) and *M. nuragicus* sp. n. (Sardinia and Corsica)" emphasizing different shape of the male genitalia, zoogeography and host plants: *Teucrium chamaedrys* L., *T. montanum* L. and *T. siculum* Rafin. (Labiatae) for *M. distinctus*; *T. scorodonia* L. and *T. chamaedrys* for *M. obscurus* and *T. massiliense* L. for *M. nuragicus* Audisio et Jelínek, 1990 for each species. In a key to West Palaearctic species of the genus *Meligethes* to separate *M.* (*C.*) *distinctus* from *M.* (*C.*) *obscurus* P. Audisio [1993: 496–497] proposed to use such external characters as "Dorsal pubescence whitish, finer and less conspicuous. Spaces between punctures of pronotum and elytra variable, often rather shiny, indistinctly shagreened" for *M. distinctus* and "As a rule, spaces between dorsal punctures distinctly shagreened and dull. Dorsal pubescence golden and relatively more conspicuous." for *M. obscurus*. But the detailed examination of many specimens showed that, for example, the specimens of *M.* (*C.*) *obscurus* from Pitsunda (with tegmen drawn on Fig. 28) with conspicuous dorsal pubescence, which is not golden as should be according to the Audisio's key but rather whitish. Moreover, a female specimen from "Marocco, ifrane" identified by P. Audisio as *M. distinctus* bears golden but weakly conspicuous dorsal pubescence. The specimens of *M.* (*C.*) *distinctus* from Karachaevo-Cherkessia (with tegmen drawn on Fig. 27) have fine, weakly conspicuous but golden (as shown at the Audisio's key) dorsal pubescence. The specimens of *M.* (*C.*) *distinctus* from Turkey (with tegmen drawn on Fig. 30) with well conspicuous and golden pubescence as shown by P. Audisio for *M.* (*C.*) *obscurus*, the dorsal pubescence of the specimens of *M.* (*C.*) *distinctus* from Dagestan (with tegmen drawn on Fig. 29) vary from whitish to goldish. Besides, in accordance to the above-mentioned Audisio's publications these species are characterized by the distinct tegmen of peculiar shape. However, the specimens examination showed its strong variability which is expressed in the configuration of tegmen, namely in the depth of the excision between its lateral lobes and in shape of these lateral lobes.



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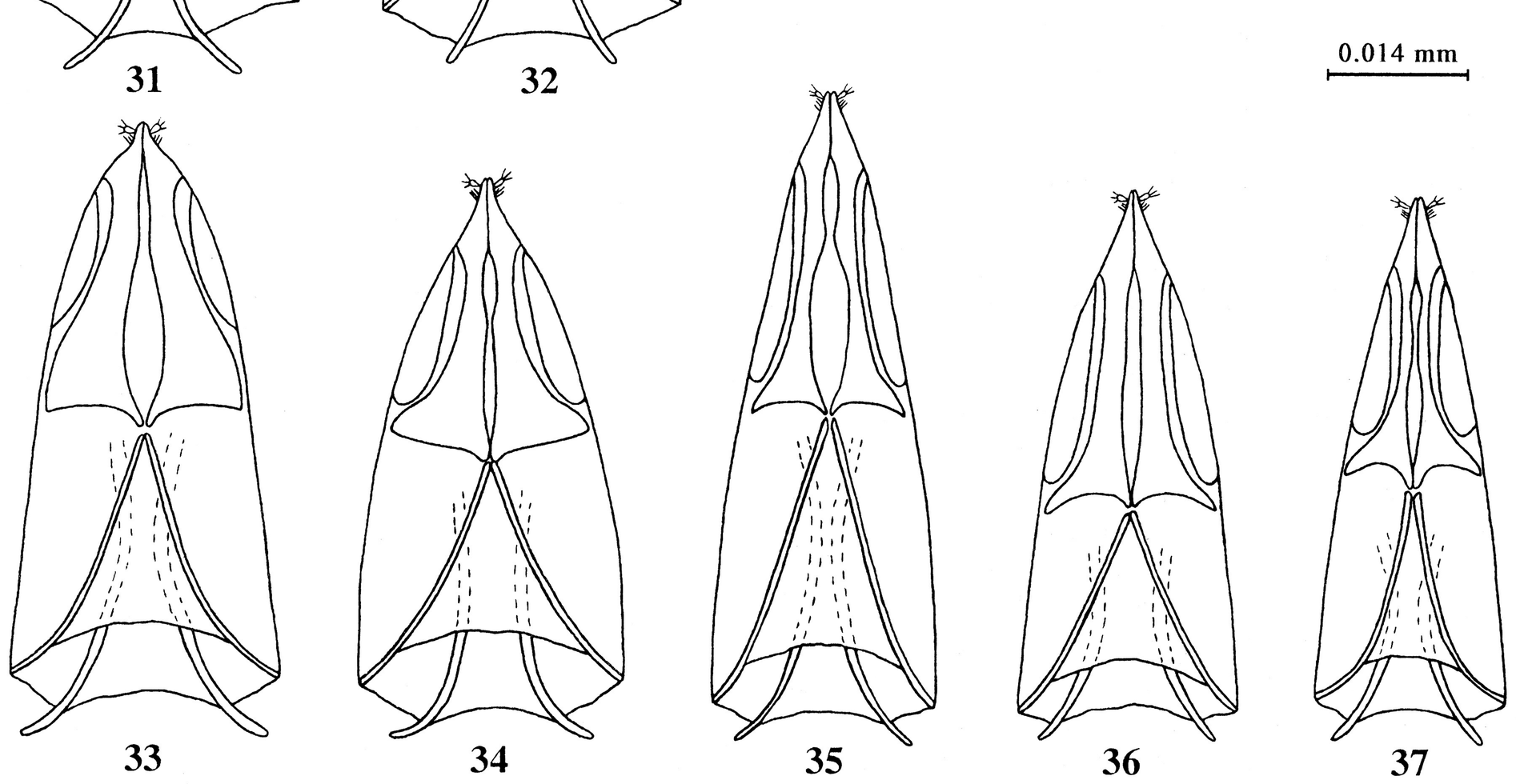

33 34 35 36 37

Figs 31–37. Ovipositor, ventral. 31–32 — *M.* (*C.*) *angustatus* = *M.* (*C.*) *paschalis*, 33–37 — *M.* (*C.*) *punctatus* = *M.* (*C.*) *bidentatus*; 33 — Turkey; 34 — Krasnodarsky Kray ("Kubanskaya obl."); 35 — Samara Region; 36 — Pitsunda (Georgia); 37 — Ternopol Region (Ukraine) (all in ZIN).

Рис. 31–37. Яйцеклад самок, вентрально. 31–32 — *M.* (*C.*) *angustatus* = *M.* (*C.*) *paschalis*; 33–37 — *M.* (*C.*) *punctatus* — *M.* (*C.*) *bidentatus*; 33 — Турция; 34 — Краснодарский Край ("Кубанская обл."); 35 — Самарская область; 36 — Пицунда (Грузия); 37 — Тернопольская область (Украина) (все в ЗИН).

Meligethes* (*Clypeogethes*) *punctatus Ch. Brisout de Barneville, 1863: 56

Meligethes punctatus Ch. Brisout de Barneville, 1863: 56
= *Meligethes* var. *bidentatus* Ch. Brisout de Barneville, 1863: 61
= *Meligethes Bruckii* (emend. *Brucki*) Reitter, 1871: 147 et 149
= *Meligethes Gresseri* Bach, 1875: 72
= *Meligethes ciliaris* Rey, 1889: 28
= *Meligethes bidentatus* var. *subregularis* Rey, 1889: 28
= *Meligethes obtusus* Rey, 1889: 28
= *Meligethes* var. *corsicus* Sainte-Claire Deville, 1908: 232

MATERIAL: about 250 exx. from Belgium, France (including Corsica), Italy (including Sicily), Spain, Germany, Croatia, Dalmatia, Greece, Ukraine (including Crimea), Russia (Krasnodarsky Kray, Samara, Ulyanovsk and Penza Regions), Georgia (including Abkhazia), Turkey, Morocco, Algeria (BMNH, FMNH, IRSN, NMW, SMNS, TMB, USNM, ZIN, ZMB, ZML, ZMUC, ZSM), including the specimens named by A.M. Easton and P. Audisio as "*punctatus*" and "*bidentatus*".

NOTES. *Meligethes* (*Clypeogethes*) *punctatus* and *M.* (*C.*) *bidentatus* were described by Ch. Brisout de Barneville in the same publication [Brisout, 1863], but they were not considered by him as close species. *M.* (*C.*) *punctatus* was compared with *M.* (*C.*) *incanus* Sturm, 1845 and female of *M.* (*C.*) *brachialis* Erichson, 1845, while *M.* (*C.*) *bidentatus* was put close to *M.* (*C.*) *erythropus* Gyllenhal, 1808. A.M. Easton [1951] to distinguish *M.* (*C.*) *punctatus* from *M.* (*C.*) *bidentatus* used peculiarities in the structure of ovipositors: "...although the aedeagi appeared not to differ except in point of size, the ovipositors in the two series showed a distinctness of morphology such as at once to imply that two separate species were represented...", "...in this organ we have a character, once its use and limitations are appreciated, quite as reliable as that of the aedeagus. Intraspecific variation of any appreciable degrees is not met with!!! It by no means implies that apparent identity of ovipositors connotes identity of species; it does mean that ovipositors of different form as regards the individual constituent sclerites can belong only to beetles of diverse species. If we are to recognize as specifically distinct beetles whose only apparent or constant difference lies in the form of the aedeagus, then we must surely accept the same principle as applied to the ovipositor" and he considered such characters as colour, and degree in convexity, surface reticulation, and dullness, even of spacing of the punctures, as bearing low taxonomic importance for distinct separation of the species and "We are thus left with size, the degree of dilatation of the front tarsi in the male, and of most importance the form of the ovipositor in female." In the key he gave such characters as "...and with the abdominal appendage regarded as a whole narrower and less transverse, with the medial excision somewhat U-shaped; female having the ovipositor narrow with a sharply pointed apex... and with outer sub-division of the coxite proportionately longer and narrower" for *M. bidentatus* and ",..and with the abdominal appendage wider and more transverse, with the medial excision somewhat V-shaped; female with the ovipositor wider and more abruptly narrowed close to the apex which thus appears more obtuse,.. and having the outer sub-division of the coxite proportionately much shorter and wider" for *M. punctatus* respectively. These characters were later mostly repeated by P. Audisio [1993: 498–499] in the key to the West Palaearctic Nitidulidae: "Ovipositor very large, wider and abruptly narrow-necked at apex, never darkened, with much larger coxites. Ventral abdominal projections in males separated distally by slightly wider U-shaped excision. Front tarsi in males slightly wider. On the average, body larger, females almost always larger than males" for *M. punctatus* and "Ovipositor much smaller, with narrower and often darkened apex and much narrower and shorter coxites. Ventral abdominal projections in males separated distally by slightly narrower U-shaped excision. Front tarsi in males slightly narrower. On the average, body smaller in both sexes" for *M. bidentatus*.

As for the body size among the examined specimens, there are 1 ♂ and 2 ♀♀ of *Meligethes* (*Clypeogethes*) *punctatus* from Turkey (Fig. 33) very large as well as there is 1 ♂ very small, all the rest specimens occupy intermediate position, at males from the same place distance between "ventral abdominal projections" [after Audisio, 1993] ranges from comparatively narrow at the smallest specimen to wide at the largest one respectively. Besides, some variability is observed in the ovipositor. The females of this species from Turkey (Fig. 33) have very wide and short ovipositors with wide coxites and abruptly narrow-necked apex, while a female of it from Krasnodarsky Kray (Fig. 34) possesses the narrower and longer ovipositor with narrower coxites and sharper apex. The females of this species from Ternopol Region (Fig. 37) and a female from "Spanien/Prov. Gerona" identified by K. Spornraft as *M.* (*C.*) *bidentatus* has a light ovipositor apex. Examination of the specimens from BNHM has also showed some degree of variability in the structure of ovipositors. The specimens of from France and Hungary (Gyertyánliget) have comparatively wide ovipositors; at the specimens from Morocco ovipositors vary from very narrow to comparatively wide and a specimen from Belgium has rather a wide ovipositor. Moreover, a small specimen from Algeria possesses the narrow ovipositor with a sharply-pointed apex. The specimens from France are intermediate by the width of their ovipositor. The specimens of this species were collected in Samara Region (Russia) that goes contrary to the distribution of the species given by Audisio [1993: 498; Audisio et al., 2000].

Meligethes* (*Astylogethes*) *subrugosus Gyllenhal, 1808: 236

Meligethes subrugosus Gyllenhal, 1808: 236
= *Meligethes substrigosus* Erichson, 1845: 178
=*Meligethes caudatus* Guillebeau, 1897: 226
=*Meligethes turbidescens* Easton, 1957: 400

MATERIAL: about a hundred exx. from different parts of West and Central Europe (mostly from France) named by P. Audisio and K. Spornraft as *M.* (*A.*) *caudatus* (IRSM, TMB, ZIN, ZSM) and many thousands exx. from many areas of the Palaearctic deposited in almost every museum.

NOTES. Some specimens *M.* (*A.*) *subrugosus* from different parts of its range have somewhat projecting

apex of pygidium and some females (particularly in the western populations) demonstrate a rather sharp process, which used to discriminate *M.* (*A.*) *caudatus* for extreme of variability of this character. However, in most cases the pygidial apex of, when it is not rounded, shows more or less intermediate state in level of development between the extremes of the variability.

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