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RESEARCH ARTICLE

Systematics of the Holarctic species of the weevil genus *Cleopomiarus* Pierce (Coleoptera: Curculionidae)

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Abstract: The Holarctic species of *Cleopomiarus* Pierce, 1919 (Curculionidae, Curculioninae, Mecinini) are revised. Two North American and 19 Palaearctic species are recognized as valid. Three of the latter are new to science: *C. afghanus* **sp. nov.** (Afghanistan), *C. caucasicus* **sp. nov.** (Armenia), and *C. reitteri* **sp. nov.** (Algeria, Morocco). *Cleopomiarus ruscinonensis* (Roudier & Tempère, 1966), described as subspecies of *C. longirostris* Gyllenhal, 1838, is raised to species (**stat. nov.**). The following new synonymies are proposed: *Cleopomiarus distinctus* (Boheman, 1845) (= *Miarus dictamnophilus* Zherichin, 1996 **syn. nov.**); *Cleopomiarus flavoscutellatus* (Morimoto, 1959) (= *Miarus tapirus* Korotyaev, 1999 **syn. nov.**); *Cleopomiarus graminis* (Gyllenhal, 1813) (= *Miarus dulcinasutus* Kangas, 1976 **syn. nov.**; = *Miarus jakowlewi* Faust, 1895 **syn. nov.**; = *Miarus scutellaris* subsp. *mequignoni* Hoffmann, 1939 **syn. nov.**). *Miarus hispidulus* Reitter, 1907 and *M. hispidus* Bovie, 1909 are again placed in synonymy with *Cleopomiarus hispidulus* (LeConte, 1876). The lectotypes of the following taxa are designated: *Cionus micros* Germar, 1824, *Cionus plantarum* Germar, 1824, *Gymnetron distinctus* Boheman, 1845, *Gymnetron longirostris* Gyllenhal, 1838, *Miaromimus schatzmayri* Solari, 1947, *Miarus degorsi* Abeille de Perrin, 1906, *Miarus fuscopubens* Reitter, 1907, *Miarus graminis* var. *subfulvus* Reitter, 1907, *Miarus graminis* var. *subuniseriatus* Reitter, 1907, *Miarus hispidulus* Reitter, 1907, *Miarus jakowlewi* Faust, 1895, *Miarus longirostris* ssp. *mandschuricus* Voss, 1952, *Miarus medius* Desbrochers des Loges, 1893, *Miarus vestitus* Roelofs, 1875. A key to the species, diagnoses of species groups, descriptions or redescriptions, notes on type specimens, synonymies, comparative notes, distribution, bionomics when available, phylogenenetic

observations, and drawings of body, rostra, terminalia and other useful characters for taxonomy are provided.

Key words: Curculionidae, Mecinini, *Cleopomiarus*, new species, new synonymies, phylogenetic observations.

Introduction

Cleopomiarus Pierce, 1919 was described based on American taxa previouly included in the genus *Miarus* Schoenherr, 1826 – *M. hispidulus* LeConte, 1876, *M. erebus* Casey, 1910, *M. puritanus* Casey, 1910, *M. nanus* Casey, 1910, and *M. illini* Casey, 1910, the last three of which are currently considered as synonyms of *M. hispidulus* (O'Brien & Wibmer 1982) – and two Palaearctic species imported into the U.S.A. – *M. micros* (Germar, 1821) and *M. meridionalis* (H. Brisout de Barneville, 1863). Without knowing this subgenus, about forthy years later, almost contemporaneously, Solari (1947) and Franz (1947) described the genus *Miaromimus* and the subgenus *Hemimiarus* respectively in order to separate some species of the Palaearctic genus *Miarus* because of the lack of markedly peculiar sexual characters of the male. Only recently *Miaromimus* and *Hemimiarus* were synonymized with *Cleopomiarus* by Caldara (1999).

Presently, about thirty Palaearctic and two Nearctic taxa of *Cleopomiarus* are considered as valid species or subspecies (Caldara 2013). This number can be roughly extrapolated from partial revisions dated from 110 to 40 years ago (Reitter 1907; Franz 1947; Smreczyński 1957, 1973; Morimoto 1959; Roudier 1966; Kangas 1976). Apart from a few of them, the taxonomy of most species remains uncertain.

The aim of the present paper is the study of the systematic position of all of these taxa, with a preliminary attempt at their phylogenetic relationships.

Material and methods

About 2,000 specimens of *Cleopomiarus* were studied, including specimens of the type series of most taxa. Lectotypes were designated as appropriate, according to Art. 74 and 75 of the International Code of Zoological Nomenclature (ICZN 1999), and all other specimens of the type series were labelled as paralectotypes. We remind you that the designation of Reitter' types as holotype and paratype were made arbitrarily by a curator of the HNHM and therefore invalid according to Art. 73 of the ICZN (1999). The rank of subspecific or infrasubspecific names were established according to Art. 45.5 and 45.6 of the ICZN (1999) and unavailable names were noted.

Measurements. Measurements were made using an ocular micrometer in a Wild M8 stereoscopic microscope. Body length was measured from the anterior margin of the pronotum along the midline to the apex of the elytra. The length of the rostrum (Rl) was measured in lateral view from the apex (excluding mandibles) to the anterior margin of the eye; its relative length was expressed as the ratio: length of rostrum/length of pronotum. The length of the pronotum (Pl) was measured along the midline from the apex to the base, whereas its width (Pw) was measured transversely at the widest point. The width of the pronotum was expressed as the ratio: width/length. The length of the elytra (El) was measured along the midline from the transverse line joining the most anterior point of the humeri to the apex, whereas its width (Ew) was measured transversely at the widest point. The proparts of the elytra were also expressed as a ratio: length/width.

For characters represented by a ratio the following adjective and adverbs were used, according to the range of variability:

Rostrum length vs. rostrum width: short, Rl/Rw < 4.5; moderately long, Rl/Rw 4.60-6.00; long, Rl/Rw 6.1-9.00; very long, Rl/Rw > 9.0.

Pronotum width vs. pronotum length: weakly transverse, Pw/Pl < 1.30; moderately transverse, Pw/Pl 1.30-1.45; distinctly transverse, Pw/Pl > 1.45.

Elytra length vs. elytra width: short, El/Ew < 1.10; somewhat short, El/Ew 1.11-1.15; moderately long, El/Ew > 1.15.

Width of elytra vs. width of pronotum: weakly wider, Ew/Pw < 1.25; moderately wider, Ew/Pw 1.25-1.45; distinctly wider, Ew/Pw > 1.45.

Scales length: short, l/w < 3; moderately long, l/w 3-6; long, l/w 7-10; very long, l/w > 10.

Regarding these ratios, the range of variability was given only when the low or the high value exceeds the reported average more than 5%.

For characters that were impossible to transform into a mathematical ratio, and which were therefore subjective (e.g. curvature of rostrum and elytra, convexity of pronotum, etc.), only a few particular adjectives and adverbs – i.e. weak(ly), moderate(ly), distinct(ly) – were used, considering the extreme of variability for each character in the genus as a whole.

Description. Due to the great similarity of most species, we preferred to report only the characters useful for the systematics, avoiding those common to all the species of the genus.

Bionomics. We followed Eddie (2003) and Stevens (2012) regarding the systematics and the phylogeny of the host plants.

Distribution. A detailed list of the localities of collection (from West to East) of the examined specimens was reported for almost all the species except for a few which are very common in the whole Palaearctic Region. We followed the geographical criteria adopted in the Catalogue of the Palaearctic Coleoptera (Löbl & Smetana 2013).

Depositories

The collections housing material studied in this revision are abbreviated as follows (with their curators in parentheses):

APCB collection Attila Podlussány, Budapest, Hungary
APCF collection Alessandro Paladini, Firenze, Italy
BMNH Department of Entomology, The Natural History Museum, London, U.K. (M. Barclay, C. Lyal)
CBCB collection Christopher Bayer, Berlin, Germany
DEIM Deutsches Entomologisches Institut, Müncheberg, Germany (L. Behne)
ECCR collection Enzo Colonnelli, Roma, Italy
FTCM collection Fabio Talamelli, S. Giovanni in Marignano, Italy
GOCV collection Giuseppe Osella, Verona, Italy
HNHM Hungarian Natural History Museum, Budapest, Hungary (O. Merkl)
HWCB collection Herbert Winkelmann, Berlin, Germany
IRSN Institut Royal des Sciences Naturelles, Bruxelles, Belgium (P. Limbourg)
ISEA Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, Russia
JKCH collection Jiri Krátký, Hradec Králové, Czech Republic
JSCP collection Jaromir Strejček, Praha, Czech Republic
MCSN Museo civico di Storia Naturale, Genova, Italy (R. Poggi)
MCZN Museum of Comparative Zoology, Harvard University, Cambridge, U.S.A

MHNG Musèum d'Histoire Naturelle, Geneva, Switzerland (G. Cuccodoro)
MKCB collection Michael Košťál, Brno, Czech Republic
MLUH Institut für Zoologie, Martin-Luther-Universität, Halle, Germany (K. Schneider)
MNHN Muséum National d'Histoire Naturelle, Paris, France (H. Perrin)
MSNM Museo civico di Storia Naturale, Milano, Italy (C. Pesarini, F. Rigato)
MZHF University of Helsinki, Zoological Museum (J. Muona, H. Silferberg)
NHMB Naturhistorisches Museum, Basel, Switzerland (E. Sprecher)
NHMW Naturhistorische Museum, Wien (M. Jäch)
NHRS Naturhistoriscka Riksmuseet, Stockholm, Sweden (J. Bergsten, N. Jonsson)
PBCS collection Piotr Białooki, Sopot, Poland
PKCJ collection Petr Kresl, Janovice nad Úhlavou, Czech Republic
PWCP collection Patrick Weill, Pau, France
RCCM collection Roberto Caldara, Milano, Italy
RCCR collection Roberto Casalini, Roma, Italy
SBCP collection Stanislav Benedikt, Plzeň, Czech Republic
SMTD Staatliches Museum für Tierkunde, Dresden, Germany (O. Jäger, K. Klass)
USNM National Museum of Natural History, Washington, U.S.A.
ZISP Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (B. A. Korotyaev)
ZMHB Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (J. Frisch, J. Willers)

Abbrevations

E elytra
P pronotum
R rostrum
l length
w width

Results

Taxonomy

Cleopomiarus Pierce, 1919

Miarus subgen. *Cleopomiarus* Pierce, 1919: 34 (type species: *Miarus erebus* Casey, 1910; subsequent designation by Caldara 1999: 80).
Cleopomiarus Pierce, 1919. Alonso-Zarazaga & Lyal, 1999: 80. Caldara, 1999: 80; 2001: 188; 2005: 104; 2013: 135. Rheinheimer & Hassler, 2010: 613. Hong *et al.*, 2012: 74. Caldara *et al.*, 2014: 610, 611, 621.
Miaromimus Solari, 1947: 73 (type species: *Rhynchaenus graminis* Gyllenhal, 1813 by original designation). Zherichin & Egorov, 1991: 123. Caldara, 1999: 80.
Miarus subgen. *Miaromimus* Solari. Hoffmann, 1958: 1312. Roudier, 1966: 276. Smreczyński, 1973: 167; 1976: 42. Lohse & Tischler, 1983: 271.
Miarus subgen. *Hemimiarus* Franz, 1947: 237 (type species: *Rhynchaenus graminis* Gyllenhal, 1813 by original designation). Caldara, 1999: 80.

Diagnosis: Body robust, usually subglobose. Integument completely black, rarely with reddish elytra. Eyes large, usually flat. Antennal funicle 5-segmented. Pronotum usually transverse, subconical to subspherical. Prosternum with deep longitudinal median canal. Elytra with third interstria joined to sixth interstria at apex. Procoxal cavities separated.

Uncus present on all tibiae, in male that of metatibiae often enlarging at apex. Tarsal claws free. Penis usually with flagellum enlarging at base there joining rod-like or spine-like sclerite. Body of spermatheca often sinuate and of same width from base to apex.

Remarks and comparative notes: The general habitus of all the species belonging to *Cleopomiarus* is very uniform and external characters allowing differentiation of many taxa are few. Species recognition is often possible only by the careful examination of the male or female genitalia. Two easily observed external characters, the presence of a deep prosternal canal and free claws, immediately allow the separation of *Cleopomiarus* and *Miarus* from other Mecinini. The body of the penis with apical setae and high sides the proximity of the apex, the slightly more pronounced convexity of the pygidium of the male, and usually the more globose and dentate femora, the uncus of the male metatibiae often enlarging at its apex, the absence of foveae on pygidium and ventrite 5 and of two teeth placed posterolaterally on male ventrite 5, allow us to distinguish *Cleopomiarus* from *Miarus*.

The species of *Cleopomiarus* are also more widely distributed than *Miarus*, being present not only in the Palaearctic region but also in the Afrotropical and Nearctic regions.

Treatment of the species

***Cleopomiarus plantarum* (Germar, 1824)**

Curculio nigrostriatus Goeze, 1777: 412 (non Goeze, 1777: 380). Alonso-Zarazaga, 2008: 31.
Curculio floriger Geoffroy, 1785: 123. Alonso-Zarazaga, 2008: 31 (nomen oblitum).
Curculio subglobosus Gmelin, 1790: 1805. Alonso-Zarazaga, 2008: 31 (nomen oblitum).
Curculio floralis Olivier, 1791: 497. Alonso-Zarazaga, 2013: 56 (nomen oblitum).
Curculio nigrostriatus Petagna, 1792: 221 (non Goeze, 1777: 380 nec Goeze, 1777: 412). Alonso-Zarazaga, 2016: in press.
Cionus plantarum Germar, 1824: 288. Alonso-Zarazaga, 2008: 31 (nomen protectum).
Gymnetron plantarum (Germar). Gyllenhal, 1838: 773.
Miarus plantarum (Germar). Bedel, 1885: 144; 1887: 306. Desbrochers des Loges, 1893: 55. Reitter, 1907: 46; 1916: 232. Hustache, 1931: 430, 432. Hoffmann, 1958: 1314, 1315. Smreczyński, 1976: 6, 48. Lohse & Tischler, 1983: 272.
Cleopus plantarum (Germar). H. Brisout de Barneville, 1863: 667.
Cleopomiarus plantarum (Germar). Caldara, 2001: 188; 2005: 105. Rheinheimer & Hassler, 2010: 614.

Type locality: Paris (France).

Type specimens: This taxon was described from specimens from Paris (France). In the Germar collection at MLUH under the name *Cionus plantarum* there are seven specimens (M. Košťál pers. com.), which we examined: one glued on a small rectangular card, five glued on a small triangular card and one pinned. Six are *Cleopomiarus plantarum*, whereas one bearing a handwritten label "Olymp." is *C. meridionalis*. Four specimens (one male and three females) do not bear labels, whereas two are handwritten labelled "Anglia" and "Spain" respectively. Therefore, we considered only the four specimens without labels as syntypes and designated the male on a rectangular card as lectotype and the others as paralectotypes with the addition of the following labels "LECTOTYPUS (or PARALECTOTYPUS) Cionus plantarum Germar, des. Caldara 2015" and "Cleopomiarus plantarum (Germ.), Caldara det. 2015" to each of them.

Synonyms: Four taxa synonymized with *C. plantarum* were actually described before this species. Whereas *Curculio nigrostriatus* Goeze, 1777 (p. 412) and *C. nigrostriatus* Petagna, 1792 are permanently invalid names since they are primary homonyms of *Curculio nigrostriatus* Goeze, 1777 (p. 380) [synonym of *Deporaus betulae* (Linnaeus, 1758)] (Alonso-Zarazaga 2008, 2016), the other three taxa (*Curculio floriger* Geoffroy, 1785; *Curculio subglobosus* Gmelin, 1790; *Curculio floralis* Olivier, 1791) were recently considered as nomina oblita by Alonso-Zarazaga (2008, 2013). It is noteworthy that in the recently published catalogue of the Palaearctic Curculionidae (Löbl & Smetana, 1913) the same *Curculio floralis* Olivier, 1791 is reported both as a synonym of *Cleopomiarus plantarum* (Alonso-Zarazaga 2013: p. 56) and *Ceutorhynchus obstrictus* (Marsham, 1802) (Colonnelli 2013: p. 57). However, as quoted by Alonso-Zarazaga (2013), in the original description Olivier (1791) clearly reported that his taxon is synonymous with *Curculio floriger* Geoffroy. Therefore, Alonso-Zarazaga (2016) corrected Colonnelli's mistakes removing *Curculio floralis* Olivier from the synonyms of *Ceutorhynchus obstrictus*.

Redescription: Length 1.9-2.6 mm. Body moderately slender (Fig. 1). Integument black. Eyes moderately convex. Rostrum moderately long in male (Fig. 14), slightly longer in female (Rl/Rw male 5.62, female 5.67; Rl/Pl male 0.83, female 0.98), moderately curved in both sexes in lateral view, cylindrical, of same width from base to apex, poorly sexually dimorphic. Pronotum weakly transverse (Pw/Pl 1.20), with rounded sides, widest in basal half, moderately convex, with mainly suberect to erect, moderately long, seta-like scales. Elytra subrectangular, moderately long (El/Ew 1.31), weakly wider than pronotum (Ew/Pw 1.22), at base moderately directed foreward from interstria 5 to humeri, almost flattened on disc, interstriae covered with 2-3 irregular rows (denser on interstria 1) of subrecumbent to suberect, whitish, seta-like scales. Metafemora with small tooth, pro- and mesofemora with very minute tooth, uncus of metatibiae in male pointed at apex (Fig. 75). Penis as in Fig. 37. Spiculum ventrale as in Fig. 53. Spermatheca as in Fig. 63.

Remarks and comparative notes: This species is similar to *C. meridionalis* and *C. reitteri* from which it can be distinguished by the narrower pronotum, which is partly covered with erect scales, the small but distinct tooth of the metafemora, the shape of the rostrum especially in the female and the shape of the male and female genitalia.

Biology: Larvae usually feed on seed capsules of *Campanula rapunculoides* L. Adults were found also on *Phyteuma orbiculare* L. (Hoffmann 1958).

Distribution: Central and southern Europe, Morocco, Algeria, Turkey, Syria.

Non-type specimens examined: About 100 specimens from central and southern Europe, Algeria (Bouira, 9.IV.1988, leg. Colonnelli; 1, ECCR), Turkey (Karatas, S of Adana, 1.V.1998, leg P. Białooki; 2, PBCS), Syria (Djebel Ansariya, 1200 m, E of Sharkiya, 19.V.1989, leg. Macek; 1, NHMB).

Cleopomiarus micros (Germar, 1821)

Cionus micros Germar, 1821: 309.
Gymnetron micros (Germar). Gyllenhal, 1838: 776.
Cleopus micros (Germar). H. Brisout de Barneville, 1863: 667.

Miarus micros (Germar). Desbrochers des Loges, 1893: 54. Reitter, 1907: 46; 1916: 232. Hustache, 1931: 432, 434. Hoffmann, 1958: 1315, 1323. Smreczyński, 1976: 6, 48. Lohse & Tischler, 1983: 273.
Miarus (*Cleopomiarus*) *micros* (Germar). Pierce, 1919: 26.
Cleopomiarus micros (Germar). Caldara, 2001: 188; 2005: 105. Rheinheimer J. & Hassler, 2010: 614.

Type locality: Halle an der Saale (Germany)

Type specimens: This species was described based on specimens collected at Halae (currently Halle an der Saale, Germany). In the Germar collection at MLUH there are three specimens (M. Košťál pers. com.), which we examined. They lack any original labels, but bear a pink card with labelled "LECTOTYPUS (or PARALECTOTYPUS) Miarus micros Germ. Design. Dieckmann 1965". All are glued and clumped on a triangle paper board and are males. Since to our knowledge this designation was never published, we designated the specimen with the label "LECTOTYPUS" as lectotype and the other two specimens as paralectotypes with the addition of the following labels "LECTOTYPUS (or PARALECTOTYPUS) Cionus micros Germar, des. Caldara 2015" and "Cleopomiarus micros (Germ.), Caldara det. 2015" to each of them.

Redescription: Length 1.7-2.2 mm. Body moderately stout (Fig. 2). Integument black. Eyes weakly convex. Rostrum moderately long in male (Fig. 15), slightly longer in female (Rl/Rw male 5.14, female 6.0; Rl/Pl male 0.75, female 0.87), slightly curved in lateral view, slightly angulate along upper margin at antennal insertion, poorly sexually dimorphic. Pronotum weakly transverse (Pw/Pl 1.27), with rounded sides, widest in basal half, moderately convex, with mainly recumbent to subrecumbent short seta-like scales. Elytra subovate, somewhat short (El/Ew 1.17; Ew/Pw 1.25), at base moderately directed foreward from interstria 5 to humeri, with weakly rounded sides, almost flattened on disc, interstriae covered with 2-3 irregular rows of subrecumbent to suberect, whitish, seta-like scales. Femora without tooth, uncus of metatibiae in male pointed at apex (as in *C. plantarum*, Fig. 75). Penis as in Fig. 38. Spiculum ventrale as in Fig. 54. Spermatheca as in Fig. 64.

Remarks and comparative notes: This taxon differs from *C. plantarum* by the elytra shorter and with moderately rounded sides and the more transverse pronotum which is widest at its base, and a little by the shape of the rostrum. The shape of the rostrum, which is poorly sexually dimorphic, allows us to separate *C. micros* from *C. meridionalis* and *C. reitteri*.

Biology: Adults are usually collected on flowers of *Jasione montana* L. (Hoffmann 1958; Smreczyński 1976).

Distribution: This species is known almost from the whole of Europe and from Morocco.

Non-type specimens examined: We examined about 100 specimens from Spain, France, Italy, Switzerland, Austria, Germany, Poland, Czech Republic, Slovakia, Hungary, and Morocco (Tanger; 4, DEIM).

Cleopomiarus meridionalis (H. Brisout de Barneville, 1863)

Cleopus meridionalis H. Brisout de Barneville, 1863: 668.

Miarus meridionalis (H. Brisout de Barneville). Desbrochers des Loges, 1893: 56. Reitter, 1907: 47; 1916: 232. Hustache, 1931: 431, 433. Hoffmann, 1958: 1314, 1316. Smreczyński, 1976: 6, 48. Lohse & Tischler, 1983: 272.
Miarus (*Cleopomiarus*) *meridionalis* (H. Brisout de Barneville). Pierce, 1919: 36.
Cleopomiarus meridionalis (H. Brisout de Barneville). Caldara, 2001: 188; 2005: 105.

Type locality: Hyères, Saint-Raphaël, Collioure, Dordogne (Frane), Algeria.

Type specimens: We did not find specimens that were surely belonging to the type series described from various localities from France and from Algeria without more detailed indication. Therefore, according to Art. 73.2.3 (ICZN, 1999) there is not a single type locality. However, the original description does not leave doubt that it corresponds to the taxon usually reported with this name by the authors.

Redescription: Length 1.9-2.6 mm. Body moderately slender (Fig. 3). Integument black. Eyes moderately convex. Rostrum moderately long in male (Fig. 16), somewhat longer in female (Fig. 17) (Rl/Rw male 4.57, female 8.33; Rl/Pl male 0.73, female 1.04), in lateral view almost straight, in female distinctly narrowing at antennal insertion then cylindrical to apex. Pronotum moderately transverse (Pw/Pl 1.23), with rounded sides, widest in basal half, moderately convex, with mainly recumbent to subrecumbent short seta-like scales. Elytra subrectangular, moderately long (El/Ew 1.29), weakly wider than pronotum (Ew/Pw 1.25), at base moderately directed foreward from interstria 5 to humeri, almost flattened on disc, interstriae covered with 1-2 irregular rows (denser on interstria 1) of subrecumbent to suberect, whitish, seta-like scales. Femora without tooth, uncus of metatibiae in male pointed at apex (as in *C. plantarum*, Fig. 75). Penis as in Fig. 39. Spiculum ventrale as in *C. micros* (Fig. 54). Spermatheca as in Fig. 65.

Remarks and comparative notes: This species differs from *C. plantarum* mainly by the broader pronotum, which lacks erect scales almost completely, the unarmed metafemora, and the shape of the rostrum, which is distinctly sexually dimorphic. These two last characters allow us to separate *C. meridionalis* from *C. micros*. However, *C. meridionalis* shares the shape of the rostrum with *C. reitteri*, from which it differs by the smaller size and the more elongate elytra. Finally, all these species can be easily distinguished from each other by the shape of the male and female genitalia. It is noteworthy that we examined one male from Iran (Prov. Mazandaran, 35 km S of Amol, 500 m, 3.V.1998, leg Fàbiàn & Székely; APCB) and one female from Syria (Homs, Al Hosn Fauchage, 5.V.2004, leg. Pelletier; JPCM) similar to the other specimens of *C. meridionalis* by their genitalia and the rostra, but with pronotum and elytra distinctly broader. Thus it will be interesting to examine other specimens from the Middle East.

Biology: Adults are usually collected on flowers of *Campanula rapunculus* and larvae feed on seeds of this plant (Hoffmann 1958; Caldara pers. obs.).

Distribution: Southern Europe, North Africa (Reitter 1907). To be confirmed in the Middle East (see Remarks).

Non-type specimens examined: We examined about 200 specimens from Spain, France, Italy, Greece, Bulgaria, and Morocco (Souk el Had, 1200 m, 10.V.1997, leg. Talamelli; 1, FTCM).

***Cleopomiarus reitteri* sp. nov.**

urn:lsid:zoobank.org:act:9C1EB285-4A07-431E-9E01-E0CC59F988F7

Type locality: Massif des Mouzaïa (Algeria).

Type specimens: Holotype male "Massif des Mouzaïa" (MNHN). Paratypes: same as holotype (1, MNHN; 2, MSNM); "Mouzaïa, Camp des Chênes, 18 mai 1927, Campan. dichotoma" (4, MNHN; 2, RCCM); "Le Lac des Mouzaïa, 30.VII.1907 / Campanula trachelium" (3, MNHN; 2. RCCM); "Bou Berak prés Dellys, Algèrie" (1, MNHN); "D.[jebel] Ahoua - 1400, Maroc - Bleton / 17-6-37" (1, MNHN); "C MOROCCO, High Atlas, Oukaimeden, alpine meadows, 31.13N/07.50W, 2600 m, 6-10.V.2002, J. Kalab leg." (2. RCCR).

Description: Length 2.0-2.5 mm. Habitus (Fig. 82). Body stout (Fig. 4). Integument black, sometimes elytra dark brown. Eyes flat. Rostrum somewhat short in male, moderately longer in female (Rl/Rw male 5.5, female 8.0; Rl/Pl male 0.92, female 1.09), weakly curving in lateral view, angulate on upper margin at antennal insertion, of same width from base to apex in male (as in *C. meridionalis*, Fig. 16), distinctly narrowing at antennal insertion then cylindrical to apex in female (as in *C. meridionalis*, Fig. 17). Pronotum distinctly transverse (Pw/Pl 1.46), subconical, with rounded sides, moderately convex; with mainly recumbent to subrecumbent, short seta-like scales. Elytra subglobose, somewhat short, slightly longer than wide (El/Ew 1.09), weakly wider than pronotum (Ew/Pw 1.28), at base moderately directed foreward from interstria 5 to humeri, with moderately rounded sides; interstriae covered with single row of subrecumbent to suberect, whitish to light brown, seta-like scales. Femora without tooth, uncus of metatibiae in male moderately enlarging at apex (as in *C. vestitus*, Fig. 78). Penis as in Fig. 40. Spiculum ventrale as in *C. micros* (Fig. 54). Spermatheca as in Fig. 66.

Etymology: This species was named in honour of the famous entomologist Edmund Reitter, who wrote a still excellent key to Mecinini more than a century ago.

Remarks and comparative notes: This species seems at first similar to *C. graminis*, sharing the shape of the body. On the contrary, due to the shape of the rostra in both sexes and of the penis (with venter unusually membranous), it is clear that *C. reitteri* is more closely related to *C. meridionalis*, whose elytra are distinctly longer and more rectangular and the uncus of the metatibiae in the male is pointed at the apex.

Biology: This species was collected in Algeria (Mouzaïa) on *Campanula dichotoma* L. and *C. trachelium* L. (det. Peyerimhoff).

Distribution: Algeria, Morocco.

***Cleopomiarus marseuli* (Coye, 1870)**

Gymnetron marseuli Coye, 1870: 376.
Miarus marseuli (Coye). Reitter, 1907: 43.
Cleopomiarus marseuli (Coye). Caldara, 2001: 188.
Miarus marseuli ab. *rufipes* Pic, 1908: 45 (infrasubspecific name).

Type locality: Kab Elias (Lebanon).

Type specimens: We did not find syntypes of this, however it is an unmistakable taxon.

Synonyms: The aberration *rufipes* was described by Pic based on specimens with completely reddish legs. According to Art. 45 (ICZN, 1999) this name is unavailable. However in the Pic collection (MNHN) we examined one specimen labelled "Messis / TYPE / Marseuli v. rufipes Pic" which has no differences from other specimens of *C. marseuli* except for the brownish femora instead of black.

Redescription: Length 3.0-3.4 mm. Habitus (Fig. 83). Body stout (Fig. 7). Elytra, tibiae and tarsi reddish brown. Eyes weakly convex. Rostrum moderately long in male (Fig. 18), weakly longer in female (Fig. 19) (Rl/Rw male 5.5, female 7.1; Rl/Pl male 0.97, female 1.03), almost straight in lateral view in both sexes, cylindrical, of same width from base to apex. Pronotum distinctly transverse (Pw/Pl 1.57), subconical, with rounded sides, somewhat convex, with recumbent to subrecumbent, short seta-like scales. Elytra globose, short, slightly longer than wide (El/Ew 1.08), moderately wider than pronotum (Ew/Pw 1.20), at base distinctly directed foreward from interstria 5 to humeri, with somewhat rounded sides; interstriae covered with 2-3 irregular rows of subrecumbent, greyish and light coppery brown (except on apical half of interstria 1, there denser, suberect and white), short, seta-like scales. Metafemora with small tooth, uncus of metatibiae in male distinctly enlarging at apex (as in *C. vestitus*, Fig. 78). Penis as in Fig. 41. Spiculum ventrale as in Fig. 55. Spermatheca as in Fig. 67.

Remarks and comparative notes: This species is very distinctive due to the reddish brown elytral integument, which it shares only with some specimens of *C. reitteri*. But, it differs from this taxon by the larger size, the shape of the rostrum and shape of the genitalia.

Biology: In Iran, one specimen was collected on *Campanula* sp. (det. Remaudiere).

Distribution: Turkey, Iran, Syria, Israel, Lebanon.

Non-type specimens examined: TURKEY: Hatay, Akbés (1, MNHN); Hatay, Nur Daglari Mts., 12 km SW of Kirikhan, 8.V.2005, leg. Malinka (1, JKCH); Osmaniye, Hasanbeyli, N Amanus Mts., 6.V.1998, leg. Białooki (1, PBCS); Tuncel, Pulumur geçidi, 1600 m, 6.VII.1987, leg. Biondi (1, ECCR). IRAN: Firouzabad, 2.V.1959, on *Campanula*, leg. Remaudiere (ssp. *iranensis* Hoffmann *in litt*.) (3, MNHN). SYRIA: Syrie (1, DEIM; 1, MNHN); Aleppo, Daret Ezzeh, 14.IV.2010, leg Štěpánek (1, APCF); Idlib, Bilyoun, 5.V. 2002, leg. Weill (1, PWCP); Latakia, Nahr al Bared, 30.IV.2000, leg. Kresl (3, PKCJ). ISRAEL: Jerusalem (2, DEIM).

Cleopomiarus vestitus (Roelofs, 1875)

Miarus vestitus Roelofs, 1875: 150. Lewis, 1879: 23. Egorov *et al.*, 1996: 483 (err. *villosus*, *lapsus calami*).
Cleopomiarus vestitus (Roelofs). Legalov, 2010: 112.
Miarus minimus Morimoto, 1959: 194; 1983: 54.

Type locality: Japan.

Type specimens: We examined five syntypes of this taxon labelled respectively: "Coll. Roelofs / M. vestitus R., Japon / Type" (female, lectotype here designated; ISNB);

"Campanula Russian-Hill ocl: com: / Coll. Roelofs / Type" (male, paralectotype, ISNB); "Coll. Roelofs / Type" (2 females, paralectotypes; ISNB) and "Roelofs, Lewis / 57 / 59340" (female, paralectotype; ZMHB). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus vestitus Roelofs des. Caldara 2015" and "Cleopomiarus vestitus (Roelofs), Caldara det. 2015" were added to each of these specimens.

Synonyms: *Miarus minimus* was described from specimens from Japan (Nagano and Yamanashi Prefectures in Honshū Island). Subsequently, Morimoto (1983) synonymized his species correctly with *C. vestitus*, probably on the basis of Roelofs' original description.

Redescription: Length 2.1-2.6 mm. Habitus (Fig. 84). Body moderately slender (Fig. 5). Integument black. Eyes flat. Rostrum moderately long in male (Fig. 20), slightly longer in female (Rl/Rw male 6.0, female 7.14; Rl/Pl male 0.89, female 0.96), distinctly curved in lateral view, cylindrical, of same width from base to apex, in dorsal view moderately wider at base. Pronotum moderately transverse (Pw/Pl 1.33), subconical, with rounded sides; moderately convex, with mainly recumbent to subrecumbent, short seta-like scales. Elytra subglobose, somewhat short, moderately longer than wide (El/Ew 1.11), weakly wider than pronotum (Ew/Pw 1.25), at base distinctly directed foreward from interstria 5 to humeri, with moderately rounded sides; interstriae covered with 2-4 irregular rows of mainly subrecumbent, whitish to light brown, seta-like scales. Meso- and metafemora with minute tooth, uncus of metatibiae in male distinctly enlarging at apex (Fig. 78). Penis as in Fig. 44. Spiculum ventrale as in *C. micros* (Fig. 54). Spermatheca as in Fig. 68.

Remarks and comparative notes: This species is easily distinguishable from the others mainly by the shape of the rostrum, which is thin, distinctly curved, of the same width from base to apex and poorly sexually dimorphic.

Biology: No data are available.

Distribution: Japan (Honshū Island), Korea, North-western China, Mongolia, Russia (South of eastern Siberia, Far East).

Non-type specimens examined: KOREA: Mt. Pektusan, Mupo, brook Dehongdan, 20.VII.1977, leg. Dely & Drascovits (8, HNHM); Mt. Pektusan, Explosion-Lake, 2000-2500 m, 18.VII.1977, leg. Dely & Drascovits (1, HNHM); Jangkangdo Sinsadong, 1400 m, 17.VII.1974, leg. Josifov (1, GOCV). MONGOLIA: Central aimak, 126 km N of Ulan-Baator, 1100 m, 7.VII.1964, leg. Kaszab (1, HNHM); East aimak, Derkhin-Tsagan-Obo, 60 km ENE of Bajan-Burd, 4.VIII.1976, leg. Kozlov (1, ZISP); East aimak, Tamsag-Bulak, 25.VII.1976, leg. Kozlov (1, ZISP). CHINA: Bejing Province, Bejing 130 NW of Liyan Ling (Mt. Linshan), 1750 m, 2.VIII.2002, leg. Melika (1, APCB); Hejlongjiang, Ourga a Tsitsikhar [Qiqihar], leg. Chaffanjon (1, MNHN). RUSSIA: Amur Prov., Obluchinskii Distr., 14.VII.1994, leg. Malichova (1, ISEA); Amur Prov., Mokhovaja Pad', Peschannoe lake, 14.VIII.1995, leg. Bezborodov (1, ISEA); Blagoveshensk, 6.VIII.1996, leg. Streltzov (1, ISEA); Chita Prov., Sredneargunsk steppe, 15.VII.2002, leg. Tshernychev (1, ISEA); Chita Prov., Kailastui, steppe, 15.VII.2002, leg. Tshernyshev (3, ISEA); Chita Prov., 10-15 km SW of Nerchinskii Zavod, leg. Tshernyshev (1, ISEA); Primorskii krai, Slavjanka, 13.VIII.1992, leg. Snížek. (1, MKCB); Primorskii krai, Khasanski distr., 22.VIII.1996 (1, ZISP); Primorskii krai, Khasan, 12-14.VIII.1998, leg. Belokobylskii (4, ZISP); Primorskii krai, Lazovskii Distr., Lazo, 1-9.VIII.2005, leg. Shokhrin (2, ZISP).

Cleopomiarus flavoscutellatus (Morimoto, 1959)

Miarus flavoscutellatus Morimoto, 1959: 195.
Cleopomiarus flavoscutellatus (Morimoto). Caldara, 2001: 188.
Miarus tapirus Korotyaev, 1999: 145 (**syn. nov.**).

Type locality: Shirahone (Nagano Prefecture, Japan).

Type specimens: This taxon was described from seven specimens collected in central Japan (Nagano and Tottori Prefectures). We examined specimens from Japan which correspond well to the careful original description.

Synonyms: Korotyaev (1999) described *M. tapirus* from one male and two females collected in the south of the Russian Far East (Primorskii krai, Lake Khanka). We examined these specimens at ZISP and ascertained that there are no differences between them and the specimens of *C. flavoscutellatus* from Japan.

Redescription: Length 2.9-3.2 mm. Habitus (Fig. 85). Body globose, stout (Fig. 6). Integument black. Eyes flat. Rostrum stout in both sexes, short in male (Fig. 25), slightly longer in female (Fig. 26) (Rl/Rw male 4.3, female 4.67; Rl/Pl male 0.88, female 0.94), somewhat curved in lateral view, gradually tapered from base to apex. Pronotum moderately transverse (Pw/Pl 1.39), widest at base then weakly and gradually narrowing to apex, with rounded sides, moderately convex, with recumbent scales. Elytra globose, short, slightly longer than wide (El/Ew 1.06), moderately wider than pronotum (Ew/Pw 1.34), at base gradually directed foreward from interstria 5 to humeri, with somewhat rounded sides; interstriae covered with 3-4 irregular rows of recumbent to slightly raised, whitish and light brown intermixed, seta-like scales. Meso- and metafemora with minute tooth, uncus of metatibiae in male pointed at apex (as in *C. graminis*, Fig. 77). Penis as in Fig. 43. Spiculum ventrale as in Fig. 56. Spermatheca as in Fig. 69.

Remarks and comparative notes: This species is one of the few that is easily distinguishable from all the other Palaearctic species, mainly due to the uncommonly stout rostrum in both sexes and the pattern of the dorsal vestiture.

Distribution: Japan (Honshū Island), Russia (southern Russian Far East).

Non-type specimens examined: JAPAN: Nikko (3, BMNH). RUSSIA: Primorskii krai, Ussuri Reserve, 20.VII.1990. leg. Kadlec & Vorisek (1, RCCM).

Cleopomiarus medius (Desbrochers des Loges, 1893)

Miarus medius Desbrochers des Loges, 1893: 51. Reitter, 1907: 44. Franz, 1947: 238. Smreczyński, 1973: 172.
Cleopomiarus medius (Desbrochers des Loges). Caldara, 2001: 188.
Miarus balcanicus Desbrochers des Loges, 1893: 55. Reitter, 1907: 46. Solari, 1947: 73, 77. Smreczyński, 1973: 172.
Miaromimus schatzmayri Solari, 1947: 73 note. Caldara, 2013: 136.

Type locality: Syria.

Type specimens: This taxon was described from females from Syria. In the Desbrochers des Loges collection (MNHN) we examined one syntype labelled "Syrie / medius / Ex Musaeo Desbrochers des Loges 1914" (lectotype here designated with the addition of the following red label "LECTOTYPUS Miarus medius Desbrochers des. Caldara 2015").

Synonyms: *C. balcanicus* was described from males collected in the Balkans. The synonymy between *C. medius* and *C. balcanicus* was proposed by Smreczyński (1973) after the examination of a syntype, which we also examined in collection Desbrochers des Loges (MNHN). We agree with Smreczyński's opinion.

Miaromimus schatzmayri was described in a note based on three syntypes: one couple in collection Dodero (MCSN) and one females in collection Solari (MSNM) collected at Mount Athos (Greece). We examined the two specimens in the Dodero collection. Both are labelled "Athos, Macedonia, A. Schatzmayr [printed]" and the male "Miaromimus Schatzmayri ♂ holotypus! m., det F. Solari 1947 [handwritten]" (lectotype here designated) and the female "Miaromimus Schatzmayri ♀ allotypus! m., det F. Solari 1947" (paralectotype). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus schatzmayri Solari des. Caldara 2015" and "Cleopomiarus medius Desbr. Caldara det. 2015" were added to these specimens. We can confirm that this taxon is synonymous with *C. medius* as quoted by Caldara (2013) on the basis of the original description. We did not find the third syntype in the Solari collection, where however we examined a female bearing a label with the same locality of collection and another written label with "Miarus n. sp. ♀, det. F. Solari 1947". Probably this is the third syntype, which Solari quoted at the end of his description and we argued that this specimen was added to the description when he read the proofs. However, this specimen is different from the two syntypes of the Dodero collection and might belong to a new species related to *C. distinctus*.

Redescription: Length 3.5-5.0 mm. Habitus (Fig. 86). Body moderately slender (Fig. 8). Integument black. Eyes flat. Rostrum long in male (Fig. 21), very long in female (Fig. 22) (Rl/Rw male 7.75, female 13.6; Rl/Pl male 1.11, female 1.89), slightly curved in lateral view, cylindrical, of same width from base to apex. Pronotum moderately transverse (Pw/Pl 1.25), with rounded sides, widest in basal half, moderately convex. Elytra oblong, moderately long (El/Ew 1.18), weakly wider than pronotum (Ew/Pw 1.22), at base moderately directed foreward from interstria 5 to humeri, with weakly rounded sides, interstriae covered with 2-3 irregular rows of subrecumbent, whitish, seta-like scales. Metafemora with small tooth, uncus of metatibiae in male enlarging at apex (as in *C. graminis*, Fig. 77). Penis as in Fig. 42. Spiculum ventrale as in Fig. 57. Spermatheca as in Fig. 70.

Remarks and comparative notes: Among the species with a very long rostrum in the female, and moreover with large size (*C. longirostris* and *C. salsosae*), this species is easily distinguishable from the others by the less globose and moderately elongate elytra, and moreover by the shape of the male and female genitalia.

Biology: Weill *et al.* (2011) collected this species in Syria (Qadmous) on *Michauxia campanuloides* L'Hér.

Distribution: Croatia, Bosnia Erzegovina, Romania, Bulgaria, Montenegro, Macedonia, Greece, Turkey, Syria.

Non-type specimens examined: CROATIA: Baska Voda, VII.1969, leg. Polacek (2, RCCM); Brela, 29.VI.1997, leg. Simandl (1, SBCP); Makarska, VII.1968, leg. Gottweld (2, NHMB). BOSNIA HERZEGOVINA: Drovenik (2, RCCM). ROMANIA: Orsova (3, APCB). BULGARIA: Melnik (2, JSCP; 2, GOCV); Sandanski, Lebnica valley, 10.V.2008, leg. Pavel (1, JKCH). MONTENEGRO: Boka Kotorska (1, GOCV). MACEDONIA: Dobriste (1, APCB); Skopje, Mts. Ivanje, 900 m, Matka, 1.VI.1998, leg. Rozner (1, APCB); Skopska Crna Gora (1, APCB); Tetovo, Želino, 30.V.1998, leg. Rozner (1, APCB). GREECE: Macedonia, Pyrsogianni, 15.VI.2006, leg Štěpánek (1, APCF); TURKEY: Adana, Camliyayla (1, RCCM); Adana, Pozanti (1, JSCP); Bursa, Boyalica, Iznik Lake, 18.V.1998, leg. P. Białooki (1, PBCS); Izmir, Ağamemnon, 10.V.1975, leg. Besuchet & Löbl (1, MHNG); Kahramanmaraş, Tekir. 20.V.1969, leg. Wittmer (1, NHMB); Mersin, 25 km N of Anamur, 10.VI.1993, leg. Steiner (1, DEIM); Osmaniye, Hasanbeyli, N Amanus Mts., 6.V.1998, leg. P. Bialooki (1, PBCS). SYRIA: Tartous, Qadmous, 16.VI.2002, leg. Weill (6, PWCP); Djebel Ansariya, 1200 m, E of Sharkiya, 19.V.1989, leg. Macek (1, NHMB).

Cleopomiarus graminis (Gyllenhal, 1813)

Curculio ellipticus Herbst, 1795: 171. Caldara, 2008: 127 (nomen oblitum).
Rhynchaenus cinerascens Gravenhorst, 1807: 208. Alonso-Zarazaga *et al.*, 2013: 346 (nomen oblitum).
Rhynchaenus graminis Gyllenhal, 1813: 210. Kangas, 1976: 78. Caldara, 2008: 127. Alonso-Zarazaga *et al.*, 2013: 346 (nomen protectum)
Cionus graminis (Gyllenhal). Germar, 1821: 308.
Miarus graminis (Gyllenhal). Stephens, 1831: 15. Bedel, 1885: 144; 1887: 306. Desbrochers des Loges, 1893: 54. Reitter, 1907: 45; 1916: 232. Hustache, 1931: 432, 433. Van Emden, 1938: 22, 27. Franz, 1947: 241. Hoffmann, 1958: 1315, 1320. Roudier, 1966: 288. Smreczyński, 1976: 6, 51. Kangas, 1976: 78. Lohse & Tischler, 1983: 273. Dieckmann & Behne, 1994: 295.
Gymnetron graminis (Gyllenhal). Rosenschoeld, 1838: 772.
Cleopus graminis (Gyllenhal). H. Brisout de Barneville, 1863: 665.
Cleopomiarus graminis (Gyllenhal). Caldara, 2001: 188; 2008: 127. Legalov, 2010: 112. Rheinheimer & Hassler, 2010: 614.
Miarus jakowlewi Faust, 1895: 104. Franz, 1947: 241. Egorov *et al.*, 1996: 484. Legalov, 2010: 112. Hong *et al.*, 2012: 76 (**syn. nov.**).
Miarus fuscopubens Reitter, 1907: 43. Franz, 1947: 241. Hoffmann, 1958: 1321. Roudier, 1966: 288. Smreczyński, 1976: 6.
Miarus graminis var. *subuniseriatus* Reitter, 1907: 45. Hoffmann, 1958: 1321.
Miarus scutellaris subsp. *mequignoni* Hoffmann, 1939: 79; 1958: 1315, 1319. Roudier, 1966: 290. (**syn. nov.**)
Miarus dulcinasutus Kangas, 1976: 79. Lohse & Tischler, 1983: 274. Dieckmann & Behne, 1994: 295. Egorov *et al.*, 1996: 484. Vahtera & Muona, 2006: 223. Rheinheimer & Hassler, 2010: 615. (**syn. nov.**).
Miarus graminoides Kangas, 1976: 80. Dieckmann & Behne, 1994: 295. Vahtera & Muona, 2006: 223. Caldara, 2013: 136.

Type locality: Sweden.

Type specimens: We did not examine the types, which are preserved at the Uppsala University - where part of the Gyllenhal collection is placed -, and already were examined by Kangas (1976), who designated the lectotype.

Synonyms: The nomenclatural problems concerning *Curculio ellipticus* and *Rhynchaenus cinerascens* were discussed by Caldara (2008) and Alonso-Zarazaga *et al.* (2013) respectively.

Miarus jakowlewi was described from Irkutsh (Siberian Federal District, Russia). Franz (1947) placed this taxon in synonymy with *M. graminis*, whereas Egorov *et al.* (1996) treated it as a distinct species. At SMTD we examined four syntypes labelled as follows: 1. "Irkutsh, Jakowlev [sic; in fact this collector name may be written so and also Jakowleff], male / Jakowlevi Faust / Coll. J. Faust, Ankauf 1900 / TYPE "(male, lectotype here designated); 2. "Irkutsh, Jakowlev / Jakowlevi Faust / Coll. J. Faust, Ankauf 1900 / TYPE "(female, paralectotype); 3-4. "Irkutsh, Jakowlev / Jakowlevi Faust / Coll. J. Faust, Ankauf 1900 / TYPE"(2 males on the same pin, paralectotypes). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus jakowlewi Faust Caldara des. 2007" and "Cleopomiarus graminis (Gyll.) Caldara det. 2015" were added to each of these specimens. After the study of these specimens we agree with Franz's opinion.

Miarus graminis var. *subuniseriatus* was described from specimens from Austria, the Balkans and western Caucasus. In the Reitter collection (HNHM) we examined two specimens: one male (already dissected) labelled "Oberkrain, Ludy, 8.88 / Paratypus 1907, Miarus graminis var. subuniseriatus Reitter / Coll. Reitter" which is synonymous with *C. graminis*, and one female labelled "Oberkrain, Ludy / Holotypus 1907, Miarus graminis var. subuniseriatus Reitter / v. subuniseriatus / Coll. Reitter / Lectotypus Miarus subuniseriatus Reitt., des.: Zherichin / Miaromimus distinctus Boh., A. Legalov det. ", which is a specimen of *C. distinctus* not corresponding to the original description since each elytral interstria bears 2-3 rows of scales. Therefore we designated the male as lectotype adding the following red labels: "LECTOTYPUS Miarus graminis var. subuniseriatus Rtt. des. Caldara 2015" and "Cleopomiarus graminis (Gyll.) Caldara det. 2015".

Miarus fuscopubens was described from specimens from Piemonte and Gorizia (northern Italy) and central Caucasus. Franz (1947) as well as Roudier (1966) and Smreczyński (1976) believe that this species is only an aberration of *M. graminis*. We agree with the opinion of these authors after the study of four syntypes (HNHM) labelled respectively: "Piemont / Holotypus 1907 ♂ Miarus fuscopubens Reitter / distinctus, Piemont Boh. O. Baudi / Coll. Reitter" (male, lectotype here designated); "Piemont / Paratypus 1907 Miarus fuscopubens Reitter / distinctus Boh., Piemont Baudi / Coll. Reitter" (male, dissected, without head, paralectotype); "Görz Ludy / Paratypus 1907 Miarus fuscopubens Reitter / Coll. Reitter" (female, paralectotype); "Caucasus Meskisches Geb. Leder, (Reitter / Paratypus 1907 Miarus fuscopubens Reitter / Coll. Reitter" (female, paralectotype). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus fuscopubens Rtt. des. Caldara 2015" and "Cleopomiarus graminis (Gyll.) Caldara det. 2015" were added to these specimens.

The subspecies *mequignoni* of *C. scutellaris* (= *C. longirostris*) was described from specimens from Switzerland (Valais). Roudier (1966) did not take a clear position on this taxon concluding that it might be placed between *C. longirostris* and *C. graminis*. At MNHN we examined the types of this taxon and concluded that it is a synonym of *C. graminis*.

Kangas (1976) described *M. graminoides* (type locality: PK: Ilomantsi) and *M. dulcinasutus* (type locality: EK: Virgiahli) from specimens collected in several localities of Finnland. He reported that his new species appear very similar to *C. graminis* from which they differ by body size, elytral vestiture, shape of pronotum and penis. Egorov *et al.* (1996) synonymized *M. dulcinasutus* with *M. jakowlewi*. By the study of some syntypes, Vahtera & Muona (2006) suggested that probably *M. graminoides* and *M. dulcinasutus* are synonyms of

C. graminis. We examined the holotypes and some paratypes of the two Kangas' species (MZHF) and did not find differences from the other European specimens of *C. graminis*. The synonymy of *M. graminoides* with *C. graminis* was already proposed by Caldara (1913).

Redescription: Length 1.9-3.3 mm. Body stout (Fig. 9). Integument black. Eyes flat. Rostrum moderately long in male (Fig. 23), moderately longer in female (Fig. 24) (Rl/Rw male 6.22, female 10.0; Rl/Pl male 0.90, female 1.11), moderately curved in lateral view, cylindrical, of same width from base to apex. Pronotum moderately transverse (Pw/Pl 1.37), subconical, with rounded sides, moderately convex, with subrecumbent to suberect, moderately long seta-like scales. Elytra globose, short, slightly longer than wide (El/Ew 1.11; Ew/Pw 1.28), at base moderately directed foreward from interstria 5 to humeri; interstriae covered with 2-4 irregular rows of subrecumbent to suberect, whitish to light brown, seta-like scales. Mesofemora with minute tooth, metafemora with distinct tooth, uncus of metatibiae in male pointed at apex (Fig. 77). Penis as in *C. longirostris* (Fig. 45). Spiculum ventrale as in Fig. 58. Spermatheca as in Fig. 71.

Remarks and comparative notes: This is a very common and very variable species with a wide distribution. The two most variable characters are the colour of the dorsal vestiture, which varies from whitish grey to light brown, and the density of the elytral scales, sometimes completely covering the integument. The rostrum varies somewhat in length and curvature, especially in the female. It is clear that it would be very interesting to perform a detailed molecular study of various populations. *Cleopomiarus graminis* is very closely related to *C. ruscinonensis* and *C. longirostris* (for the few differences between them see key and comparative notes of these species).

Biology: Larvae, which were described although briefly by van Emden (1938), were collected feeding on the seeds of several species of *Campanula*, mainly *C. glomerata*, *C. persicaefolia*, and *C. rotundifolia* (Hustache 1931; Hoffmann 1958; Smreczyński 1976; Lohse & Tischler 1983).

Distribution: Europe, West and Central Siberia.

Non-type specimens examined: About 1,000 specimens from the whole area of its distribution.

***Cleopomiarus ruscinonensis* (Roudier & Tempère, 1966) stat. nov.**

Miarus longirostris subsp. *ruscinonensis* Roudier & Tempère, 1966: 291.

Type locality: Targassonne (eastern Pyrenees).

Type specimens: This taxon was described as subspecies of *C. longirostris* from specimens collected in various localities in the eastern Pyrenees, usually on *Campanula persicaefolia* L. The authors reported that it differs from *C. longirostris longirostris* by the rostrum only a little longer in female than in male and distinctly more curved in both sexes and by the smaller size of the body. They added also that their taxon appears very similar to *C. graminis* from which it differs by the more curved rostrum and that there are no differences between the penis of these three taxa. After the examination of the holotype and 15 paratypes of this taxon from the type locality (MNHN) we believe that it can be considered as a distinct species intermediate between *C. longirostris* and *C. graminis*, differing from each of them by

the shape of the rostrum, exactly as reported by Roudier & Tempère (1966) in their original description.

Redescription: Length 4.5-5.2 mm. Body stout (as in *C. graminis*, Fig. 9). Integument black. Eyes flat. Rostrum moderately long in male (Fig. 27), moderately longer in female (Fig. 28) (Rl/Rw male 7.4, female 8.6; Rl/Pl male 1.02, female 1.23), distinctly curved especially in apical half in lateral view, cylindrical, of same width from base to apex. Pronotum moderately transverse (Pw/Pl 1.37), subconical, with rounded sides, moderately convex, with subrecumbent to suberect, moderately long, seta-like scales. Elytra globose, somewhat short, slightly longer than wide (El/Ew 1.13; Ew/Pw 1.27), at base moderately directed foreward from interstria 5 to humeri, with distinctly rounded sides; interstriae covered with 2-4 irregular rows of subrecumbent to suberect, whitish to light brown, seta-like scales. Mesofemora with minute tooth, metafemora with distinct tooth, uncus of metatibiae in male pointed at apex (as in *C. graminis*, Fig. 77). Penis as in *C. longirostris* (Fig. 45). Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. graminis* (Fig. 71).

Remarks and comparative notes: This species is very closely related to *C. graminis* and *C. longirostris*, from which it differs by the more curved rostrum. It differs by *C. graminis* also by the larger size.

Biology: Several specimens of the type series were collected on *Campanula persicaefolia* (Roudier & Tèmpere 1966).

Distribution: France (Pyrenees).

Non-type specimens examined: No other specimens apart from those of the type series.

Cleopomiarus longirostris (Gyllenhal, 1838)

Gymnetron longirostris Gyllenhal, 1838: 770.
Cleopus longirostris (Gyllenhal). H. Brisout de Barneville, 1863: 663.
Miarus longirostris (Gyllenhal). Desbrochers des Loges, 1893: 54. Reitter, 1907: 45; 1916: 232. Hustache, 1931: 432, 433. Franz, 1947: 238. Hoffmann, 1958: 1314, 1317. Roudier, 1966: 288. Smreczyński, 1976: 6, 51.
Cleopomiarus longirostris (Gyllenhal). Caldara, 2001: 188.
Miarus scutellaris H. Brisout de Barneville, 1866: 622. Desbrochers des Loges, 1893: 52. Reitter, 1907: 54. Franz, 1947: 238. Hoffmann, 1958: 1314, 1319. Roudier, 1966: 288. Smreczyński, 1976: 6.
Miarus mayeti Abeille de Perrin, 1906: 71. Roudier, 1966: 288.

Type locality: Southern France.

Type specimens: This species was described from specimens collected in "Gallia meridionalis" (France) named with this name by Dejean under *Cleopus* (1835) without a description (nomen nudum) and subsequently described as *Gymnetron* by Gyllenhal (1838). At NHRS we examined two syntypes: a male labelled "male / Typus / Cleopus longirostris Dej., Gall. mer. Dej" (lectotype here designated) and a female labelled "female / Allotypus / Cleopus longirostris Dej., Gall. mer. Dej" (paralectotype). The following red label "LECTOTYPUS (or PARALECTOTYPUS) Gymnetron longirostris Gyllenhal des. Caldara 2015" was added to both of these specimens.

Synonyms: In the original description *C. scutellaris* (no type locality, but probably southern France or Italy) was considered very closely related to or possibly a simple variety of *C. longirostris*, differing from this only by the brownish (instead of whitish) and more erect vestiture. Hoffmann (1958) reported *C. scutellaris* as a valid species. Franz (1947) and Roudier (1966) believed that this species is very similar to *C. longirostris* forming perhaps a subspecies. On the contrary Smreczyński (1976) quoted *C. scutellaris* as a simple aberration of *C. longirostris*. We agree with this last opinion.

Miarus mayeti (type locality: Saint-Guilhem, Hérault, France) was described as very similar to *C. scutellaris* differing only by the whitish vestiture. It is therefore undoubtful, as pointed out by Roudier (1966), that this taxon is synonymous with *C. longirostris*.

Redescription: Length 3.8-4.8 mm. Body stout (as in *C. graminis*, Fig. 9). Integument black. Eyes flat. Rostrum long in male (Fig. 29), very long in female (Fig. 30) (Rl/Rw male 10.2, female 16.7; Rl/Pl male 1.40, female 1.76), weakly curved in lateral view, cylindrical, of same width from base to apex. Pronotum moderately transverse (Pw/Pl 1.40), subconical, with rounded sides, moderately convex, with subrecumbent to erect, moderately long, seta-like scales. Elytra globose, short, slightly longer than wide (El/Ew 1.02), weakly wider than pronotum (Ew/Pw 1.25), at base moderately directed foreward from interstria 5 to humeri, with somewhat rounded sides; interstriae covered with 2-4 irregular rows of suberect to erect, whitish to light brown, seta-like scales. Mesofemora with minute tooth, metafemora with distinct tooth, uncus of metatibiae in male pointed at apex (as in *C. graminis*, Fig. 77). Penis as in Fig. 45. Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. graminis* (Fig. 71).

Remarks and comparative notes: This species is very closely related to *C. graminis* and *C. ruscinonensis*, from which it differs by the very long rostrum especially in the female and usually from *C. graminis* also by the larger size.

Biology: Larvae feed on seeds capsules of *Campanula trachelium* L., where they pupate (Hoffmann, 1958; Caldara pers. obs.).

Distribution: France, Italy, Switzerland.

Non-type specimens examined: We examined about 80 specimens from France and Italy.

***Cleopomiarus caucasicus* sp. nov.**

urn:lsid:zoobank.org:act:4316D1F8-E257-4C75-B1F1-81515A5AE215

Type locality: Chrdkhlar (Armenia).

Type specimens: Holotype, male "Armenia - m 1950, Chrdkhlar, 39.20.13N 46.24.64E, 24.VI.2005 - E. Colonnelli" (BMNH, gift by Enzo Colonnelli). Paratypes: same as holotype (2, ECCR; 2, RCCM); "Armenia: Syunik reg., env. Shumukh, 17.5.2001, leg. Kalashian, Coll. Winkelmann" (9, HWCB; 4, RCCM); "Armenia: Syunik reg., 3 km S Goris, 2.7.2001, leg. Kalashian; Coll. Winkelmann" (2, HWCB); "Armenia: Sislan pass, 4 km E Gorayk, 14.7.2001, leg. Kalashian; Coll. Winkelmann" (2, HWCB); "Armenia: Sevan city, Botanical garden, 16.7.2001, leg. Kalashian; Coll. Winkelmann" (1, HWCB); "Armenia: Khosrov reserve, 5.-7.7.2000, leg. Kalashian, Coll. Winkelmann" (1, HWCB); "Armenia: Khosrov

reserve, 7.-8.6.2001, leg. Kalashian, Coll. Winkelmann" (1, HWCB); Armenia: Khosrov reserve, 9.-9.6.2001, leg. Kalashian, Coll. Winkelmann" (1, HWCB); "Armenia - m 1370, 2 km N of Hakhpat, 41.06.60N 44.32.82E, 28.VI.2005 - E. Colonnelli" (2, ECCR); "Armenia - m 2000 - 6 km N of Shurnuk, 24.VI.2005 - E. Colonnelli" (2, ECCR); "Armenia - m 2250/2400, Artavaz, 40.36.49N 44.34.52E, 29/30.VI.2005 - Colonnelli" (2, ECCR; 1, RCCM); "Armenia - m 1200, 2.5 km N of Pambak, 40.51.413N 44.34.606E, 28.VI.2005 - E. Colonnelli" (1, RCCM); "Armenia, Diluzhan, 6.VIII.1975, B. Momol leg." (1, ISEA); "USSR - Armenia, 3.6.1989, Sevan civ.-env., /pr. Sevan Sea/2100 m, J. Strejček lgt." (3, JSCP); "USSR - Armenia, 13.6.1988, Jerevan env., 1100 m, riv. Razdan valley, J. Strejček lgt." (1, JSCP); "Armenia, Kuybishev, 1500 m, netting, 21.VII.1977, leg. Zombori" (1, APCB); "USSR - Armenia, 5.6.1988, Dilidjan-env., J. Strejček lgt." (1, JSCP); "Armenija, Kafanskii Distr., Kafsirakor, 13.VI.1955, M. Loginova leg." (1, ZISP); "Armenija, 25 km of Goris, 26.VI.1959, V. Richter leg." (2, ZISP); "Armenija, 18 km of Goris, 21.VI.1959, V. Richter leg." (1, ZISP); "Caucasus, Lagodekhi" (1, ZISP); "Caucasus, Lagodekhi rez., 29-30.VI.1954" (1, ZISP).

Description: Length 2.7-3.7 mm. Habitus (Fig. 87). Body stout (as in *C. graminis*, Fig. 9). Integument black. Eyes flat. Rostrum moderately long in male, moderately longer in female (Rl/Rw male 6.86, female 8.57; Rl/Pl male 0.99, female 1.12), moderately curved in lateral view, cylindrical, of same width from base to apex (as in *C. graminis*, Figs 23-24). Pronotum moderately transverse (Pw/Pl 1.46), subconical, with rounded sides, moderately convex, with subrecumbent to suberect, moderately long, seta-like scales. Elytra globose, short, slightly longer than wide (El/Ew 1.04; Ew/Pw 1.34), at base moderately directed foreward from interstria 5 to humeri, with somewhat rounded sides; interstriae covered with 2-4 irregular rows of subrecumbent to suberect, whitish to light brown, seta-like scales. Mesofemora with minute tooth, metafemora with distinct tooth, uncus of metatibiae in male with apex enlarged and directed outward (as in *C. distinctus*, Fig. 79). Penis (apex) as in Fig. 46. Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. graminis* (Fig. 71).

Etymology: The Latin adjective refers to the Caucasus Mountains where the species was collected.

Remarks and comparative notes: Due to the habitus and the shape of the female genitalia, this species is very closely related to *C. graminis*, from which it differs by the uncus of the metatibiae of the male ending with a broad apex and the shape of the penis especially at its apical part.

Distribution: Armenia.

Cleopomiarus distinctus (Boheman, 1845)

Gymnetron distinctus Boheman, 1845: 187.
Cleopus distinctus (Boheman). H. Brisout de Barneville, 1863: 664.
Miarus distinctus (Boheman). Desbrochers des Loges, 1893: 50. Reitter, 1907: 48. Hustache, 1931: 432, 434. Franz, 1947: 239. Hoffmann, 1958: 1315, 1322. Roudier, 1966: 291. Smreczyński, 1973: 168, 179; 1976: 6, 49. Lohse & Tischler, 1983: 273.
Cleopomiarus distinctus (Boheman). Caldara, 2001: 188. Legalov, 2010: 112. Rheinheimer & Hassler, 2010: 615.
Miarus degorsi Abeille de Perrin, 1906: 171. Franz, 1947: 241. Hoffmann, 1958: 1321 (as var. of *salsolae*). Smreczyński, 1973: 179; 1976: 6.

Miarus graminis var. *subfulvus* Reitter, 1907: 45. Hoffmann, 1958: 1320. Smreczyński, 1973: 179; 1976: 6.
Miarus wagneri Székessy, 1940: 161. Franz, 1947: 239. Smreczyński, 1973: 171, 179; 1976: 6.
Miarus distinctus subsp. *rectirostris* Hoffmann, 1953: 55, 60; 1958: 1323. Roudier, 1966: 293. Smreczyński, 1973: 170, 179; 1976: 6. Péricart, 1989: 291.
Miaromimus dictamnophilus Zherichin, 1996: 483. Hong *et al.*, 2000: 52. Legalov, 2010: 112. Hong *et al.*, 2012: 75 (**syn. nov.**).

Type locality: Geneva (Switzerland).

Type specimens: A female syntype is deposited in the Germar collection (MLUH) and was previously examined by Smreczyński (1973). We too examined this specimen. It is damaged since it lacks the right elytron (where it was previously pinned) and was subsequently glued on a rectangular card. It bears the following labels: "illegible [handwritten on a pink triangular card] / TYPE [printed on a red label] / Miarus distinctus Boh. ♀ Dieckmann det. 1968". We designated this specimen as lectotype with the addition of the following red labels "LECTOTYPUS Gymnetron distinctus Boheman, des. Caldara 2015" and "Cleopomiarus distinctus (Boh.), Caldara det. 2015".

Synonyms: *Miarus degorsi* was described from specimens collected at Orival in the Seine-Maritime (Haute-Normandie in the northern France). At NHMW we examined five syntypes labelled "Orival, S. inf., 5.8.05 / nov. sp. type / Cotype / Miarus Degorsi" (male, lectotype here designated); "Orival, S. inf., 29.7.[19]05 / Miarus Degorsi / Miarus Degorsi paratypes" (1 male and 1 female); "Orival, S. inf., 16.8.02 / sur Campanula glomerata / Miarus Degorsi" (2 males). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus degorsi Abeille, des. Caldara 2015" and "Cleopomiarus distinctus (Boh.), Caldara det. 2015" were added to each specimen. *Miarus degorsi* was always placed in synonymy with *M. distinctus* and we also agree with this opinion.

Miarus graminis var. *subfulvus* was described from specimens from Carniola (Slovenia), Armenia and Turkmenistan. By the examination of some syntypes Smreczyński (1973) decided that this variety does not belong to *M. graminis* but to *M. distinctus*. We agree with Smreczyński's opinion after the examination of five syntypes (HMHN) labelled "Oberkrain Ludy 8.88 / longirostris Gyll. Stierl det. / Holotypus 1906 Miarus graminis Gyll. var. subfulvus Reitter / v. subfulvus m. 1906 / Coll. Reitter / Miarus distinctus Boh. Smreczyński det. 1972" (male, lectotype); "Krain Ludy / Paratypus 1906 Miarus graminis Gyll. var. subfulvus Reitter / Coll. Reitter" (female, already dissected, paralectotype); "Caucasus Armen. Geb. Leder Reitter / Paratypus 1906 Miarus graminis Gyll. var. subfulvus Reitter / Miarus distinctus Boh. Smreczyński det. 1972" (female, paralectotype); "Krain / Paratypus 1906 Miarus graminis Gyll. var. subfulvus Reitter / Coll. Reitter" (two females, paralectotypes). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus graminis var. subfulvus Reitter des. Caldara 2015" and "Cleopomiarus distinctus (Boh.) Caldara det. 2015" were added to these specimens.

Miarus wagneri was described from specimens from Greece. After the examination of some paratypes Franz (1947) as well as Smreczyński (1973) established that this taxon is synonymous with *M. distinctus*.

Miarus distinctus subsp. *rectirostris* was described from specimens collected at Laygnac (Haute-Garonne) and considered different from the nominal species by the distinctly straight rostrum. Roudier (1966) and Péricart & Tempère (1989) agreed with Hoffmann's opinion, whereas Smreczyński (1973) placed this taxon in synonymy with the nominal

species after the study of the type specimens. We also examined these specimens at MNHN and agree with Smreczyński's opinion confirming its synonymy with *M. distinctus*.

Miaromimus dictamnophilus was described from three specimens collected at Mikhailovka (Primorskii krai, Russian Far East) on *Dictamnus* sp. We examined the holotype, a male deposited at ZISP, but did not find the two paratypes. This specimen does not show differences from *C. distinctus*.

Redescription: Length 2.2-3.0 mm. Body globose, stout (Fig. 10). Integument black. Eyes flat. Rostrum long in male (Fig. 31), very long in female (Fig. 32) (Rl/Rw male 7.1, female 10.0; Rl/Pl male 1.13, female 1.52), weakly curved in lateral view, cylindrical, of same width from base to apex. Pronotum distinctly transverse (Pw/Pl 1.55), subconical, with rounded sides, moderately convex. Elytra distinctly globose, short, slightly longer than wide (El/Ew 1.03), weakly wider than pronotum (Ew/Pw 1.24), at base distinctly directed foreward from interstria 5 to humeri, with rounded sides; interstriae covered with 2-4 irregular rows of subrecumbent, whitish to light brown, seta-like scales. Metafemora with small tooth, uncus of metatibiae in male distinctly enlarging at apex and directed outward (Fig. 79). Penis as in Fig. 47. Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in Fig. 72.

Remarks and comparative notes: This is one of the most variable species and with the widest distribution. The three most variable characters are the colour of the dorsal vestiture, which varies from whitish grey to light brown, the density of the elytral scales, sometimes completely covering the integument, and the length of the rostrum especially in the female and especially in the Anatolian population. Moreover, *Cleopomiarus distinctus* is very closely related to numerous species (*C. persimilis*, *C. salsosae*, *C. mandschuricus*, *C. kobanzo* and *C. kamiyai*). For differences see key and comparative notes of these species. It is clear that it would be very interesting to perform a detailed molecular study of these apparently cryptic species. Apart from the characters of the shape of the rostra, the uncus of the male metatibiae, and that of the penis, all these species differ usually from *C. graminis* and related species also by the more angulate shape of the elytral base.

Biology: This species lives on various species of *Campanula* (*C. glomerata* L., *C. incurva* Auch., *C. latifolia* L., *C. persicaefoliae* L., *C. rapunculus* L., *C. rhomboidalis* L., *C. thyrsoides* L., *C. trachelium* L.) in central Europe (Hoffmann 1958; Smreczyński 1973; Caldara pers. obs.). Nothing is known about its host plants in Turkey. Concerning the collection of this species on *Dictamnus* sp., a genus belonging to the family Rutaceae (Zherichin 1996), this datum needs surely to be confirmed, since all the other species of the genus with known biology live on Campanulaceae. Moreover, it is well known that some species of this genus, as well as those of the closely related genus *Miarus*, live often on refuge plants eating flowers when their host plants are not yet available. This was seen in Finland where *C, graminis* and *C. distinctus* were collected on *Fragaria* (I. Rutanen pers. obs.) and in Italy where *C. graminis* was found on *Ranunculus* sp. (R. Caldara pers. obs.).

Distribution: Europe, from the Iberian Peninsula to the Russian Far East, China (Heilongjiang, Heihe, leg. Bezhorodov; 1, ISEA), South Korea (Gangwon), Turkey.

Non-type specimens examined: About 500 specimens from the whole area of its distribution.

Cleopomiarus persimilis (Smreczyński, 1973)

Miarus persimilis Smreczyński, 1973: 171, 179; 1976: 6, 50.
Cleopomiarus persimilis (Smreczyński). Caldara, 2001: 188.

Type locality: Budapest (Hungary).

Type specimens: This species was described from specimens from Hungary (environs of Budapest) and Ukraine (Podolia). We examined several specimens of the type series (HNHM).

Redescription: Length 1.7-2.3 mm. Body globose, stout (as in *C. distinctus*, Fig. 10). Integument black. Eyes flat. Rostrum moderately long in male (as in *C. distinctus*, Fig. 31), slightly longer in female (Fig. 33) (Rl/Rw male 6.57, female 7.14; Rl/Pl male 1.01, female 1.09), somewhat curved in lateral view, cylindrical, of same width from base to apex. Pronotum distinctly transverse (Pw/Pl 1.48), subconical, with rounded sides, moderately convex. Elytra globose, short, slightly longer than wide (El/Ew 1.04), moderately wider than pronotum (Ew/Pw 1.35), at base distinctly directed foreward from interstria 5 to humeri, with rounded sides; interstriae covered with 2-4 irregular rows of subrecumbent, whitish to light brown, seta-like scales. Metafemora with minute tooth, uncus of metatibiae in male distinctly enlarging at apex (as in *C. distinctus*, Fig. 79). Penis as in *C. distinctus* (Fig. 47). Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. distinctus* (Fig. 72).

Remarks and comparative notes: This species is closely related to *C. distinctus*, from which it differs by the rostrum, being more curved in both sexes and only slightly longer in female than in male, and usually by the small size of the body. Smreczyński (1973) reported several other differences between *C. persimilis* and *C. distinctus* like the length of the articles of the antennal funicle and of the pronotum, the size of the femoral tooth and the tibial unci, but these differences are mainly due to the small size of the specimens and unfortunately are variable in *C. distinctus*.

Biology: No data are available.

Distribution: South-western Russia, Ukraine, Hungary, Slovenia, Turkey.

Non-type specimens examined: RUSSIA: Rostov oblast', Don, valley river Touzlov, 17.VI.1997, leg. Murzin (2, JPCM). UKRAINE: Podolia, Kolodiyivka, Mt. Teremets/Dnestr, 28.V.1997, leg J. Szypula (1, PBCS). HUNGARY: Budapest, Sashegy, 28.VI.1956, leg. Kaszab (2, MSNM). SLOVENIA: Kras Mts., Nanos Mt., Razdrto, 18.V.1994, leg. Košťál (1, MKCB). TURKEY: Ankara, 12 km N of Kastamonu, 12.VII.1996, leg. Bayer (7, CBCB); Ankara, Korgun N near Cankri, 18.VII.1996, leg. Bayer (1, CBCB); Kastamonu, Küral Kaynsak, 12.VII.1996, leg. Bayer & Winkelmann (1, HWCB).

Cleopomiarus salsosae (H. Brisout de Barneville, 1863)

Gymnetron salsosae H. Brisout de Barneville, 1863: 664.
Miarus salsosae (H. Brisout de Barneville). Hoffmann, 1958: 1315, 1321 (err. *salsolae*). Roudier, 1966: 290.
Miarus distinctus subsp. *salsosae* (H. Brisout de Barneville). Smreczyński, 1973: 170, 179; 1976: 6.
Miarus distinctus subsp. *flavus* Franz, 1947: 240. Smreczyński, 1973: 171, 179.

Type locality: Iran.

Type specimens: This species was described from a male collected in "Perse" (presently Iran), without more detailed information. This specimen is preserved in the H. Brisout de Barneville collection at MNHN and was examined by Roudier (1966).

Synonyms: *Miarus distinctus flavus* was described from specimens collected at Ordubad (Nakhchivan, Azerbaijan). By the original description Roudier (1966) believed that this taxon might be synonymous with *C. salsosae*. After the examination of some type specimens, Smreczyński (1973) confirmed Roudier's opinion considering however *C. salsosae* (= *C. flavus*) as a subspecies of *C. distinctus*. We examined one paratype at NHMW and agree with Roudier's opinion.

Redescription: Length 3.5-4.3 mm. Habitus (Fig. 88). Body globose, stout (as in *C. distinctus*, Fig. 10). Integument black. Eyes flat. Rostrum long in male, very long in female (Rl/Rw male 7.0, female 11.0; Rl/Pl male 0.96, female 1.50), moderately curved in lateral view, cylindrical, of same width from base to apex (as in *C. distinctus*, Figs 31-32). Pronotum moderately transverse (Pw/Pl 1.35), subconical, with rounded sides, moderately convex. Elytra globose, short, slightly longer than wide (El/Ew 1.02), moderately wider than pronotum (Ew/Pw 1.28), at base distinctly directed foreward from interstria 5 to humeri, with rounded sides; interstriae covered with 3-4 irregular rows of subrecumbent, very dense, yellowish, seta-like scales. Metafemora with minute tooth, uncus of metatibiae in male distinctly enlarging at apex (Fig. 80). Penis as in *C. distinctus* (Fig. 47). Spiculum ventrale as in Fig. 60. Spermatheca as in *C. distinctus* (Fig. 72).

Remarks and comparative notes: This species is very closely related to *C. distinctus*, from which it differs by the usually yellowish in colour and denser dorsal vestiture, by the larger size, by the slightly stouter uncus of the metatibiae in the male. Other differences reported by Roudier (1966) after the examination of the male holotype of *C. salsosae* (longer rostrum, longer and distinctly conical pronotum, more robust tooth of metafemora) are variable and not useful for the separation of these two taxa.

Biology: This species was collected on *Salvia* sp. in Armenia (det. Colonnelli). However it is probable that this is not the host plant but only a refuge (see biological observations on *C. distinctus*).

Distribution: Armenia, Azerbaijan, Iran.

Non-type specimens examined: ARMENIA: Tiflis, 27.V.1880 (1, ZISP); 40 km N of Erevan, 27.V.1999, leg. Cristofaro (1, ECCR); Khosrov reserve, 12-13.VI.1998, leg. Kalashian (2, FTCM); Voyot Dzor reg., Noravank, 1460 m, 23.VI.2005, leg. Colonnelli (2, ECCR); Ekhegnadzor pass, 27.VI.2005, on *Salvia* sp., leg. Colonnelli (5, ECCR; 3, RCCM); Urtsadzor, 15.VI.2013, leg Štěpánek (2, APCF); Vayotsdzor reg., 15 km E of Vayk, 30.VI.2004, leg. Kalashian (5, HWCB; 2, RCCM); Khostrovakij zapoved near Vedi, 7.VI.1985, leg Strejček (1, JSCP). AZERBAIJAN: Ordubad, Arax river, 6.VII.1933, leg. Znoiko (7, ZISP); Arax river, Megri, 23.VI.1974, leg. Volkovich (1, ZISP).

***Cleopomiarus mandschuricus* (Voss, 1952)**

Miarus longirostris subsp. *mandschuricus* Voss, 1952: 199.

Miarus mandschuricus Voss. Egorov *et al.*, 1996: 484.
Cleopomiarus mandschuricus (Voss). Caldara, 2001: 188. Legalov, 2010: 112. Hong *et al.*, 2012: 75.

Type locality: Erzendjanzsy (north-eastern China).

Type specimens: This species was described from five specimens from Manchuria of the Frey collection: Erzendjanzsy (25.VI.1948), Maoerschan (12.VI.1950) and Baimaczsa (4.VI.1951). In that collection at NHMB we examined four syntypes: one male specimen labelled "Maoerschan, Mandschurei [printed], 12.VI.1950 [handwritten] / Miarus longirostris Gyll. ssp. n. mandschuricus [handwritten by Voss]" (lectotype here disignated); one female "Maoerschan, Mandschurei [printed], 12.VI.1950 [handwritten]", and two females "Erzendjanzsy, Mandschurei [printed], 25.VI.48 [handwritten]" (paralectotypes). The following red labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus longirostris subsp. mandschuricus Voss des. Caldara 2015" and "Cleopomiarus mandschuricus (Voss) Caldara det. 2015" were added to each of these specimens.

Redescription: Length 2.8-3.2 mm. Body globose, stout (as in *C. distinctus*, Fig. 10). Integument black. Eyes flat. Rostrum long in male, very long in female (Rl/Rw male 8.0, female 10.9; Rl/Pl male 1.17, female 1.50), weakly curved in lateral view, cylindrical, of same width from base to apex (as in *C. distinctus*, Figs 31-32). Pronotum distinctly transverse (Pw/Pl 1.42), subconical, with rounded sides, moderately convex. Elytra short, slightly longer than wide (El/Ew 1.06), moderately wider than pronotum (Ew/Pw 1.35), at base distinctly directed foreward from interstria 5 to humeri; interstriae covered with 3-4 irregular rows of recumbent to suberect, silvery greyish, seta-like scales. Metafemora with minute tooth, uncus of metatibiae in male moderately enlarging at apex (as in *C. kobanzo*, Fig. 81). Penis as in *C. distinctus* (Fig. 47). Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. distinctus* (Fig. 72).

Remarks and comparative notes: This species is very closely related to *C. kobanzo*, from which it differs only by the less dense dorsal vestiture, which is more erect and uniformly greyish without yellowish reflections. It is also very similar to *C. distinctus* and *C. kamiyai* from which it differs by the longer and less enlarged uncus of the metatibia at its apex in the male and by the slightly longer body of the penis.

Biology: No data are available.

Distribution: North-eastern China.

Non-type specimens examined: CHINA: Baimaczsa, 17.VI.1951 (5, NHMB); Harbin, 10.VII.1951 (1, NHMB); Erzendjanzsy (7, NHMB).

Cleopomiarus kobanzo (Kôno, 1930)

Miarus kobanzo Kôno, 1930: 148. Morimoto, 1959: 171. Egorov *et al.*, 1996: 483. Hong *et al.*, 2000: 53.
Cleopomiarus kobanzo (Kôno). Caldara, 2001: 188; Legalov, 2010: 112. Hong *et al.*, 2012: 77.

Type locality: Japan.

Type specimens: This species was described from two females collected in Japan without more precise indications of locality, which we did not examine. However, we followed Morimoto (1959) for the diagnosis of this taxon.

Redescription: Length 2.2-3.1 mm. Body globose, stout (as in *C. distinctus*, Fig. 10). Integument black. Eyes flat. Rostrum long in male, very long in female (Rl/Rw male 6.2, female 10.2; Rl/Pl male 1.07, female 1.50), almost straight in lateral view, cylindrical, of same width from base to apex (as in *C. distinctus*, Figs 31-32). Pronotum distinctly transverse (Pw/Pl 1.46), subconical, with rounded sides, moderately convex. Elytra globose, short, slightly longer than wide (El/Ew 1.02), moderately wider than pronotum (Ew/Pw 1.29), at base distinctly directed foreward from interstria 5 to humeri, with rounded sides; interstriae covered with 5-6 irregular rows of recumbent and partly moderately raised, greyish (partly with golden reflections), seta-like scales. Metafemora with minute tooth, uncus of metatibiae in male moderately enlarging at apex (Fig. 81). Penis as in Fig. 48. Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. distinctus* (Fig. 72).

Remarks and comparative notes: This species is very closely related to *C. mandschuricus* from which it differs only by the denser dorsal vestiture, which is arranged in 5-6 irregular rows and almost completely recumbent on each elytral interstria, and is greyish with light golden reflections. It can be distinguished from *C. distinctus* and *C. kamiyai* by the longer and less enlarged uncus of the metatibiae at its apex in the male. Moreover, from *C. distinctus* it differs by the somewhat longer body of the penis, and from *C. kamiyai* by the light dorsal vestiture and the slightly longer body of the penis.

Biology: No data are available.

Distribution: Japan (Honshū Island), South Korea, Russia (South of Far East).

Non-type specimens examined: RUSSIA: Amur Prov., Blagoveshensk Distr., Mukhinka, 6.VI.1996, leg. Malikova (1, ISEA). Primorskii krai, Benevskoe, 30 km S of Lazo, 20.VII.1993, leg. Jindra & Trýzna (1, JSCP); Primorskii krai, Hasan, Dove Hill, 5.-8.VII.1990, leg. Kasantsev (2, NHMB); Primorkii krai, Kamen Rybolov, 22.-26.VII.1991, leg. Ferkac (3, NHMB); Primorskii krai, Khasanskii Distr., Vitjaz', 25.VII-2.VIII.2000, leg. Krivets (1, RCCM); Primorskii krai, Tigrovi 80 km E of Vladivostok, 26.VII-4-VIII-2009, legg. L. & M. Bartolozzi (1, ECCR); Vladivostok, 4.VIII.1984, leg. Misherikov (1, ZISP); Vladivostok, Sedanka, 13.V.1990. leg. Kuznetsov (1, HWCB); Lazovskii Res., Amerika cardon, 18-20.VII.2005, leg. Shokhrin (1, ISEA).

Cleopomiarus kamiyai (Morimoto, 1959)

Miarus kamiyai Morimoto, 1959: 192.
Cleopomiarus kamiyai (Morimoto). Caldara, 2001: 188.

Type locality: Kanayama (Yamanashi Pref., Japan).

Type specimens: This species was described from 17 specimens from Nagano and Yamanashi Prefectures in Honshū Island. We examined a few specimens from Japan partly identified by Y. Notsu, corresponding exactly to the original description.

Redescription: Length 3.0-3.2. Body globose, stout (as in *C. distinctus*, Fig. 10). Integument black. Eyes flat. Rostrum long in male, very long in female (Rl/Rw male 5.8, female 11.5; Rl/Pl male 1.21, female 1.40), weakly curved in lateral view, cylindrical, of same width from base to apex (as in *C. distinctus*, Figs 31-32). Pronotum moderately transverse (Pw/Pl 1.40), subconical, with moderately rounded sides, moderately convex. Elytra globose, short, as long as wide wide (El/Ew 0.98), moderately wider than pronotum (Ew/Pw 1.39), at base distinctly directed foreward from interstria 5 to humeri, with rounded sides; interstriae covered with 3-4 irregular rows of subrecumbent, brown, seta-like scales. Metafemora with minute tooth, uncus of metatibiae in male moderately enlarged at apex (as in *C. vestitus*, Fig. 78). Penis as in Fig. 49. Spiculum ventrale as in *C. graminis* (Fig. 58). Spermatheca as in *C. distinctus* (Fig. 72).

Remarks and comparative notes: As reported by Morimoto (1959) this species is very closely related to *C. kobanzo*, from which it differs by the dorsal vestiture composed of brown scales and the slightly slender and elongate body of the penis. Morimoto (1959) wrote also that *C. kamiyai* is distinguishable from *C. kobanzo* by the less elongate scales on the pronotum in comparison with those of the elytra and the scutellum slightly longer than wide, but we could not confirm these differences. On the contrary *C. kamiyai* differs from *C. kobanzo* also by the distinctly stouter and enlarged uncus of metatibiae at its apex in the male, a character not considered by Morimoto.

Distribution: Japan (Honshū Island).

Non-type specimens examined: JAPAN: Japan (1, BMNH); Mt. Dalbosatu, Yamanasl, 12.-13.VII.1969, leg. Takizawa (1, RCCM); Kanagawa Pref., West Tanzawa, 20.VI.1982, leg. Notsu (6, RCCM).

***Cleopomiarus afghanus* sp. nov.**

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Type locality: Kabul (Afghanistan).

Type series: Holotype, male "Afghanistan, pres Kaboul, 5.VI.1966, M. Donskoff rec." (MNHN).

Description: Male. Length 3.0 mm. Habitus (Fig. 89). Body moderately slender (Fig. 13). Integument black, except antennae, tibiae and tarsi brown. Eyes slightly convex. Rostrum slender, moderately long (Rl/Rw 6.0; Rl/Pl 0.70), in lateral view moderately curved in basal third then almost flat, cylindrical, of same width from base to apex (Fig. 36). Pronotum weakly transverse (Pw/Pl 1.26), subconical, with moderately rounded sides, moderately convex. Elytra subrectangular, somewhat short, moderately longer than wide (El/Ew 1.15), moderately wider than pronotum (Ew/Pw 1.33), almost flat on disc, at base moderately directed foreward from interstria 5 to humeri, with weakly rounded sides; interstriae covered with 4-5 irregular rows of long, dense, subrecumbent to erect, whitish, seta-like scales. Metafemora with minute tooth, uncus of metatibiae pointed at apex (as in *C. plantarum*, Fig. 75). Penis as in Fig. 52.

Female unknown.

Etymology: The Latin adjective refers to the country, Afghanistan, where the species was collected.

Remarks and comparative notes: This species is easily distinguishable from all other Palaearctic species by the shape of the rostrum and the rectangular elytra covered with dense, mainly suberect, whitish scales, and by the shape of the penis.

***Cleopomiarus hispidulus* (LeConte, 1876)**

Miarus hispidulus LeConte, 1876: 221. Franz, 1947: 241. Anderson, 1964: 21; 1973: 134, 139.
Cleopomiarus hispidulus (LeConte). Pierce, 1919: 35. Caldara, 2001: 188.
Miarus hispidulus Reitter, 1907: 46 (non LeConte, 1876). Bovie, 1909: 17. Franz, 1947: 241. Anderson, 1964: 21. Caldara, 2013: 53.
Miarus hispidus Bovie, 1909: 17. Anderson, 1964: 21.
Cleopomiarus hispidus (Bovie). Caldara, 2013: 53.
Miarus consuetus Casey, 1910: 143. Anderson, 1964: 21.
Miarus illini Casey, 1910: 144. Pierce, 1919: 35. Anderson, 1964: 21.
Miarus nanus Casey, 1910: 144. Pierce, 1919: 35. Anderson, 1964: 21.
Miarus puritanus Casey, 1910: 143. Pierce, 1919: 35. Anderson, 1964: 21.

Type locality: Illinois (U.S.A).

Type specimens: Lectotype (des. Anderson) and three paralectotypes in the LeConte collection at MCZN (Anderson 1964).

Synonyms: Reitter (1907) described *Miarus hispidulus* from specimens apparently collected in Andalusia and named as *hispidulus* by Strobl. Two years later Bovie (1909), realizing that the name used by Reitter was preoccupied in the genus *Miarus* by *hispidulus* LeConte, proposed the name *hispidus* for Reitter's species. However Franz (1947), after a detailed discussion, observed that Strobl identified some specimens which he collected in Pennsylvania as *C. hispidulus* LeConte and that the specimens examined by Reitter were erroneously labelled as collected in Spain. He concluded that Reitter's species is the same of LeConte's species and that *C. hispidulus* does not live in Spain. We examined two male syntypes of *M. hispidulus* Reitter (HNHM), already examined by Franz, and confirmed that this species is the same of *C. hispidulus* LeConte from U.S.A. They are labelled "Andalusia leg. Strobl / Holotypus 1907 Miarus hispidulus Reitter / M. hispidulus m. Span. m. / Typus Miarus hispidulus Reitt. Coll. Reitter / Coll. Reitter" (lectotype) and "Andalusia leg. Strobl / Paratypus 1907 Miarus hispidulus Reitter / Typus Miarus hispidulus Reitt. Coll. Reitter / Coll. Reitter" (paralectotype) respectively. The following labels "LECTOTYPUS (or PARALECTOTYPUS) Miarus hispidulus Reitter des. Caldara 2015" and "Cleopomiarus hispidulus (LeConte) Caldara det. 2015" were added to these specimens Therefore the use of the name *hispidus* proposed by Bovie (1909) and accepted by Caldara (2013) is unnecessary.
The synonymies between the four Casey's taxa and *C. hispidulus* were carefully discussed by Anderson (1964).

Redescription: Length 2.6-2.8 mm. Habitus (Fig. 90). Body moderately stout (Fig. 12). Integument black. Eyes flat. Rostrum moderately long in male, somewhat longer in female (Fig. 34) (Rl/Rw male 10.0, female 12.0; Rl/Pl male 1.13, female 1.25), distinctly curved in lateral view, cylindrical, of same width from base to apex, poorly sexually dimorphic. Pronotum moderately transverse (Pw/Pl 1.30), subconical, with rounded sides, moderately

convex. Elytra subglobose, moderately longer than wide (El/Ew 1.15), moderately wider than pronotum (Ew/Pw 1.27), at base slightly directed forward from interstria 5 to humeri; with moderately rounded sides, interstriae covered with 1-2 rows of moderately long, erect, whitish and light brown, seta-like scales. Femora without tooth, uncus of metatibiae in male moderately enlarged at apex (as in *C. vestitus*, Fig. 78). Penis as in Fig. 51. Spiculum ventrale as in Fig. 61. Spermatheca as in Fig. 73.

Remarks and comparative notes: This species differs from the other American species, *C. erebus*, by the less elongate hair-like scales on the dorsum, the less transverse pronotum, and the more globose elytra, which are only moderately longer than wide, and by the male and female genitalia.

Biology: Larvae and pupae, described although briefly by Anderson (1973), were collected in seed capsules of species belonging to the genus *Lobelia* (*L. cardinalis*, *L. inflata*, *L. siphilitica*) (Parachnowitsch & Caruso 2008; Parachnowitsch *et al.* 2012).

Distribution: This species is widely distributed in the U.S.A. (O'Brien & Wibmer 1982).

Non-type specimens examined: U.S.A.: Indiana, Putnam Co. (2, BMNH); Pennsylvania, leg. Strobl (1, NHMW).

Cleopomiarus erebus (Casey, 1910)

Miarus erebus Casey, 1910: 142, 143. Anderson, 1964: 22.
Miarus (*Cleopomiarus*) *erebus* Casey. Pierce, 1919: 35.
Cleopomiarus erebus (Casey). Caldara, 2001: 188.

Type locality: Colonia Carcia (Sierra Madre Mts., Chihuahua, Mexico).

Type specimens: Anderson (1964) examined five specimens of the type series at USNM and designated the lectotype.

Redescription: Length 2.5-2.7 mm. Body moderately slender (Fig. 13). Integument black. Eyes weakly convex. Rostrum long in male, moderately longer in female (Fig. 35) (Rl/Rw male 7.42, female 9.0; Rl/Pl male 1.18, female 1.27), distinctly curved in lateral view, cylindrical, of same width from base to apex, poorly sexually dimorphic. Pronotum distinctly transverse (Pw/Pl 1.50), subconical, with rounded sides, moderately convex. Elytra subrectangular, moderately long (El/Ew 1.20), moderately wider than pronotum (Ew/Pw 1.36), at base slightly directed forward from suture to humeri; interstriae covered with 2-4 irregular rows of distinctly long, erect, whitish and light brown, hair-like scales. Femora without tooth, uncus of metatibiae in male moderately enlarged at apex (as in *C. vestitus*, Fig. 78). Penis as in Fig. 50. Spiculum ventrale as in Fig. 62. Spermatheca as in Fig. 74.

Remarks and comparative notes: This species differs easily from the other American species, *C. hispidulus*, by the distinctly more elongate hair-like scales on the dorsum, the more transverse pronotum, the subrectangular elytra, and the shape of the male and female genitalia.

Distribution: Mexico.

Non-type specimens examined: MEXICO: Mexico (1, BMNH); Ciudad, Durango, leg. Forrer (1, BMNH); Ciudad, 8100 ft., leg Forrer (1, BMNH).

Key to the species of *Cleopomiarus*

A. Nearctic species....1
B. Palaearctic species....2
1. Elytra subglobose. Pronotum moderately transverse. Vestiture of dorsum formed by moderately long seta-like scales (Figs 12, 90) ....*C. hispidulus* (LeConte)
– Elytra rectangular. Pronotum distinctly transverse. Vestiture of dorsum formed by longer hair-like scales (Fig. 13)....*C. erebus* (Casey)
2. Elytra subrectangular, longer than wide (Figs 1, 3, 8, 11) 3
– Elytra globose, nearly as long as wide 6
3. Body size larger (length 3.5-5.0 mm) (Fig. 86). Rostrum very long (Figs 21-22)……*C. medius* Desbrochers des Loges
– Body size smaller (length < 3.0 mm). Rostrum moderately long 4
4. Elytra covered with dense, mainly suberect to erect scales (Figs 11, 89)……*C. afghanus* **sp. nov.**
– Elytra covered with less dense, mainly recumbent to subrecumbent scales (Figs 1, 3) 5
5. Pronotum slightly wider than long, moderately narrower than elytra, with mainly erect, longer scales (clearly visible in lateral view) (Fig. 1). Elytral interstriae covered with 1-2 partly irregular rows of scales. Metafemora with minute tooth. Rostrum poorly sexually dimorphic (Fig. 14) .... *C. plantarum* (Germar)
– Pronotum distinctly wider than long, slightly narrower than elytra, with mainly recumbent to subrecumbent, short scales (Fig. 3). Elytral interstriae covered with single regular row of scales. Metafemora without tooth. Rostrum distinctly sexually dimorphic (Figs 16-17)……..*C. meridionalis* (H. Brisout de Barneville)
6. Rostrum stout, short, distinctly tapered from antennal insertion to apex (Figs 25-26). Habitus, Fig. 85 ....*C. flavoscutellatus* (Morimoto)
– Rostrum slender, moderately to distinctly long, not distinctly tapered from antennal insertion to apex 7
7. Metafemora with moderately robust tooth 8
– Metafemora without or at most with small tooth 11
8. Rostrum very long especially in female (Figs 29-30) ....*C. longirostris* (Gyllenhal)
– Rostrum shorter in both sexes (Figs 23-24, 27-28)....9
9. Rostrum distinctly curved in apical half (Figs 23-24)....*C. ruscinonensis* (Roudier & Tempère)
– Rostrum less curved in apical half (Figs 27-28) 10
10. Uncus of metatibiae in male pointed at apex and directed inward (Fig. 77)....*C. graminis* (Gyllenhal)
– Uncus of metatibiae in male enlarged at apex and directed outward (as in *C. distinctus*, Fig. 79; habitus, Fig. 87) .... *C. caucasicus* **sp. nov.**
11. Rostrum in female only moderately longer than in male 12
– Rostrum in female distinctly longer than in male 16
12. Rostrum distinctly curved in both sexes (Fig. 20). Habitus, Fig. 84.....*C. vestitus* (Roelofs)
– Rostrum moderately curved or almost straight 13
13. Body size larger (length 3.0-3.4 mm). Elytra always reddish (Fig. 83). Rostrum, Figs 18-19……*C. marseuli* (Coye)
– Body size smaller (length < 2.5 mm). Elytra black, rarely brown. Rostrum differently shaped....14

14. Rostrum in female distinctly different in shape than in male (as in *C. meridionalis*, Figs 16-17). Elytral vestiture with a single row of scales (Fig. 82) .....*C. reitteri* **sp. nov.**
– Rostrum in female slightly different in shape than in male. Elytral vestiture with 3-4 irregular rows of scales 15
15. Body slightly longer than wide (Fig. 2). Rostrum in lateral view slightly angulate at antennal insertion along upper margin, shorter and in female only longer than in male (Fig. 15)……...*C. micros* (Germar)
– Body more globose, nearly as long as wide (as in *C. distinctus*, Fig. 10). Rostrum in lateral view not angulate at antennal insertion along upper margin, longer and in female (Fig. 33) distinctly longer than in male .....*C. persimilis* (Smreczyński)
16. Uncus of metatibiae in male with apex truncate and directed outward (Figs 79-80).....17
– Uncus of metatibiae in male with apex truncate but almost rectilinear (Figs 78, 81).....18
17. Uncus of metatibiae in male distinctly stout (Fig. 80). Vestiture yellowish with golden reflections (Fig. 88) .....*C. salsosae* (H. Brisout de Barneville)
– Uncus of metatibiae in male moderately slender (Fig. 79). Vestiture greyish with more or less distinct silvery reflections .....*C. distinctus* (Boheman)
18. Uncus of metatibiae in male distinctly stout (as in *C. vestitus*, Fig. 78)……*C. kamiyai* (Morimoto)
– Uncus of metatibiae in male moderately slender (Fig. 81) 19
19. Dorsal vestiture dense, on elytral interstriae arranged in 5-6 irregular rows almost completely recumbent, greyish with light golden reflections .....*C. kobanzo* (Kôno)
– Dorsal vestiture less dense, on elytral interstriae arranged in 2-4 irregular rows, mainly suberect, greyish without golden reflections.....*C. mandschuricus* (Voss)

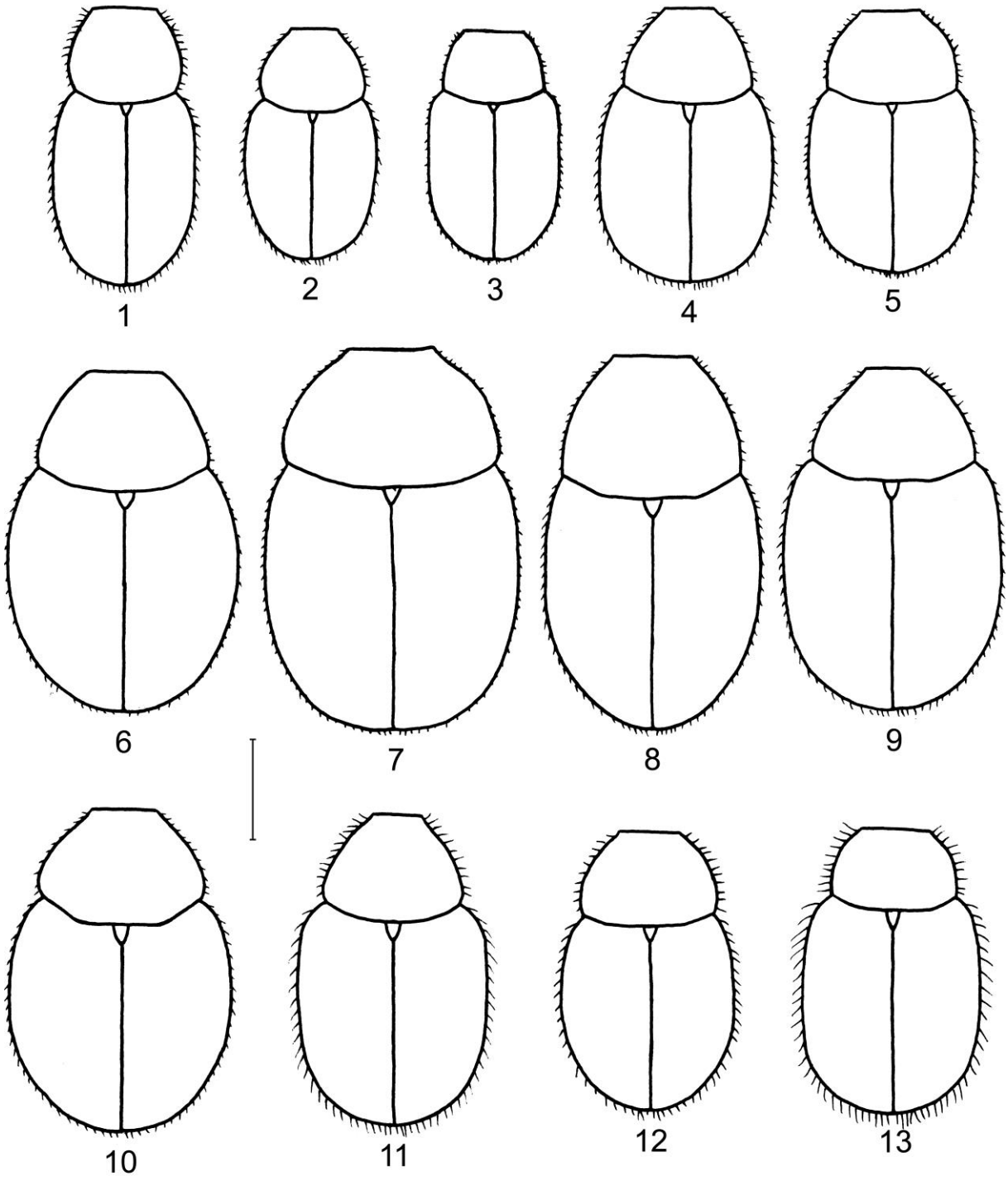
Discussion

With this paper, which follows the revision of the Afrotropical species (Caldara 2005), all the species of *Cleopomiarus* of the world are now reviewed. Altogether 44 species are recognised as valid in the genus, 19 of them Palaearctic, two Nearctic and 23 Afrotropical.

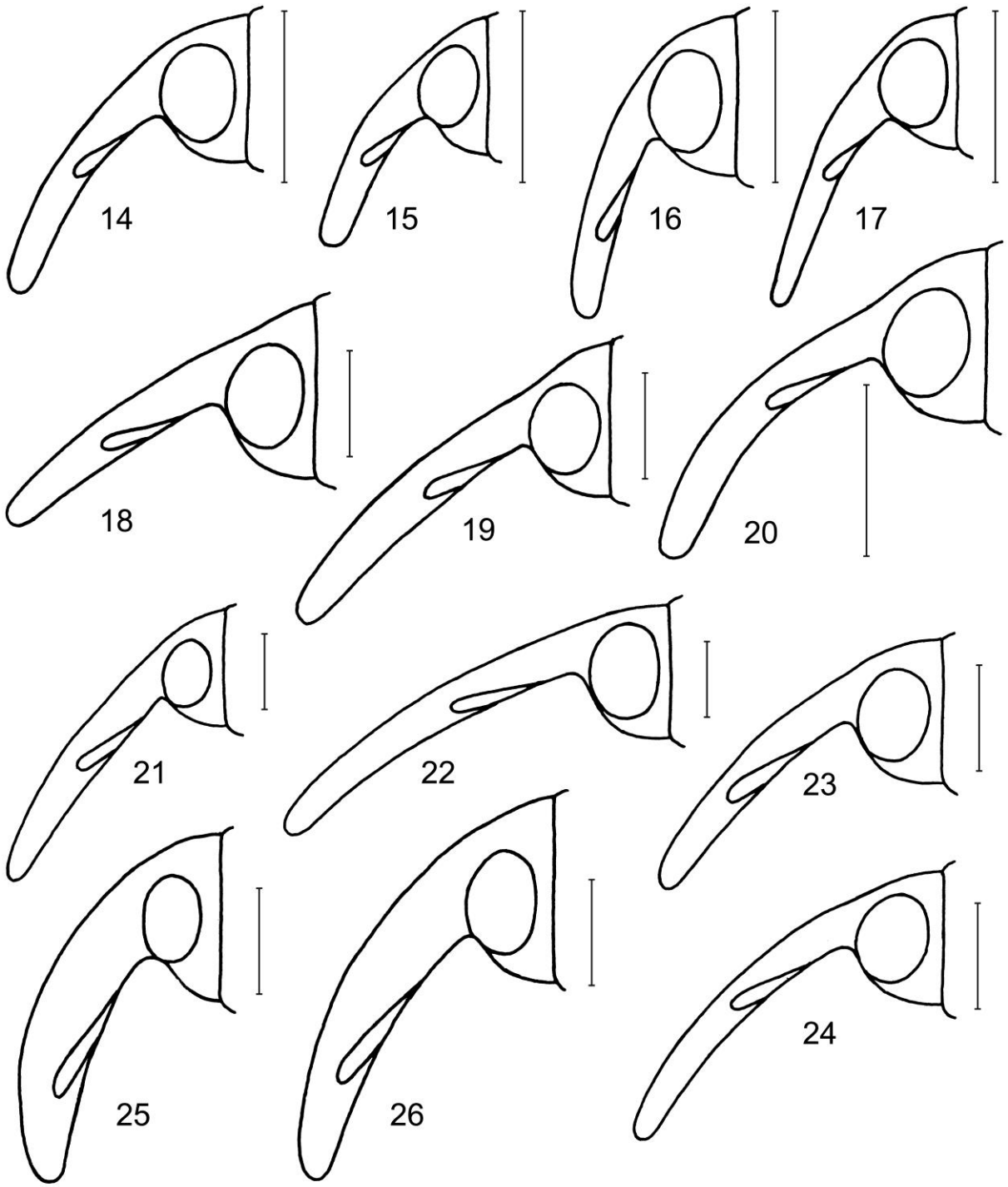
It is now possible to identity a number of synapomorphies that allow a clear distinction of *Cleopomiarus* and its sister group, the genus *Miarus*, from all other Mecinini as considered in the tree proposed by Caldara (2001). They are:

1. A deep prosternal canal present.
2. The procoxal cavities separated.
3. The mesosternal process distinctly broad, as wide as a mesocoxa.
4. The median portion of the metasternum with a distinct fovea in anterior two-thirds.
5. The scales covering part of prosternum, mesosternal process and sides of metasternum distinctly plumose, forked to five-forked.
6. Tarsal claws free, not fused at their bases.
7. Host plants in the family Campanulaceae.

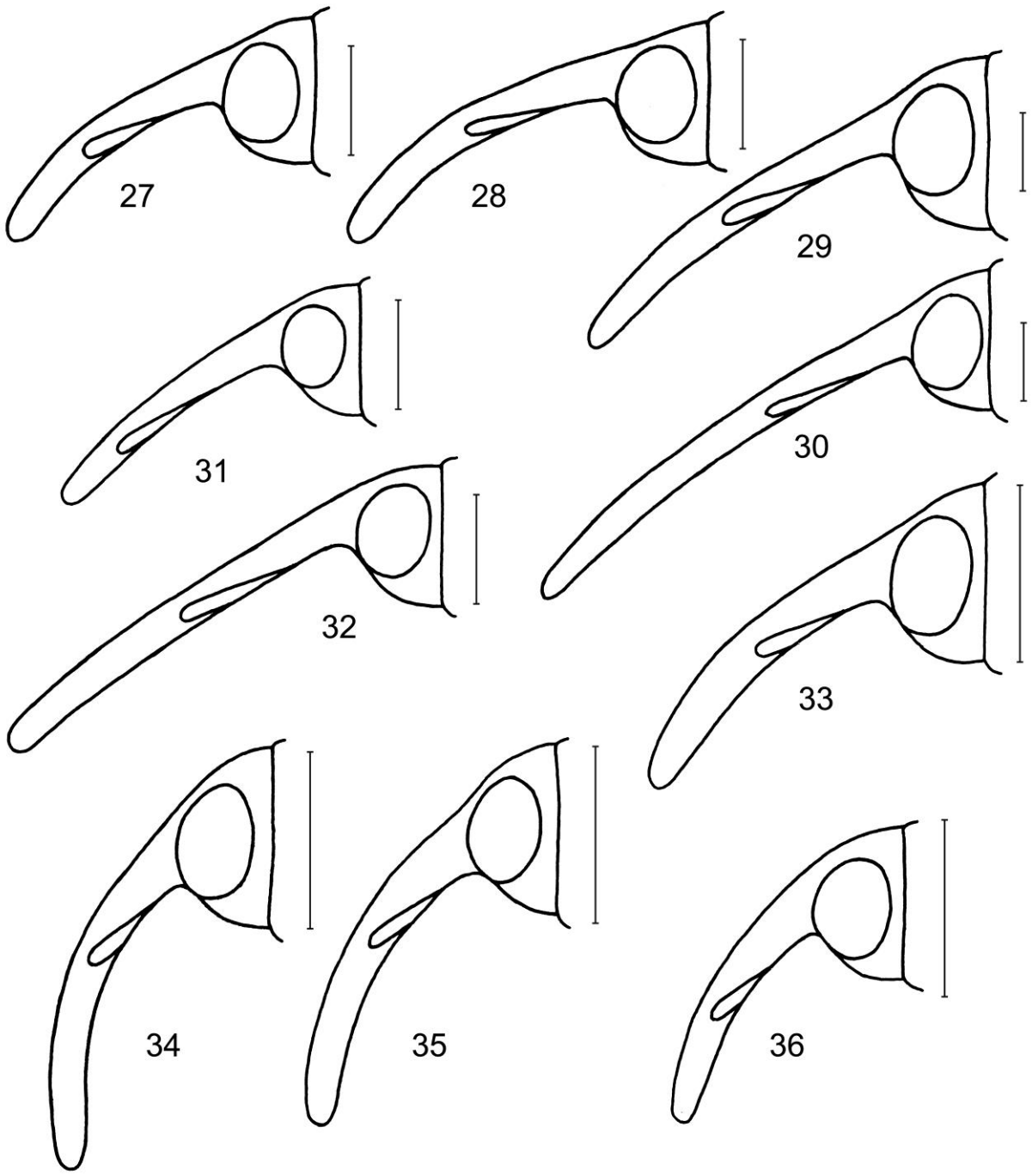
It is important to emphasize that characters 2–4 are often linked to character 1 and also occur in weevils of other tribes of Curculioninae – such as Cionini, which seem to be the sister group of Mecinini (Caldara & Korotyaev 2002) – and of different subfamilies. The ancestor of *Cleopomiarus* and *Miarus* is likely to have possessed in the male genitalia a sclerotized flagellum, more or less forked at its base, and a basal stick-shaped sclerite, as both these structures are present in most *Cleopomiarus* species but only in the most basal species of *Miarus*, *M. afer* Daniel, 1912 (Caldara 2007). The species of *Cleopomiarus* also appear to possess other more plesiomorphic character states than occur in *Miarus*, e.g., sharing the



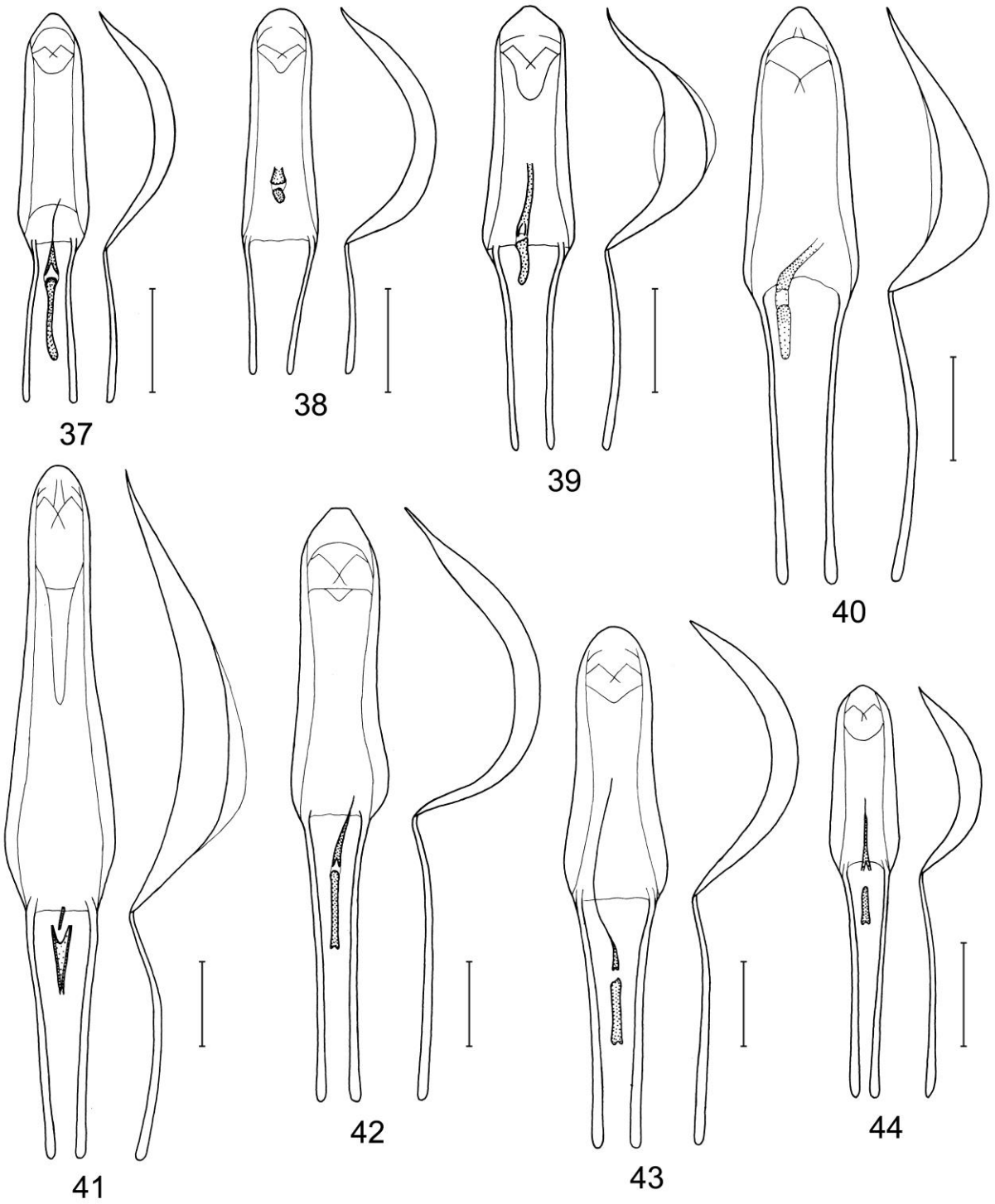
Figures 1–13. Profiles of *Cleopomiarus*. **1,** *C. plantarum*; **2,** *C. micros*; **3,** *C. meridionalis*; **4,** *C. reitteri*; **5,** *C. vestitus*; **6,** *C. flavoscutellatus*; **7,** *C. marseuli*; **8,** *C. medius*; **9,** *C. graminis*; **10,** *C. distinctus*; **11,** *C. afghanus*; **12,** *C. hispidulus*; **13,** *C. erebus*. Scale bar 1.0 mm.



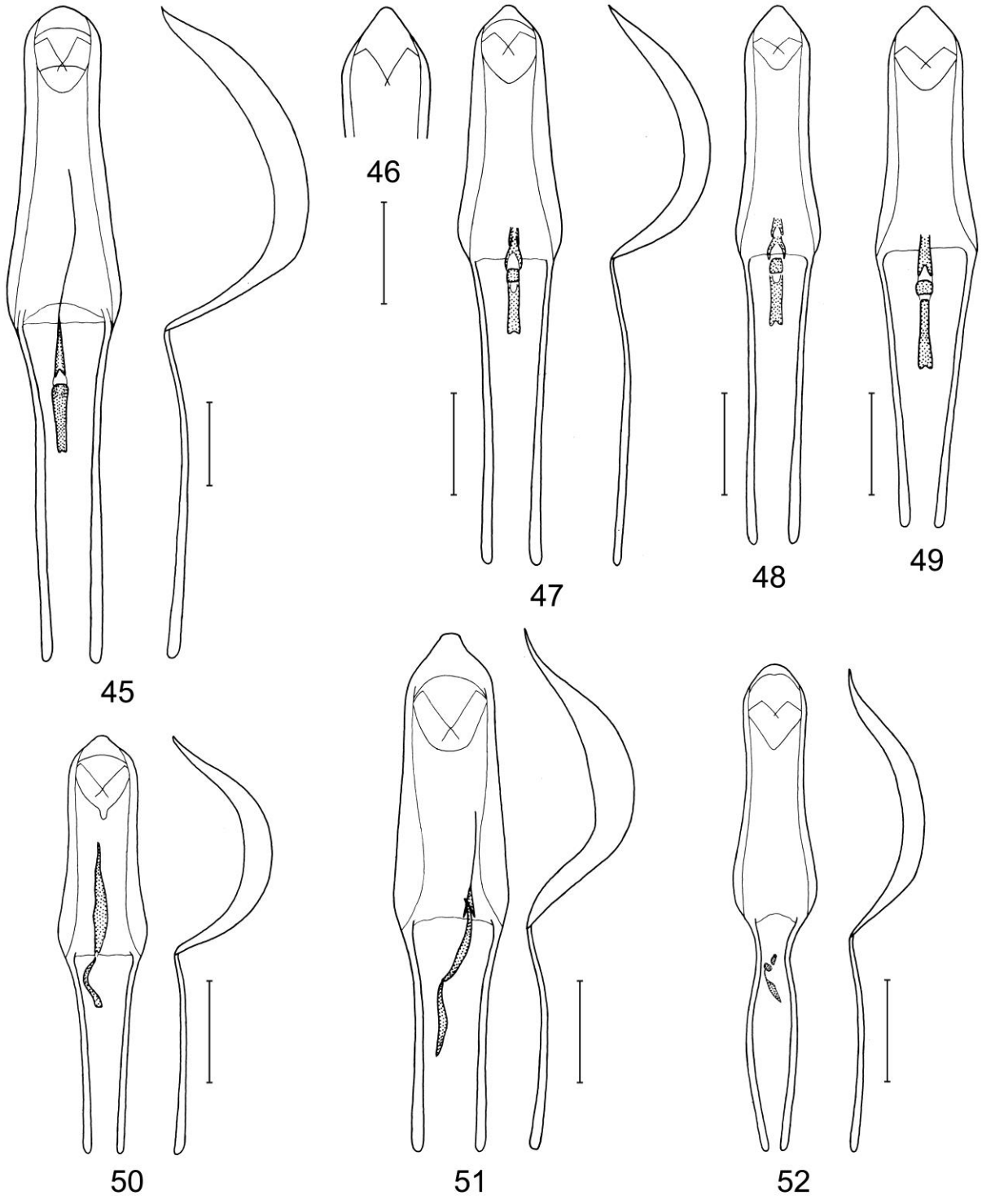
Figures 14–26. Rostrum of *Cleopomiarus*. **14,** *C. plantarum* ♂; **15,** *C. micros* ♂; **16,** *C. meridionalis* ♂; **17,** idem ♀; **18,** *C. marseuli* ♂; **19,** idem ♀; **20,** *C. vestitus* ♂; **21,** *C. medius* ♂; **22,** idem ♀; **23,** *C. graminis* ♂; **24,** idem ♀; **25,** *C. flavoscutellatus* ♂; **26,** idem ♀. Scale bar 0.5 mm.



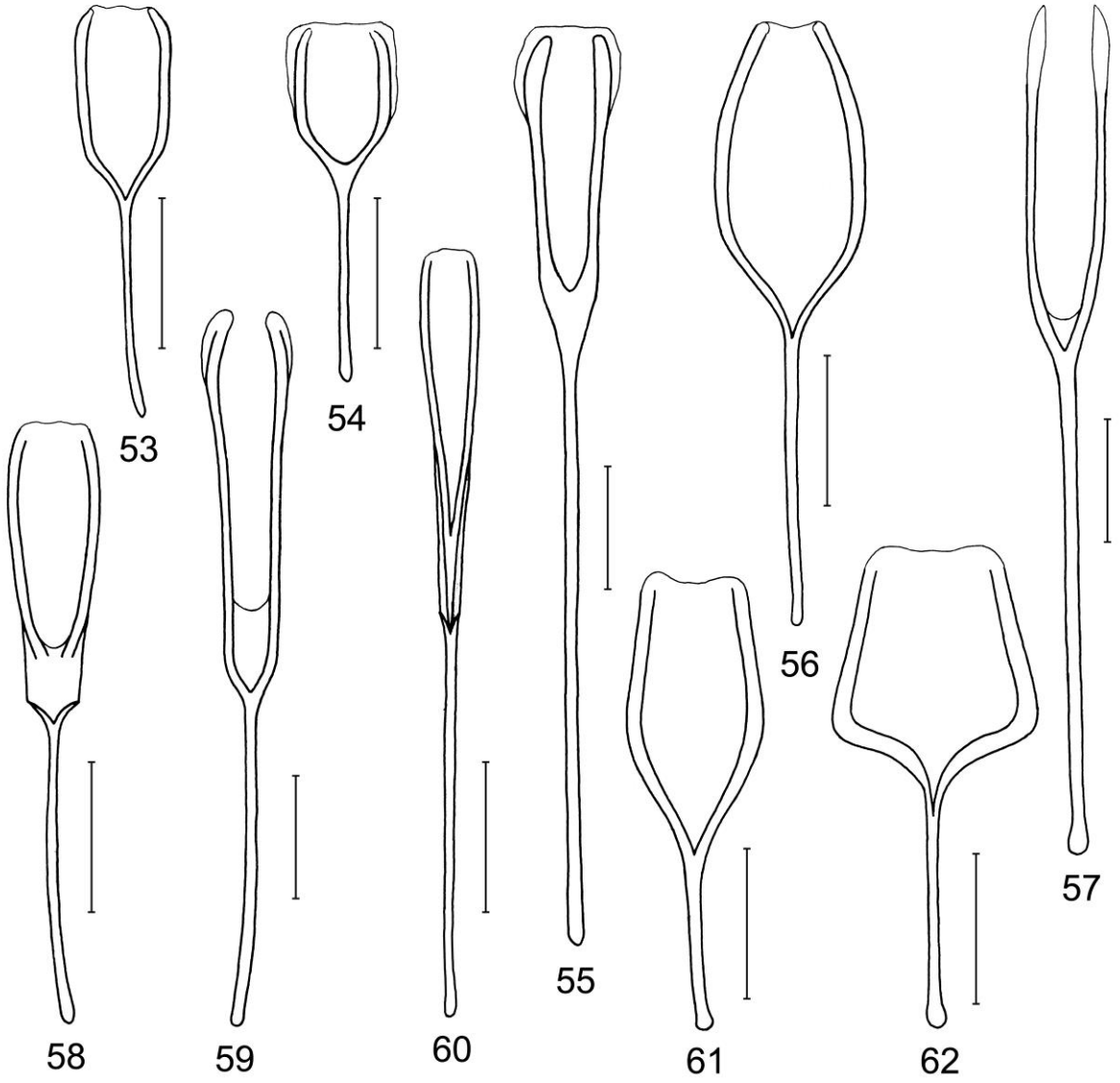
Figures 27–36. Rostrum of *Cleopomiarus*. **27,** *C. ruscinonensis* ♂; **28,** idem ♀; **29,** *C. longirostris* ♂; **30,** idem ♀; **31,** *C. distinctus* ♂; **32,** idem ♀; **33,** *C. persimilis* ♀; **34,** *C. hispidulus* ♀; **35,** *C. erebus* ♀; **36.** *C. afghanus* ♂. Scale bar 0.5 mm.



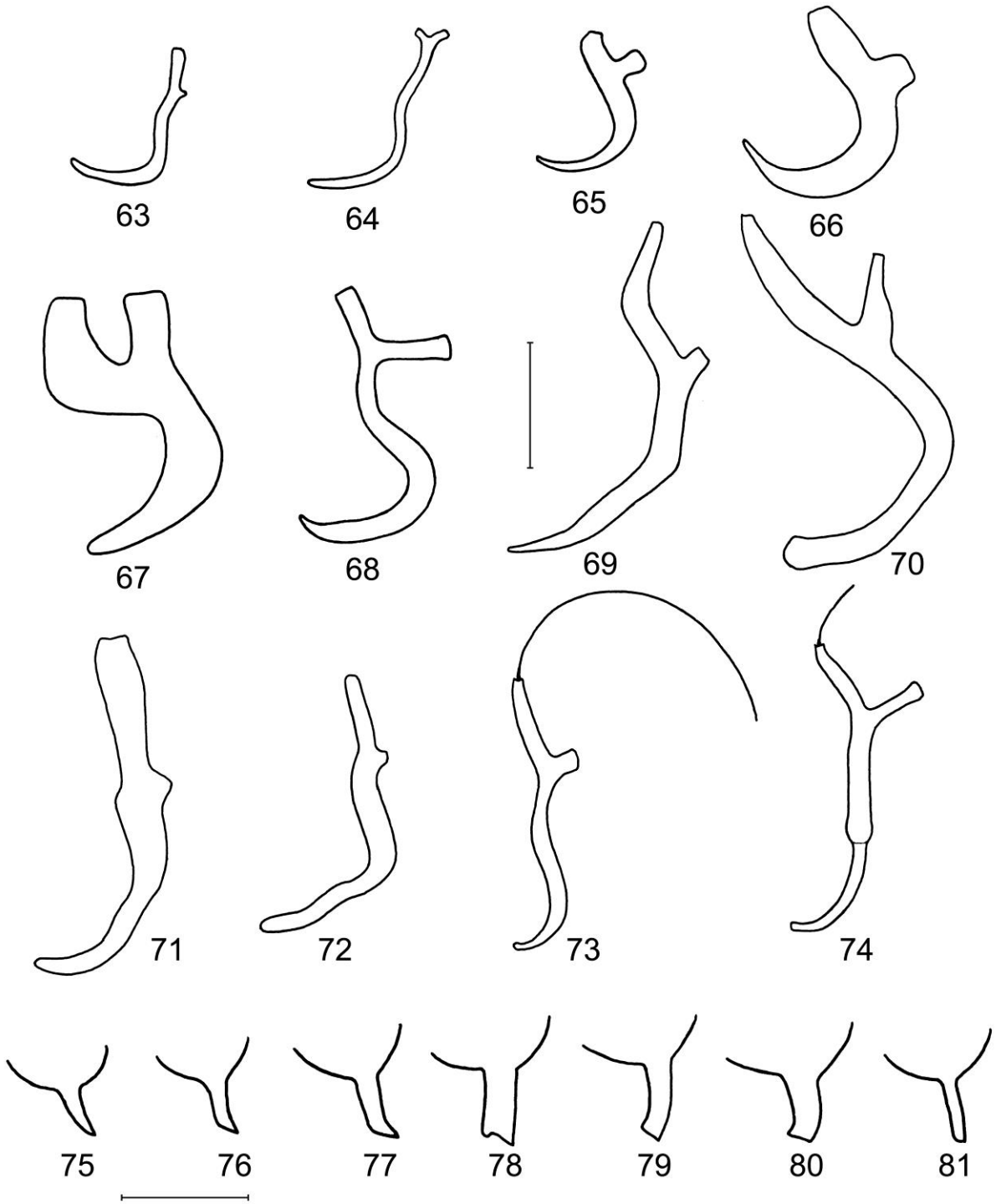
Figures 37–44. Penis of *Cleopomiarus*. **37,** *C. plantarum*; **38,** *C. micros*; **39,** *C. meridionalis*; **40,** *C. reitteri*; **41,** *C. marseuli*; **42,** *C. medius*; **43,** *C. flavoscutellatus*; **44,** *C. vestitus*. Scale bar 0.25 mm.



Figures 45–**52.** Penis of *Cleopomiarus*. **45,** *C. longirostris*; **46,** *C. caucasicus*; **47,** *C. distinctus*; **48,** *C. kobanzo*; **49,** *C. kamiyai*; **50,** *C. erebus*; **51,** *C. hispidulus*; **52,** *C. afghanus*. Scale bar 0.25 mm.



Figures 53–62. Spiculum ventrale of *Cleopomiarus*. **53,** *C. plantarum*; **54,** *C. micros*; **55,** *C. marseuli*; **56,** *C. flavoscutellatus*; **57,** *C. medius*; **58,** *C graminis*; **59,** *C. longirostris*; **60,** *C. salsosae*; **61,** *C. hispidulus*; **62,** *C. erebus*. Scale bar 0.25 mm.



Figures 63–**81.** Spermatheca and uncus of male metatibiae of *Cleopomiarus*. **63,** *C. plantarum*; **64,** *C. micros*; **65,** *C. meridionalis*; **66,** *C. reitteri*; **67,** *C. marseuli*; **68,** *C. vestitus*; **69,** *C. flavoscutellatus*; **70,** *C. medius*; **71,** *C. graminis*; **72,** *C. distinctus*; **73,** *C. hispidulus*; **74,** *C. erebus*; **75,** *C. plantarum*; **76,** *C. meridionalis*; **77,** *C. graminis*; **78,** *C. vestitus*; **79,** *C. distinctus*; **80,** *C. salsosae*; **81** *C. kobanzo*. Scale bar 0.1 mm.

Figures 82–90. Habitus of *Cleopomiarus*. **82,** *C. reitteri*; **83,** *C. marseuli*; **84,** *C. vestitus*; **85,** *C. flavoscutellatus*; **86,** *C. medius*; **87,** *C. caucasicus*; **88,** *C. salsosae*; **89,** *C. afghanus* **90,** *C. hispidulus*. Not at the same scale.

shape of the penis with many other Mecinini, and some species lack synapomorphies. Presently we have not found synapomorphies which allow one to assemble all the species included in this genus. Therefore, this genus might be paraphyletic. However, preliminary molecular data seems to support the conclusion that both genera might be monophyletic (I. Toševski pers. com.). In contrast, *Miarus* possesses a series of autapomorphies in the pygidium of the male and the male and female genitalia (Caldara 2001, 2007).

Many species of Palaearctic *Cleopomiarus* are very similar to each other, and need further investigation, possibly by a support of molecular studies. Some of them actually can be considered cryptic species, if not synonyms – primarily *C. longirostris* and *C. ruscinonensis* with *C. graminis*, and *C. mandschuricus*, *C. kamiyai* and *C. kobanzo* with *C. distinctus* –, as they are distinguishable from each other only by very few external characters, such as the shape of rostrum and elytra, the dorsal vestiture, the presence of femoral teeth and the shape of the uncus of the metatibiae in the male. Two of these characters need further elucidation:

A. Shape and length of rostrum. Some species of *Cleopomiarus* are currently distinguished almost exclusively on the different curvature and length of their rostrum (see *C. graminis* vs. *C. ruscinonensis* vs. *C. longirostris* and *C.distinctus* vs. *C. persimilis* and *C. mandschuricus*), especially of the female. However, these characters are known to be somewhat variable in different populations of some species (e.g., *C. distinctus*). It is well known that in the females of many Curculionoidea the rostrum plays an important role in the preliminary phase of the oviposition. Its length and curvature must accord with the structure of the host plant organs into which the eggs are laid, which in *Cleopomiarus* is probably the depth of the ovules or that of the pericarp enveloping the ovules. This hypothesis is supported by the positive correlation between the length of the rostrum and that of the ovipositor, as well demonstrated in *C. longirostris* and *C. medius* (see Figs 57 and 59) and observed in *C. distinctus* (Caldara unpublished data). A co-evolutionary scenario of adaptive rostrum length was recently discussed by Caldara (2014) for a group of species of *Rhinusa*, a genus related to *Cleopomiarus*, in which rostral length differs in the same species in adaptation to feeding on different host plants and even on the same host plant. The length of the rostrum must therefore be used with prudence in the differentiation of species. The shape of the rostrum of the female is particularly variable in *C. distinctus*, but it is impossible to delineate different species on this variation. This is true especially in the southern area of the distribution of the species, in Greece and Turkey, where the number of species of *Campanula*, on which these species might live, is extremely high (about 100).

B. Shape of uncus of metatibiae in male. In Mecinini in general, but also in more or less closely related tribes of Curculioninae, the uncus of the metatibiae has the same shape of those of the other tibiae and is pointed at the apex, although often distinctly smaller. An exception are two closely related species of *Gymnetron*, *G. vittipenne* Marseul, 1876 and *G. anagallis* Marshall, 1933, in which the metatibial unci are distinctly enlarged (Caldara 2008). In several species of *Cleopomiarus* the uncus of the metatibiae of the male is not pointed but more or less angularly enlarged at its apex, sometimes curved outwards. This character seems to be consistent in every species, and therefore some species are here considered distinct mainly based on it (see *C. mandschuricus*, *C. kobanzo* and *C. kamiyai* vs. *C. distinctus*). However, due to the various degrees of enlargement this character is not useful phylogenetically.

Also the genitalia show few apomorphic character states useful for a phylogenetic analysis of relationships between the species:

1. Spermatheca with body sinuate, not hook-shaped.

2. Endophallus at base with a stick-shaped sclerite, usually enlarged at one or both extremities.
3. Endophallus at base with an elongate, basally pointed, more or less curved to sinuous sclerite.

An attempt to perform a phylogenetic tree on the basis of the above mentioned external and genital characters was unfortunately unsuccesful and the result was only that of many unresolved politomies. However, on the basis of the three character states of the genitalia four assemblages of species could be recognised, which we term "complex" when there are no obvious apomorphies and "group" and "clade" when there are apomorphies that can identify them as possible monophyletic groups.

***C. plantarum* complex.** These species retain the plesiomorphic states of the shape of the spermatheca (hook-shaped) and of the basal sclerite of the endophallus (stick-shaped, usually enlarged at one or both extremities). This assemblage of species lacks apomorphic characters and may therefore be paraphyletic. It is composed of six Palaearctic species (*C. plantarum*, *C. micros*, *C. meridionalis*, *C. reitteri*, *C. marseuli* and *C. vestitus*) and eight Afrotropical species (Caldara 2007), the latter including two monophyletic groups characterized respectively by very long seta-like scales of the dorsal vestiture and the presence of a distinct tooth on the mesofemora. Among the six Palaearctic species, *C. meridionalis* and *C. reitteri* appear to be sister species due to the characteristic shape of the penis. *C. marseuli*, which is similar in habitus to *C.reitteri*, is distinctly different from all others in its very elongate penis and the uncommon shape of the sclerites of the endophallus (lacking a flagellum).

***C. graminis* + *C. trivialis* clade.** The species of these two assemblages, comprised of all other Palaearctic (except *C. afghanus*) and Afrotropical species, seem to form a monophyletic group on the basis of a single apomorphy, i.e. the long and sinuous body of the spermatheca. The *C. trivialis* group is composed only of Afrotropical species, whereas the *C. graminis* group contains all the Palaearctic species other than those of the *C. plantarum* complex and the remaining Afrotropical species. The *C. trivialis* group appears to be monophyletic based on the presence of an elongate, basally pointed, more or less curved to sinuous sclerite at the base of the endophallus. Apart from *C. medius*, which is clearly distinguishable from all other species, the *C. graminis* group includes two subgroups, the *C. graminis* and the *C. distinctus* subgroups. The former is the more basal one as it includes species with the plesiomorphic shape of metatibial unci in the males (apically pointed). *C. caucasicus* seems to be intermediary between this subgroup and the *C. distinctus* one as it possesses all the characters of the *C. graminis* subgroup but shares the apomorphic state of the metatibial unci (apically enlarged) with the species of the *C. distinctus* subgroup.

***C. afghanus*.** Presently placement of this species has to be considered as *incertae sedis* within *Cleopomiarus* because its female is unknown. Also the shape of the sclerites of the endophallus, which lacks a flagellum, is different from that of all other species. However, there is a basal sclerite that could be homologous with the one present in the species of the *C. trivialis* group as well as in the two American species (see below).

***C. hispidulus* group**. This group comprises the only two known species in the New World. The spermatheca of both is unequivocally similar to those of the *C. graminis* and *C. trivialis* assemblages. However, the flagellum in the endophallus is forked at its base as it is in almost all other species, although it is curiously bulging in *C. erebus*. The sclerite close to the base of the flagellum has an unusual shape in both *C. hispidulus* and *C. erebus*, and in *C.*

hispidulus there is also a supplementary basal sclerite. In the spermatheca, in both species the first part of the ductus is sclerotized, and this character state is unique in *Cleopomiarus*. As the sclerite close to the flagellum in both species is similar to that of *C. afghanus* and of the Afrotropical species of the *C. trivialis* group, the possible origin of these two "relict" Nearctic species is presently unresolved.

Catalogue of the Palaearctic species of *Cleopomiarus*

This list updates the recent Catalogue of the Palaearctic species of Caldara (2013).

afghanus Caldara & Legalov, 2016: 26 **A**: AF
caucasicus Caldara & Legalov, 2016: 18 **E**: AR
distinctus Boheman, 1845: 187 (*Gymnetron*) **E**: AU BE BG CT CZ EN FI FR GE GR HU IT LA LT NT PL RO SK SP SZ **A**: ES FE NC NE SC TR WS
    degorsi Abeille, 1906: 171 (*Miarus*)
    dictamnophilus Zherichin, 1996: 483 (*Miaromimus*)
    rectirostris Hoffmann, 1953: 60 (*Miarus*)
    subfulvus Reitter, 1907: 45 (*Miarus*)
    wagneri Székessy, 1940: 161 (*Miarus*)
flavoscutellatus Morimoto, 1959: 195 (*Miarus*) **A**: FE JA
    tapirus Korotyaev, 1999: 145 (*Miarus*)
graminis Gyllenhal, 1813: 210 (*Rhynchaenus*) [NP] **E**: AB AL AR AU BE BU BH BY CR CZ DE EN FI FR GB GE GG GR HU IT LA LT LU MC MD ME NL NR NT PL PT RO SB SK SL SP ST SV SZ UK **A**: ES WS
    cinerascens Gravenhorst, 1807: 208 (*Rhynchaenus*) [NO]
    dulcinasutus Kangas, 1976: 79 (*Miarus*)
    ellipticus Herbst, 1795: 171 (*Curculio*) [NO]
    fuscopubens Reitter, 1907: 43 (*Miarus*)
    graminoides Kangas, 1976: 80 (*Miarus*)
    jakowlewi Faust, 1895: 104 (*Miarus*)
    mequignoni Hoffmann, 1939: 79 (*Miarus*)
    subuniseriatus Reitter, 1907: 45 (*Miarus*)
kamiyai Morimoto, 1959: 192 (*Miarus*) **A**: JA
kobanzo Kôno, 1930a: 148 (*Miarus*) **A**: FE JA SC
longirostris Gyllenhal, 1838: 770 (*Gymnetron*) **E**: FR IT SZ
    mayeti Abeille, 1906: 71 (*Miarus*)
    scutellaris H. Brisout de Barneville, 1866: 622 (*Miarus*)
mandschuricus Voss, 1952: 199 (*Miarus*) **A**: FE NE
marseuli Coye, 1870: 376 (*Gymnetron*) **A**: IN IS LE SY TR
medius Desbrochers des Loges, 1893: 51 (*Miarus*) **E**: BH BU CR GR MC ME RO **A**: SY TR
    balcanicus Desbrochers des Loges, 1893d: 55 (*Miarus*)
    schatzmayri F. Solari, 1947: 73 (*Miaromimus*)
meridionalis H. Brisout de Barneville, 1863: 668 (*Cleopus*) **E**: BG FR GR IT PT SP **N**: MO **A**: IN SY
micros Germar, 1821: 309 (*Cionus*) **E**: AU BE BU GB CZ DE EN FR GB GE GR HU IT LA LT NL PL PT SK SP SV SZ **N**: MO
persimilis Smreczyński, 1973: 171, 179 (*Miarus*) **E**: HU ST UK SL **A**: TR
plantarum Germar, 1824: 288 (*Cionus*) [NP] **E**: AU BE BU FR GB IT NL SP SZ **N**: AG MO **A**: SY TR
    floralis Olivier, 1791: 497 (*Curculio*) [NO]
    floriger Geoffroy, 1785: 123 (*Curculio*) [NO]
    nigrostriatus Goeze, 1777: 412 (*Curculio*) [HN]
    nigrostriatus Petagna, 1792: 221 (*Curculio*) [HN]

subglobosus Gmelin, 1790: 1805 (*Curculio*) [NO]
reitteri Caldara & Legalov, 2016: 9 **N:** AG MO
ruscinonensis Roudier & Tempère, 1966: 291 (*Miarus*) **E**: FR
salsosae H. Brisout de Barneville, 1863: 664 (*Gymnetron*) **E**: AB AR **A**: IN
flavus Franz, 1947: 240 (*Miarus*)
vestitus Roelofs, 1875: 150 (*Miarus*) **A**: ES FE FUJ JA MG NC NE NO SC
minimus Morimoto, 1959: 194 (*Miarus*)

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