

## Revision of the genus *Cheilotoma* Chevrolat, 1837 (Coleoptera: Chrysomelidae: Clytrinae)

### Ревизия рода *Cheilotoma* Chevrolat, 1837 (Coleoptera: Chrysomelidae: Clytrinae)

L.N. Medvedev  
Л.Н. Медведев

Institute for Problems of Ecology and Evolution, Russian Academy of Sciences, Leninsky prospekt 33, Moscow 119071 Russia.  
Институт проблем экологии и эволюции РАН, Ленинский проспект 33, Москва 119071 Россия.

KEY WORDS. Chrysomelidae, Clytrinae, *Cheilotoma*, key, new taxa.

КЛЮЧЕВЫЕ СЛОВА. Chrysomelidae, Clytrinae, *Cheilotoma*, определитель, новые таксоны.

ABSTRACT. A revision of the genus *Cheilotoma* Chevrolat, 1837 is proposed. 3 new subspecies of *Ch. musciformis* Goeze, 1777 are described. *Ch. turcomanica* L. Medvedev, 1971 and *Ch. italica* Leoni, 1906 are removed from synonymy to subspecies status.

РЕЗЮМЕ. Предлагается ревизия рода *Cheilotoma* Chevrolat, 1837. Описываются 3 новых подвида *Ch. musciformis* Goeze, 1777. *Ch. turcomanica* L. Medvedev, 1971 и *Ch. italica* Leoni, 1906 восстановлены из синонимов в подвидовой ранг.

#### Introduction

A small palearctic genus *Cheilotoma* Chevrolat, 1837 was intensively studied in the last time [Kasap, 1984, 1987; Vela & Bastazo, 1994; Medvedev & Kantner 2003] and includes to the moment 7 species and 1 subspecies. Its distribution is mostly Mediterranean, but includes also south Siberia and Central Asia.

I had an opportunity to study large material of Zoological Institute, Russian Academy of Sciences (Saint Peterburg, Russia), Naturhistorisches Museum (Basel, Switzerland), including G. Frey collection and Staatliches Museum fuer Naturkunde (Stuttgart, Germany) and found that two widely distributed species might be divided in a few subspecies, mostly new for science, which are described below. Besides a key to all species of the genus is proposed.

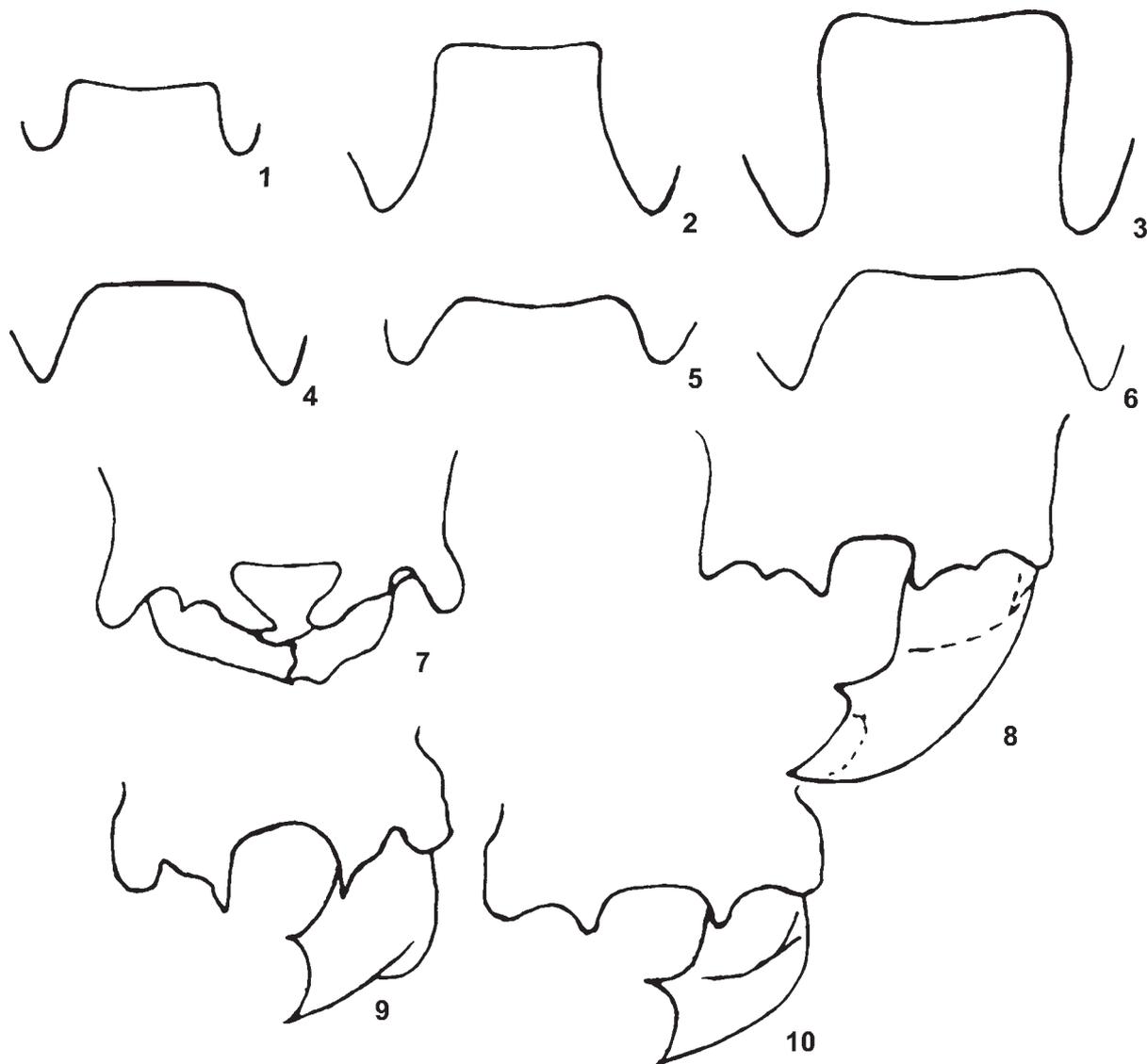
Next abbreviation are used for depository places of new taxa: LM — author's collection; NHMB — Naturhistorisches Museum, Basel.

#### KEY TO SPECIES

1(4) Head elongate. Scutellum concave. Elytra metallic with fulvous apical spot. Male: genae more then twice as long as eyes; mandibles very long, only a little shorter then head (subgenus *Exaesiognatha* Jacobson). Prothorax fulvous with central blackish blue or blackish violaceous

spot. Head metallic with anterior part, including labrum and mandibles fulvous.

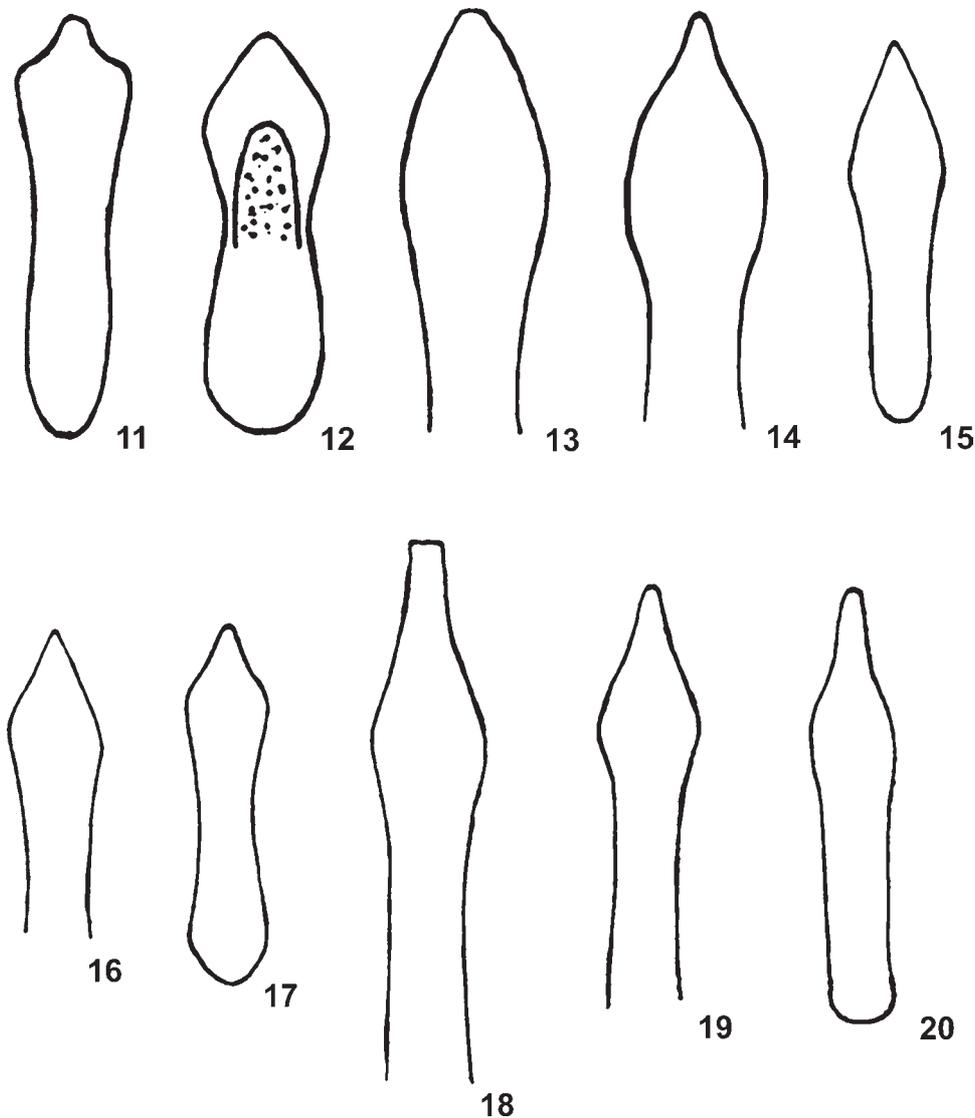
- 2(3) Legs entirely fulvous. Apical elytral spot large, reach or almost reach preapical margin. Light parts of prothorax with indistinct punctures. Male: clypeal teeth and low half of genae fulvous. Aedeagus — Fig. 11. Body large, male 3.2–3.8 mm, female 3.5–3.8 mm ..... *Ch. (E.) ivanovi ivanovi* Jacobson
- 3(2) Legs fulvous, tarsi and exterior part of hind and often mid tibiae darkened. Apical elytral spot small, removed from preapical margin. Light parts of prothorax distinctly punctate. Male: only apices of clypeal teeth and low margin of genae fulvous. Body smaller, male 2.3–3.1 mm, female 3–3.3 mm ..... *Ch. (E.) ivanovi turcomanica* L. Medvedev
- 4(1) Head subquadrate. Scutellum evenly convex. Elytra entirely metallic. Male: genae less than twice as long as eyes, mandibles much shorter than head (subgenus *Cheilotoma* s.str.).
- 5(8) Prothorax entirely fulvous. Ductus of spermatheca not spirally coiled, but forms of a few rings (Fig. 21). Femora fulvous. Claw segment thin and very long, produced from lobes of 3<sup>rd</sup> segment on ¼ of its length.
- 6(7) Emargination of clypeus in male strictly quadrangular, its teeth curved outside. Head sparsely pubescent and weakly punctate. Frons with impression on each side. Prothorax almost 3 times as wide as long, densely punctate. Tarsi and often apices of tibiae black. Aedeagus lanceolate, broadest in apical third (Fig. 12). Length of male 3.4–4.0 mm, of female 4.2 mm ..... *Ch. fulvicollis* Sahlberg
- 7(6) Emargination of clypeus in male feebly trapeziform, widened to apex, its teeth straight. Head pubescent and strongly punctate. Frons with central impression. Prothorax twice as wide as long, finely punctate. Tarsi darkened, but not black. Aedeagus thin and long, narrowed in basal third and apical quarter (Fig. 13). Length of male 4.0 mm, female unknown ... *Ch. voriseki* L. Medvedev & Kantner
- 8(5) Prothorax bicolor.
- 9(10) Body violaceous black, prothorax with lateral margins and large spot in middle fulvous, elytra with fulvous apex. Clypeus of male with semicircular emargination. Protho-



Figs. 1–10. *Cheilotoma* spp., clypeus of male (1–6), mandibles and clypeus of male (7), left mandible of male (8–10): 1 — *musciformis musciformis*, 2, 8 — *musciformis hispanica*, 3 — *musciformis apennina*, 4, 9 — *musciformis iranica*, 5 — *erythrostroma erythrostroma*, 6 — *erythrostroma italica*, 7 — *beldei*, 10 — *erythrostroma italica*, Spain.

Рис. 1–10. *Cheilotoma* spp., 1–6 — наличник самца (1–6), мандибулы и наличник самца (7), левая мандибула самца (8–10).

- rax and elytra with strong punctures. Length 4 mm. Unclear species ..... *Ch. rotroui* Kocher
- 10(9) Prothorax fulvous with central metallic spot, rarely almost entirely fulvous. Ductus of spermatheca spirally coiled (Figs. 22–24). Femora fulvous with black or metallic bases. Claw segment more thick, produced from lobes of 3<sup>rd</sup> segment for 2/3 of its length.
- 11(12) Prothorax dark metallic with fulvous margins. Length 4.3–4.7 mm. North-east Italy: Triest region, Croatia: Istria peninsula ..... Females of *Ch. musciformis* Goeze
- 12(11) Prothorax fulvous with central metallic spot.
- 13(14) Emargination of clypeus in male deltoidal, lateral teeth finger-shaped and convergent apically (Fig. 7); frons sinuate in profile. Aedeagus — Fig. 14. Spermatheca with extreme apex strongly curved inward (Fig. 22). Length of male 3.5–4.3 mm, of female 3.8–4.5 mm ..... *Ch. beldei* Kasap
- 14(13) Emargination of clypeus in male quadrangular trapeziform, lateral teeth parallel or divergent apically. Spermatheca with extreme apex not curved inward.
- 15(22) Aedeagus lanceolate (Figs. 15–17).
- 16(21) Clypeus of male with quadrangular emargination, at least in basal half.
- 17(18) Male: emargination of clypeus moderately deep, quadrangular or slightly widened to apex (Fig. 1), mandibles on upperside with feeble arcuate ridge and deep ovate groove on base. Aedeagus — Fig. 15, spermatheca — Fig. 23. Length of male 3.5–5.5 mm (mostly 4–5.2 mm), of female 3.5–6 mm (mostly 3.5–5.6 mm) ..... *Ch. musciformis musciformis* Goeze
- 18(17) Male: emargination of clypeus very deep, almost quadrangle (Fig. 2, 3). Aedeagus as in nominative form (Fig. 16).
- 19(20) Male: lateral teeth of clypeus parallel-sided in basal half, divergent in apical half (Fig. 2); mandibles on



Figs. 11–20. *Cheilotoma* spp., aedeagus: 11 — *ivanovi*, 12 — *fulvicollis*, 13 — *voriseki*, 14 — *beldei*, 15 — *musciiformis musciiformis*, 16 — *musciiformis hispanica*, 17 — *musciiformis iranica*, 18 — *erythrostroma erythrostroma*, 19 — *erythrostroma italica*, Italy, 20 — *erythrostroma italica*, Spain.

Рис. 11–20. Эдеагус.

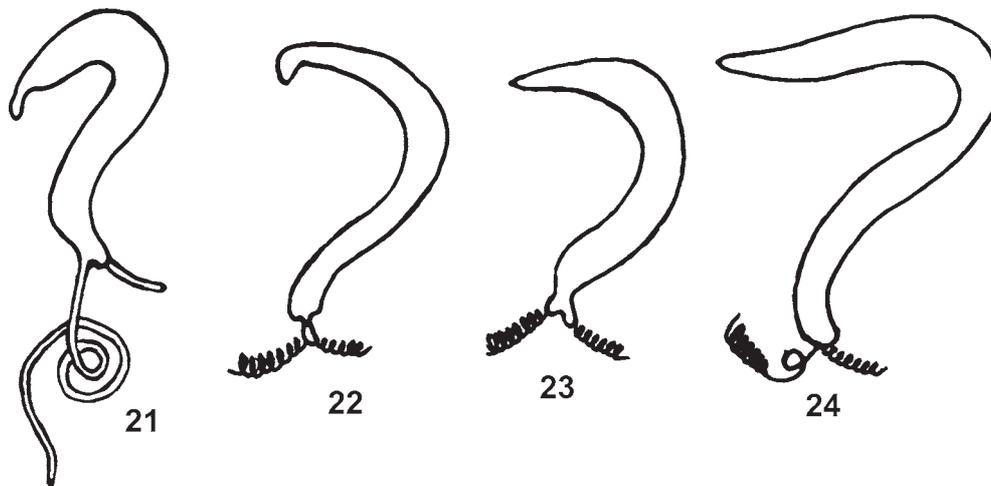
- upperside with traces of ridge and shallow basal impression (Fig. 8). Length 3.8 mm .....  
 ..... *Ch. musciiformis hispanica*, ssp.n.  
 20(19) Male: lateral teeth of clypeus parallel-sided (Fig. 3); mandibles on upperside with distinct, almost straight ridge and shallow basal impression. Length of male 4–4.5 mm, of female 3.9–4.4 mm ..... *Ch. musciiformis apennina*, ssp.n.  
 21(16) Clypeus of male trapeziform, with obtuse basal angles (Fig. 4), mandibles on upperside without distinct ridges and basal grooves. Aedeagus — Fig. 17. Length of male 5.2 mm, of female 5–5.1 mm .....  
 ..... *Ch. musciiformis iranica*, ssp.n.  
 22(15) Aedeagus with elongate apex (Fig. 18–20). Clypeus of male with more or less trapeziform emargination (Figs. 5, 6).  
 23(24) Body large, male 5.4–7 mm, female 5.5–6.6 mm. Aedeagus more thin and long, its apex distinctly truncate, often slightly widened (Fig. 18). Male: upperside of left mandible with arcuate ridge and distinct basal groove, of

- right mandible with straight ridge and without distinct groove. Prothorax without additional lateral spots. Spermatheca — Fig. 24 .....  
 ..... *Ch. erythrostroma erythrostroma* Faldermann  
 24(23) Body smaller, length of male 4.7–5.5 mm, of female 4.3–4.7 mm. Aedeagus shorter and thicker, with less elongate apical part (Figs. 19, 20). Prothorax often with dark spot on each side. Mandibles of male as in nominative subspecies (Fig. 10). Clypeus of male — Fig. 6 ....  
 ..... *Ch. erythrostroma italica* Leoni

### A list of species

*Cheilotoma (Exaesiognatha) ivanovi ivanovi* (Jacobson, 1923)

DISTRIBUTION. Uzbekistan and Tadzhikistan.



Figs. 21–24. *Cheilotoma* spp., spermatheca: 21 — *fulvicollis*, 22 — *beldei*, 23 — *musciiformis*, 24 — *erythrostroma*.  
Рис. 21–24. Сперматека.

ECOLOGY. Connected with steppe and semidesert biotops, usually in April and May on *Atraphaxis*.

*Cheilotoma (Exaesiognatha) ivanovi turcomanica*  
L. Medvedev, 1971

DISTRIBUTION. South west Turkmenia (Kopet-Dagh).

REMARKS. Resurrected from synonymy [Lopatin, 1977] because distinct difference in color and punctuation of prothorax.

*Cheilotoma* (s. str.) *fulvicollis* Sahlberg, 1913

DISTRIBUTION. Syria.

*Cheilotoma* (s.str.) *voriseki* L. Medvedev & Kantner, 2003

DISTRIBUTION. Turkey: Nemrut Dagh.

*Cheilotoma rotroui* (Kocher, 1961)

DISTRIBUTION. Morocco: Moyen Atlas.

REMARKS. This species is unknown for me, 2 known type specimens are in private collections. Species differs sharply from typical *Cheilotoma* and very possibly belongs to other genus.

*Cheilotoma* (s. str.) *beldei* Kasap, 1984

= *Ch. musciiformis ammanica* Lopatin, 1995

DISTRIBUTION. Turkey, Jordan.

*Cheilotoma musciiformis musciiformis* (Goeze, 1777)

= *Ch. orientalis* Jacobson, 1901

*bucephala* Schaller, 1783

*muscoides* Geoffroy, 1785

var. *leosinii* Leoni, 1906

DISTRIBUTION. Steppe and forest steppe zones of Ukraine (almost in Crimea) and European part of Russia, northwards to Moscow and Ryasan areas, northeast to Ufa; north Kazakhstan, Altai; south Siberia to Baikal, North Cau-

casus, southwards to line Gagry–Pyatigorsk; Moldavia, south and middle Europe: Poland, Czech, Slovakia, Hungary, Rumania, Bulgaria, Yugoslavia, Bosnia-Herzegovina, Croatia, extreme north-east Italy: Triest region; Slovenia, Germany, Austria, Switzerland, France, Belgian; absent in Transcaucasus (Georgia, Armenia, Azerbajdzan and in Greece).

ECOLOGY. Connected with forest-steppe and steppe biotops, seems to be polyphagous, feeding was registered on *Rumex*, *Anthyllus* and different *Fabaceae*. Larvae were found in steppe under stones and among debris; sculpture of larval case almost same as in *Smaragdina* Chevrolat, 1837, but larval morphology is more alike at *Labidostomis* Germar, 1817 [Ogloblin & Medvedev, 1971].

*Cheilotoma musciiformis hispanica*, **ssp.n.**

Holotype (♂): Spain, San Basilio, Murgien, leg. Paganetti (LM).

DESCRIPTION. Clypeus of male with very deep, almost quadrangular emargination, lateral teeth parallel-sided in basal half, divergent in apical half (Fig. 2). Mandibles of male on upperside with traces of ridge and shallow basal impression (Fig. 8). Aedeagus as in nominative subspecies (Fig. 16). Length of body 3.8 mm.

*Cheilotoma musciiformis apennina*, **ssp.n.**

Holotype (♂): South Italy, Taranto, 9.V.1940, leg. Frey & Koch (NHMB, coll. Frey).

Paratypes: same locality, 10 ex. (NHMB, Frey collection, 2 ex. — LM); — Italy, Lazio, Fumone, 5.VI.1938, leg. Urbani, 8 ex. (NHMB, coll. Frey).

DESCRIPTION. Clypeus of male with very deep, almost quadrangular emargination, lateral teeth parallel-sided (Fig. 3). Mandibles of male on upperside with distinct, almost straight ridge and shallow basal impression. Aedeagus as in nominative subspecies. Length of male 4–4.5 mm, of female 3.9–4.4 mm.

*Cheilotoma musciiformis iranica*, **ssp.n.**

Holotype (♂): Iran, Gahzar-Marzanabad, 550 m, 28.IV.1970, leg. Wittmer & Boettmer (NHMB).

Paratypes: same locality, 2 ♀♀ (NHMB, LM).

DESCRIPTION. Emargination of clypeus of male trapeziform (Fig. 4), its basal angles obtuse. Mandibles of male on upperside without distinct ridges and basal grooves. Aedeagus (Fig. 17) with apical part slightly more elongate, as compared with nominative subspecies. Length of male 5.2 mm, of females 5.0–5.1 mm.

*Cheilotoma erythrostroma erythrostroma* Faldermann, 1837

DISTRIBUTION. European part of Russia, northwards to line Voronezh–Samara, eastwards to Orenburg and north-west Kazakhstan (Djanybek), south Ukraine, Crimea, North Caucasus, Armenia, Georgia, Azerbajdzan, Turkey, Romania, Bulgaria, possibly Hungary.

ECOLOGY. Steppe zone, polyphagous species.

*Cheilotoma erythrostroma italica* Leoni, 1906

=*Ch. italica* var. *baudii* Leoni, 1906

DISTRIBUTION. Italy, provinces Lucania, Lombardia, Piemonte, Lazio, Gargano, Umbria, Emilia, Romagna, Basilicata; — Spain: Villamanreque de Tajo (prov. Madrid); Murgien, Grottaglio, 4 ♂♂.

REMARK. Resurrected from synonymy.

*Cheilotoma retroui* Kocher, 1961

DISTRIBUTION. Morocco.

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