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Two new subspecies of *Cortodera villosa* Heyden, 1876 (Coleoptera: Cerambycidae) from South Russia

Два новых подвида *Cortodera villosa* Heyden, 1876 (Coleoptera: Cerambycidae) из Южной России

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Ключевые слова: Coleoptera, Cerambycidae, *Cortodera*, новые подвиды, Россия.

Abstract. *Cortodera villosa kuvandykensis* ssp. n. is described from Kuvandyk district in the north of Orenburg region of Russia. The new subspecies is close to *C. v. magdeevi* Danilevsky, 2011 from Zhiguli Mts., but differs by small number of light forms in the population and details of elytral pubescence. *Cortodera villosa chuvilini* ssp. n. is described from south-west part of Volgograd region (Golubinskoe village). It differs from all previously known subspecies of *C. villosa* by small and wide body with domination of specimens with brown elytra. The taxonomy rank is downgraded for *C. parfentjevi* Miroshnikov, 2007 and *C. zhuravlevi* Miroshnikov, 2007: *C. villosa parfentjevi* Miroshnikov, 2007, **stat. n.** (Crimea) and *C. v. zhuravlevi* Miroshnikov, 2007, **stat. n.** (Orenburg environs and NW Kazakhstan). *C. zhuravlevi aktolagaica* Miroshnikov, 2007 is accepted as *C. villosa aktolagaica* Miroshnikov, 2007 (Aktolagay Mts. in West Kazakhstan).

Резюме. *Cortodera villosa kuvandykensis* ssp. n. описана из Кувандыкского района на севере Оренбургской области России. Новый подвид близок *C. v. magdeevi* Danilevsky, 2011 из Жигулей, но резко отличается малым числом светлых форм в популяции и деталями опушения надкрылий. *Cortodera villosa chuvilini* ssp. n. описана с юго-запада Волгоградской области (Голубинское). Новый подвид отличается от всех описанных ранее подвидов *C. villosa* маленьким и широким телом с преобладанием в популяции экземпляров, имеющих темно-коричневые надкрылья. Таксономический ранг двух названий *C. parfentjevi* Miroshnikov, 2007 и *C. zhuravlevi* Miroshnikov, 2007 понижен до подвидов: *C. villosa parfentjevi* Miroshnikov, 2007, **stat. n.** (Крым) и *C. v. zhuravlevi* Miroshnikov, 2007, **stat. n.** (окрестности Оренбурга и северо-запад Казахстана). *C. zhuravlevi aktolagaica* Miroshnikov, 2007 принимается как *C. villosa aktolagaica* Miroshnikov, 2007 (горы Актолагай на западе Казахстана).

Two rather peculiar series of *Cortodera villosa* Heyden, 1876 were received by me for study in 2011. A very big series from Orenburg region allows recognizing the taxonomy status of the population known before after a single female. A smaller, but quite representative old series from the western part of Volgograd region allows understanding a

true nature of three poorly known *Cortodera* taxa.

Cortodera villosa kuvandykensis ssp. n. (Color plate 3: fig. 1–10)

Material. Holotype (fig. 1), ♂, Russia, north part of Orenburg region, Kuvandyk district, right bank of Sakmara river, about 2 km westwards Maloe Churaevo village, 51°39'52.25"N / 57°27'12.65"E, 350 m, 7–10.06.2011, A. Shapovalov leg. (author's collection); 110 paratypes (61♂ and 49♀) with the same label (4♂, 6♀ in author's collection, 57♂, 43♀ in collection of A. Shapovalov, Orenburg).

Description. Body big, elongated, black, often with red abdominal apex, elytra from light-brown (fig. 1, 5–6) to totally black, legs and antennae from totally black to about totally red; pubescence of black elytra usually black; certain specimens with black elytra look a little paler because of brownish dorsal pubescence and a little pale color of cuticle (fig. 9).

Head with strongly exposed angulated temples; apical palpal joints triangular, axe-like; antennae totally black, or with partly lightened basal joints, or totally red with partly darkened 1st joint, or red with partly or totally darkened several basal joints; totally red antennae can be also in specimens with black elytra; in males reaching apical elytral forth, in females – apical elytral third; 1st joint about as long as 4th and shorter than 3rd, which is shorter than 5th.

Prothorax transverse, in males from about 1.2 to 1.3 (holotype) times wider at base than long; in females – from 1.2 (fig. 6) to 1.4 (fig. 9); with sides rounded or distinctly angulated, especially in females; pronotum in males with long erect and oblique setae, in females with recumbent and oblique setae, sometimes with recumbent setae only; pronotal punctation rather dense, but punctures never conjugated with distinct interspaces, which are wider than dots near middle; with narrow smooth elongated area along middle.

Elytra pale-brown (5 males and 2 females) or black (57 males and 47 females), brown elytra can be narrowly darkened anteriorly along suture (fig. 5–6); in females parallelsided or slightly converging posteriorly, in males with sides strongly converging posteriorly; in males about 2.2 times longer than wide, in females – from about 2 to 2.1; in males with several erect setae anteriorly or with oblique setae only; in females elytral pubescence consists of short recumbent setae only; elytral punctation rather dense, the distance between punctures usually smaller than each dot.

Legs in males and in females can be totally red with black tarsi; or hind femora with black apices; or middle tibiae with black bases, middle and hind femora with black apices, hind tibiae totally black; or hind legs and middle tibiae totally black; or only anterior tibiae and femora red; or only anterior tibiae partly red; or legs totally black; apices of posterior femora slightly darkened.

Abdomen usually black or with red posterior segments (from one to three); posterior margins of last abdominal segments more

or less rounded; male pygidium and last abdominal sternite can be slightly emarginated.

Body length in males: 9.2–12.5 mm; in females: 11–13.5 mm; body width in males: 3.1–3.6 mm; in females: 3.7–4.5 mm.

Remarks. The new subspecies is close to *C. v. magdeevi* Danilevsky, 2011, which was described in details [Danilevsky, 2010] before the formal description. It has about same body shape and size, with about same number of color forms, but specimens with brown elytra are much more rare in the new subspecies (only 7 of 111), while in *C. v. magdeevi* from Zhiguli Natural Reserve the number of brown forms is about same as the number of black forms. Besides, erect pronotal and elytral setae are often better developed in *C. v. magdeevi*; black specimens with brownish dorsal pubescence are dominated among black forms.

The closest western subspecies *C. v. major* Miroshnikov, 2007 described from Ufa region is poorly investigated, but no specimens with brown elytra are known from here. All specimens of *C. v. major* (totally 21 males and females are known) have black elytra.

The closest eastern subspecies *C. v. mikhailovi* Danilevsky, 2001 from the south of Cheliabinsk region (Arkaim) is known up to now after two females with yellow elytra, red antennae and partly red legs. Elytral color of *C. v. mikhailovi* is much lighter than in *C. v. kuvandykensis* ssp. n. or in *C. v. magdeevi*. It is more similar to elytral color of Ukrainian *C. v. krasnobaevi* Danilevsky, 2011.

The new subspecies was originally discovered by R. Filimonov, who collected a single female with black elytra on 10.06.2009 in about same locality.

Distribution. Only one population is known from the type locality.

Bionomy. According to the information by collector (Shapovalov, personal message, 2011; see also: www.cerambycidae.ru) the biotope of the new subspecies is about same as the biotope of *C. v. magdeevi*: it is stony steppe slopes with numerous plants of *Centaurea ruthenica* – the larval food plant. Imagoes visited rather different flowers: *Filipendula*, *Rosa*, *Inula*, *Serratula* and others. Larval galleries were observed by A. Shapovalov in the roots of *Centaurea ruthenica* in the locality of *C. v. kuvandykensis* ssp. n.

Cortodera villosa chuvilini ssp. n.

(Color plate 4: fig. 11–17)

Material. Holotype (fig. 1), ♂, Russia, south-west part of Volgograd region, about 80 km north-westwards Volgograd, Golubinskoe village, 49°05'N / 43°29'31"E, 100 m, 15–16.05.1992, A. Chuvilin leg. (author's collection); 10 paratypes with the same label; 2♂ and 7♀ in author's collection; 1♀ in collection of A. Chuvilin (Tula).

Description. Body small and wide, black or dark-brown, often with red abdominal apex, elytra from light-brown (fig. 14) to totally black (fig. 17), legs and antennae from totally black to about totally red; dorsal pubescence usually pale, only in a single black female dorsal pubescence black.

Head with slightly exposed temples, a little angulated, similar to *C. v. villosa* from Moldova; apical palpal joints triangular, axe-like; antennae totally black, or dark brown basally and reddish distally, or totally red; dark antennal joints can be lightened basally (fig. 11); dark 1st joint can be lightened internally; antennae in males reaching apical elytral fourth, in females – apical elytral third; 1st joint much longer than 4th and about as long as 3rd, which is longer than than 5th – that is also similar to the proportions of the nominative subspecies.

Prothorax transverse, in males from about 1.2 to 1.3 times wider at base than long; in females usually a little wider, but also from 1.2 to 1.3; with sides strongly exposed near middle; pronotum in males with long erect and oblique setae, in females with recumbent, oblique and several erect setae, sometimes with recumbent setae only; pronotal punctation very dense, punctures often conjugated near middle; with very narrow smooth elongated area along middle.

Elytra pale-brown (1 female – fig. 14), or black (1 female – fig. 17), or brown (1 male – fig. 15), or dark-brown (2 males, 5 females – fig. 11–13, 16); pale-brown elytra are narrowly darkened along suture; in females parallelsided, in males with sides slightly converging posteriorly; in males about 2 to 2.2 times longer than wide, in females – from about 2 to 2.1; in males with several erect setae anteriorly; in females elytral pubescence consists of short recumbent setae only; elytral punctation rather dense, the distance between punctures usually smaller than each dot.

Legs can be red (including tarsi) with black femora apices; or black with lightened anterior tibiae, or totally black.

Abdomen totally black or black with red posterior segments, or about totally red; posterior margins of last abdominal segments in females more or less rounded, in males pygidium and last abdominal sternite slightly emarginated, postpygidium widely rounded or also emarginated.

Body length in males: 8.7–8.8 mm; in females: 9.1–11 mm; body width in males: 2.7–2.9 mm; in females: 2.9–3.5 mm.

Remarks. The new subspecies is not close to any *C. villosa* described before because of small and wide body with domination of brown color in dark elytra. But *C. v. chuvilini* ssp. n. is very close to three taxa described as *Cortodera zhuravlevi zhuravlevi* Miroshnikov, 2007 (Orenburg environs in Russia, Uralsk environs and Rozhkovo in West Kazakhstan), *C. zh. aktolagaica* Miroshnikov, 2007 (Aktolagay Mts. in about 250 km NEE Atyrau in West Kazakhstan) and *C. parfentjevi* Miroshnikov, 2007 (Crimea near Simferopol). In fact it is very difficult to find any distinguishing character between paratype of *C. v. aktolagaica* and similarly colored female of *C. v. chuvilini* ssp. n. (holotype of *C. v. aktolagaica* has totally red abdomen). A single known specimen (male) of *C. parfentjevi* is a little teratic, so its individual features could be hardly used as distinguishing characters. Any way it is clear now, that all three taxa are local subspecies of *Cortodera villosa*: *C. v. zhuravlevi* Miroshnikov, 2007, **stat. n.**, *C. v. aktolagaica* Miroshnikov, 2007 and *C. v. parfentjevi* Miroshnikov, 2007, **stat. n.** The specific identity of the corresponding Crimean male to *C. villosa* was already established by Plavilstshikov [1936: 272].

Distribution. Only one population is definitely known from the type locality.

The population from Novochoerkassk environs mentioned by Plavilstshikov [1936] is known on the base of one male and one female published and figured by Miroshnikov [2007] as *C. v. villosa* (preserved in Zoological Museum of Moscow University). It is definitely not too much close to *C. v. chuvilini* ssp. n., though the female is a little shorter and wider, than *C. v. villosa* from West Europe. Prothorax of *C. villosa* from Novochoerkassk is very similar to prothorax of *C. v. krasnobaevi* Danilevsky, 2010 – relatively long with convex pronotum. The definition of taxonomy position of Novochoerkassk population needs more materials, but the presence here of specimens with yellow elytra is rather probable.

Bionomy. According to the information of collector (A. Chuvilin, personal message, 2011), the biotope of the new

subspecies is about same as the biotope of *C. v. aktolagaica* – the dry hilly cretaceous steppe with calciphyte plants.

Conclusion. So, now *C. villosa* consists of 14 subspecies:

ssp. *villosa* Heyden, 1876 (West Europe, Moldova, Western Ukraine)

ssp. *krasnobaevi* Danilevsky, 2010 (Eastern Ukraine)

ssp. *mariae* Danilevsky, 2010 (Anapa environs in South Russia)

ssp. *circassica* Reitter, 1890 (South-West Caucasus in Russia)

ssp. *miroshnikovi* Danilevsky, 2010 (Gori environs in Georgia)

ssp. *nakhichevanica* Miroshnikov, 2007 (Ordubad environs in Nakhichevan Republic of Azerbajdzhan)

ssp. *zhuravlevi* Miroshnikov, 2007, **stat. n.** (Orenburg environs in Russia and Uralsk environs, Rozhkovo environs in North-West Kazakhstan)

ssp. *aktolagaica* Miroshnikov, 2007 (Aktolagay Mts. in West Kazakhstan)

ssp. *chuvilini* Danilevsky, **ssp. n.** (south-west part of Volgograd region in South Russia)

ssp. *parfentievi* Miroshnikov, 2007, **stat. n.** (Crimea, Ukraine)

ssp. *magdeevi* Danilevsky, 2011 (Uljanovsk environs and Zhiguli Mts. in Central Russia)

ssp. *major* Miroshnikov, 2007 (south of Ufa region in Russia)

ssp. *kuvandykensis* Danilevsky, **ssp. n.** (north of Kuvandyk district in Orenburg region of Russia)

ssp. *mikhailovi* Danilevsky, 2001 (Arkaim – south of Cheliabinsk region in Russia)

All taxa have typical for *C. villosa* characters: body relatively big, strongly or moderately elongated, elytra in females more or less parallelsided; dorsal body pubescence relatively sparse, never hiding cuticula; head with considerably angulated temples, last joint of maxillary palpi broadened apically; 2nd antennal joint just a little longer than wide; prothorax never angulated laterally, pronotum with moderately dense punctation, with only erect setae

in males (without recumbent setae); pronotal pubescence never arranged in two ridges; elytra with moderately dense punctation, in males with erect or semierect setae anteriorly.

Forms with yellow elytra dominate in *C. v. krasnobaevi* and probably in *C. v. mikhailovi*; represent about a half of each population in *C. v. magdeevi*; are known in *C. v. zhuravlevi* **stat. n.**, *C. v. circassica*, *C. v. kuvandykensis* **ssp. n.** and *C. v. chuvilini* **ssp. n.**

Relatively short body is typical for *C. v. zhuravlevi* **stat. n.**, *C. v. aktolagaica*, *C. v. chuvilini* **ssp. n.** and *parfentievi* **stat. n.** *C. v. mariae* is a transition form between *C. v. chuvilini* **ssp. n.** with short body and *C. v. circassica* with long body. The type series of *C. v. chuvilini* Danilevsky, **ssp. n.** includes a single female (fig. 17) with relatively longer body, indicates the connection of the taxon with neighbor subspecies.

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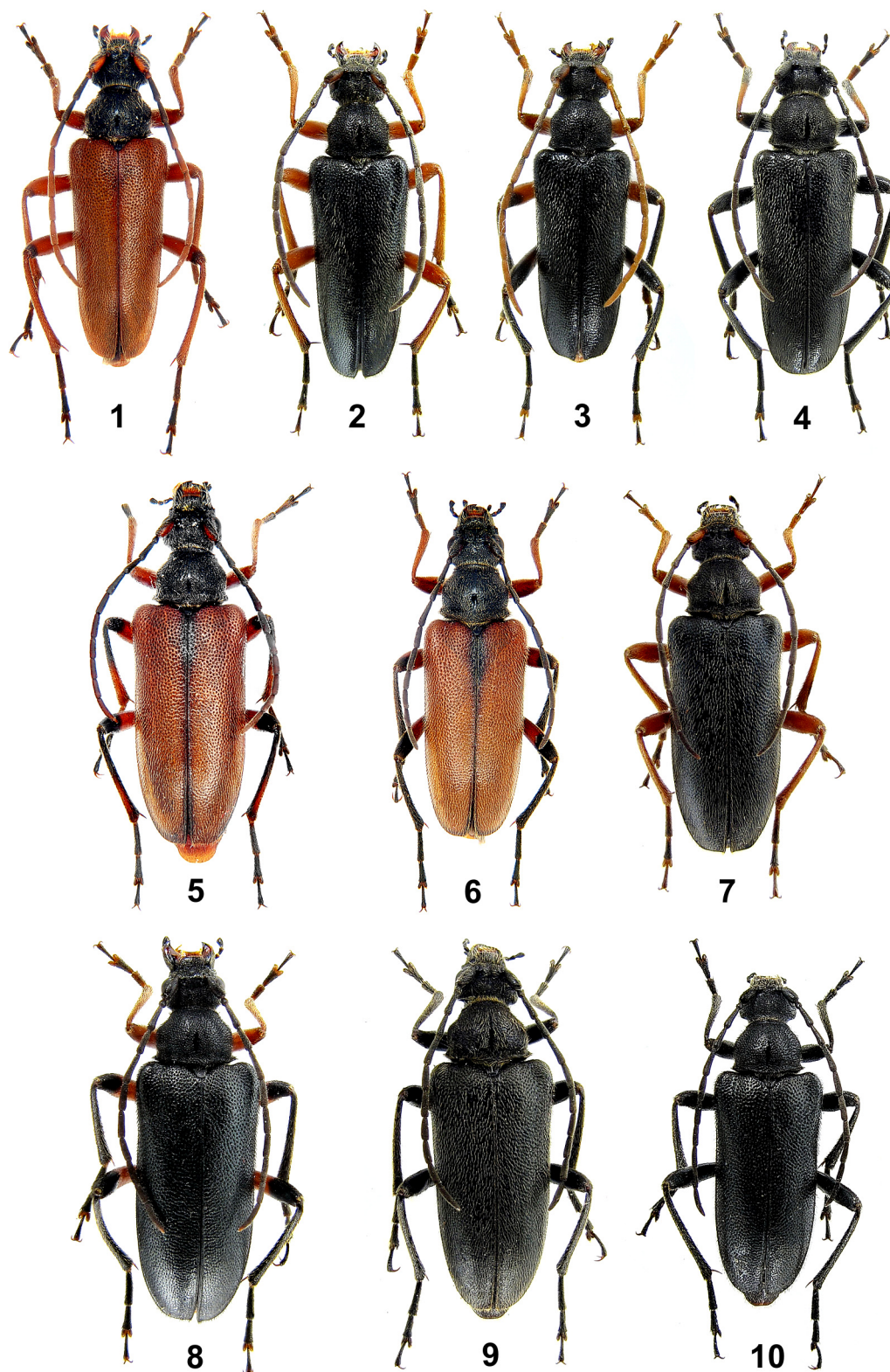


Fig. 1–10. *Cortodera villosa kuvandykensis* ssp. n.
1 – male, holotype; 2–4 – males, paratypes; 5–10 – females, paratypes.
Рис. 1–10. *Cortodera villosa kuvandykensis* ssp. n.
1 – самец, голотип; 2–4 – самцы, паратипы; 5–10 – самки, паратипы.

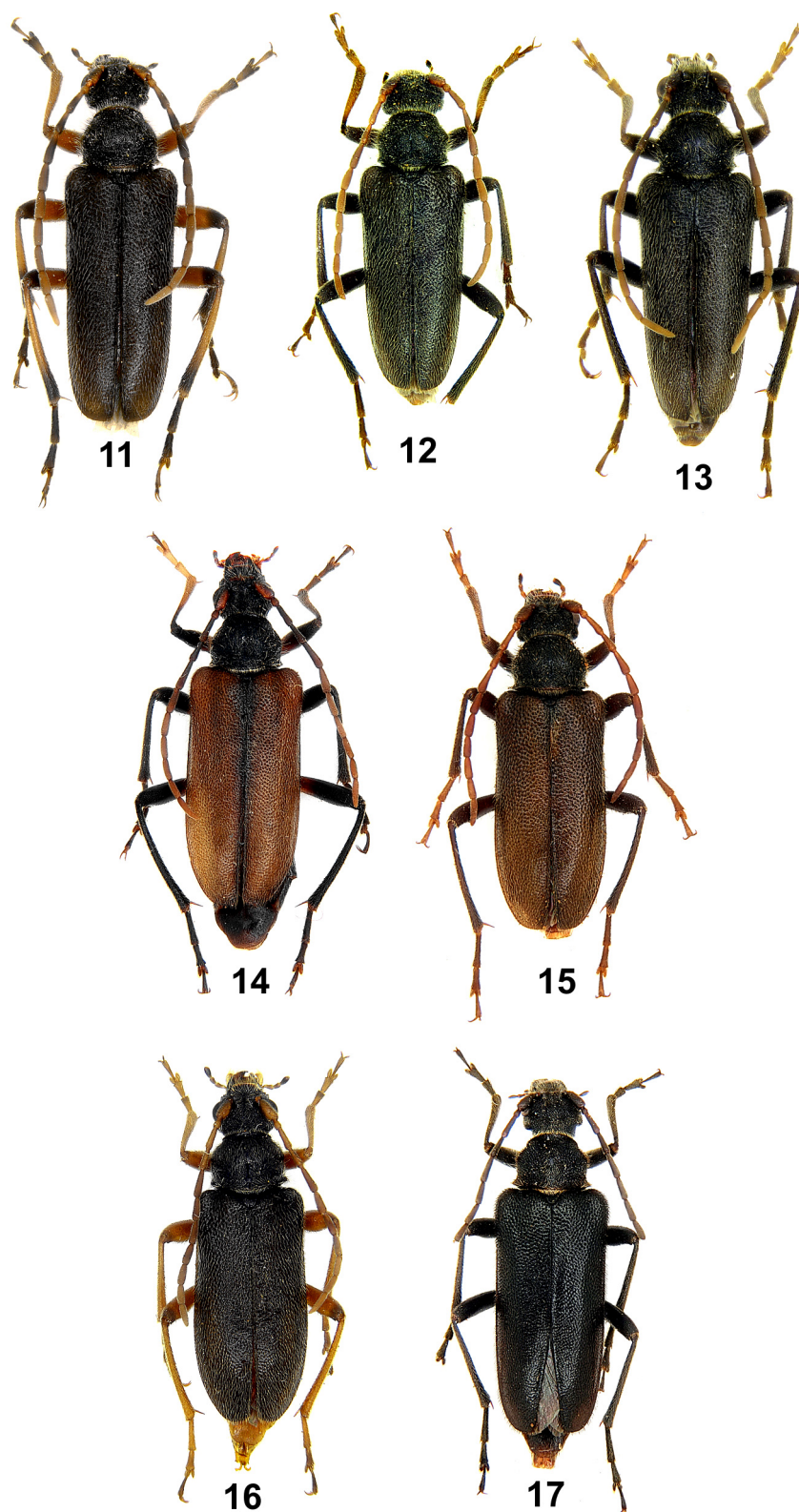


Fig. 11–17. *Cortodera villosa chuvilini*, ssp. n.

11 – male, holotype; 12–13 – males, paratypes; 14–17 – females, paratypes.

Рис. 11–17. *Cortodera villosa chuvilini*, ssp. n.

11 – самец, голотип; 12–13 – самцы, паратипы; 14–17 – самки, паратипы.