ISSN 0013-8738, Entomological Review, 2017, Vol. 97, No. 9, pp. 1353–1356. © Pleiades Publishing, Inc., 2017.
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Leaf Beetles of the Genus *Stylosomus* Suffrian, 1848 (Coleoptera, Chrysomelidae: Cryptocephalinae) of Southern Siberia

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Received August 10, 2017

Abstract—Distribution of *Stylosomus* Suffrian, 1848 in Southern Siberia is considered with more details. The male genitalia of *S. flavus* Marseul, 1875 are figured. A new key to the species of *Stylosomus* of Southern Siberia is composed.

DOI: 10.1134/S0013873817090135

Stylosomus Suffrian, 1848 is a genus of small leaf beetles of the subfamily Cryptocephalinae, comprising only three species in the fauna of Russia. Though the species are few in number, their taxonomic status and distribution remain poorly studied. Traditionally, only two species of this genus were recorded for the fauna of the European part of Russia, *S. tamaricis* Herrich-Schäffer, 1838 and *S. cylindricus* Morawitz, 1860 (Jacobson, 1931; Medvedev and Shapiro, 1965; Bieńkowski, 1999; etc.), and two species, for Southern Siberia: "*S. tamaricis macer* Wse." and *S. submetallicus* Chen, 1941 (Medvedev and Dubeshko, 1992). The origin of the combination *S. tamaricis macer* is unclear: the ZIN collection of the Russian Academy of Sciences includes the specimens from North Ossetia, collected by A.N. Kiritshenko in 1925 and identified by G.G. Jacobson as "*S. macer* Wse." This record was not published because of the untimely death of G.G. Jacobson. *Stylosomus macer* Weise, 1882 was described from Algeria and apparently does not occur beyond its limits. J. Breit (1918) gave the combination *S. macer* v. *nigrifrons* for *S. nigrifrons* Fleischer, 1909 for a species described from Middle Asia. Jacobson might take this name from Breit's publication, omitting the name of the variation; later it continued to be used with regard to the Asian *Stylosomus* for the subspecies *S. tamaricis macer* (see Medvedev and Dubeshko, 1992) or as a synonym of *S. tamaricis* (see Lopatin, 2006), or of *S. tamaricis nigrifrons* (see Lopatin et al., 2004).

S.A. Krivets and B.A. Korotyaev (1998) recorded *S. tamaricis* from Novosibirsk Province, based on the collections of M.G. Volkovitsh and A.S. Konstantinov, and noted that the coloration of the collected individuals corresponds to that in the "nominotypical subspecies."

A. Warchałowski (2007) published a review of the Palaearctic species of *Stylosomus* in which he changed the status of some forms. In particular, he has shown that *S. tamaricis* inhabits only Western Europe to the east of Croatia, while more eastwards it is replaced with another species described from Greece, *S. flavus* Marseul, 1875, which differs from it in the coloration and length of the hairs of the elytra. Several Middle Asian forms previously synonymized with *S. tamaricis* were resurrected as distinct species. Warchałowski published total images of most of the species, with drawings of the aedeagus given for the first time for many, mainly West European, species. The fauna of Southern Siberia was considered neither in Warchałowski's study of 2007, nor in his key published later (Warchałowski, 2010); as a result, none of the *Stylosomus* species was listed for the Asian part of Russia in the Palaearctic Catalog (Schöller et al., 2010).

Based on examination of new collections and old material, all the three species of *Stylosomus*, whose occurrence in Russia is documented by the material, can be recorded for the fauna of Southern Siberia: *S. flavus* Marseul, 1875, *S. cylindricus* Morawitz, 1860, and *S. submetallicus* Chen, 1941. In the east, they are known as far as the southeast of Western Siberia and the extreme southwest of Eastern Siberia (Tuva).

The material used in the present study is deposited in the collection of the Zoological Institute, Russian Academy of Sciences, St. Petersburg.

An Annotated List of the Species of Stylosomus of Southern Siberia

Stylosomus cylindricus Morawitz, 1860

Stylosomus cylindricus Morawitz, 1860 : 301.

Type material. Russia. *Volgograd Prov.*: Sarepta [Krasnoarmeiskii District of city of Volgograd], 5 syntypes.

Material from Southern Siberia. *Omsk Prov.*: Cherlakskii District, 1 km S of Krasnyi Oktyabr Vill., shore of anonymous salty lake, 54º07′N, 75º00′E, 29.VII.2017 (A.G. Moseyko), 4 females. *Novosibirsk Prov.*: Karasukskii Distr., shore of Lake Gorkoe, 53º37′N, 77º42′E, 29.VI.1998 (M.G. Volkovitsh, A.S. Konstantinov), 2 females.

Distribution. The south of Ukraine, Russia (Rostov and Volgograd provinces, Krasnodar Territory—the coast of the Sea of Azov; Kalmykia, the south of Omsk Province and southwest of Novosibirsk Province), the west and the north of Kazakhstan.

The drawing of the aedeagus of this species was published by Warchałowski (2007, 2010). The species was recorded as feeding on *Limonium* (Medvedev and Shapiro, 1965; Bieńkowski, 1999; Lopatin, 2006).

Stylosomus flavus Marseul, 1875

Stylosomus flavus Marseul, 1875 : 295.

Stylosomus tamaricis auct. nec Herrich-Schäffer, 1838.

Material from Southern Siberia. *Novosibirsk Prov.*: Karasukskii Distr., shore of Lake Gorkoe, 53º37′N, 77º42′E, 29.VI.1998 (M.G. Volkovitsh, A.S. Konstantinov), 12 females; Karasukskii Distr., southwestern shore of Nadyr marsh, 53º30′N, 77º33′E, on *Tamarix*, 31.VII.2017 (A.G. Moseyko), 1 female.

Since all the specimens of *S. flavus* collected in Novosibirsk Province turned out to be females, the drawings of the aedeagus (Figs. 1–3) were made from a specimen collected in Kazakhstan: *Karaganda Prov.*: Koksengir Mts. S of Zhana-Arka [Atasu] (48º20′N, 71º30′E), 18.VII.1958 (M.M. Loginova), which is about 800 km SW of the collecting locality of this species in Novosibirsk Province. The aedeagus has turned out to be similar to those in specimens from Volgograd, Astrakhan, Sudak, and Askania-Nova; therefore, it can be argued that the same species, *S. flavus*, occurs in the south of Ukraine, in the plain part of the southern European part of Russia, in Kazakhstan, and in Southern Siberia; however, it is necessary to examine the aedeagus in specimens from the type locality (Greece). This is especially important since *Tamarix*, on which *S. flavus* feeds, is apparently represented in Ukraine only by invasive species (Visyulina, 1955) in artificial plantings or by feral species. Correspondingly, *S. flavus* should also be considered there as an invasive species which was introduced or penetrated to this region following its host plants. The aedeagus of *S. flavus* is distinguished from that of *S. tamaricis* described earlier (Warchałowski, 2007) by the apical part narrow in lateral view and by the apex bent at the right angle and rather heavily sclerotized (therefore, the apex in dorsal view and the complete aedeagus in dorsal view appear sharply different (cf. Fig. 1 and Fig. 2). Kazakhstan in its southern part, Middle Asia, and the Caucasus are inhabited by species similar to *S. flavus*; their genitalia should be thoroughly examined.

Distribution. Austria, Croatia, Bulgaria, Greece, Turkey, Ukraine, Russia (Rostov and Volgograd provinces, Krasnodar Territory—the coast of the Sea of Azov; Kalmykia, Novosibirsk Province, Altai; the specimens from Daghestan and Karachay-Cherkessia, may belong to another species), the west, north, and northeast of Kazakhstan. The distribution in Middle Asia and in the Caucasus requires specification.

Stylosomus submetallicus Chen, 1941

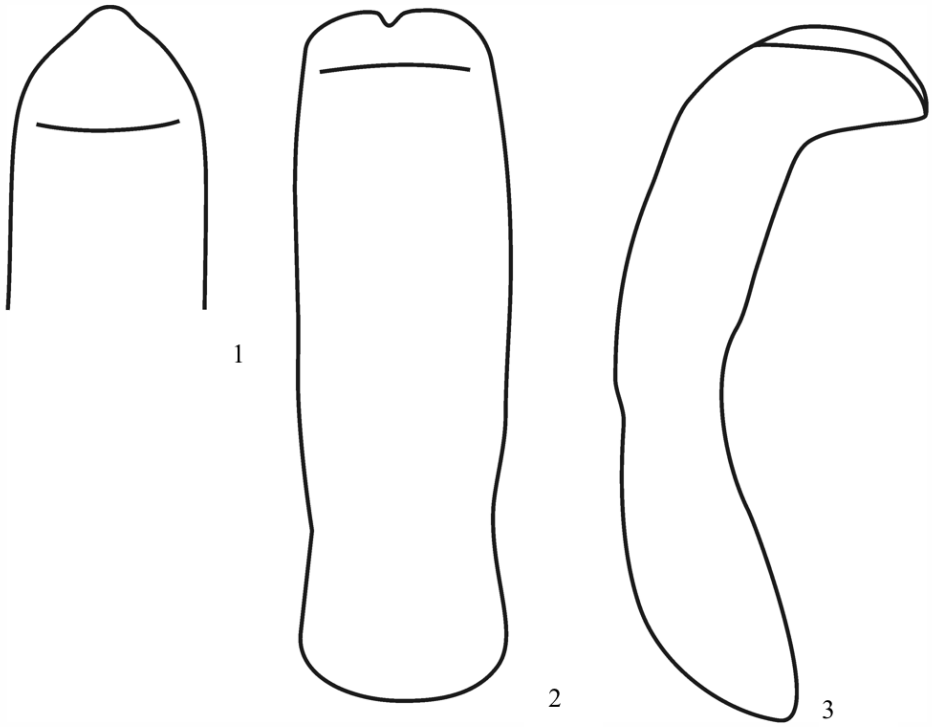
Stylosomus submetallicus Chen, 1941 : 20.

Stylosomus sinensis Lopatin, 1956 : 157.

Type material examined. *Stylosomus sinensis*, holotype and 1 paratype, **China**, *Qinghai*: “Qaidam, Bomyng River, 10–26.VI.1925” (see “Note”).

Material from Southern Siberia. *Tuva*: Dzun-Khemchikskii Distr., Chadan River floodland in environs of city of Chadan (53º30′N, 77º33′E), 12–13.VII.1971, 21.VI.1972, 02.VII.1979 (B.A. Korotyaev), on *Myricaria dahurica* (Willd.) Ehrenb., 20 specimens; Ovyurskii Distr., Torgalyg Vill., river floodland, on *M. dahurica*, 31.VII.1979 (B.A. Korotyaev), 14 specimens

Note. The geographical labels of the type specimens of the species described by I.K. Lopatin are written in his handwriting. The material from Northern China deposited in the ZIN was collected during the expeditions of N.M. Przhevalsky and P.K. Kozlov, but the



Figs. 1–3. *Stylosomus flavus* Mars.: (1) apex of aedeagus, dorsal view; (2) aedeagus, dorsal view; (3) aedeagus, lateral view.

expedition of 1925 was working in Mongolia, and the Qaidam Depression could not have been visited in June, and the "Bomyng" River is missing among the published collecting sites of the expedition of 1925–1926. However, P.K. Kozlov's expedition collected insects in the period of 10–25.VI.1885 on the Bomyn-Gol River, and the dates of these collections correspond to those referred to 1925 on the label of the type series. Two more specimens of this species with the label "Bomyn-Gol, 10–25.VI.1885, Kozlov and Roborovsky" are found in the ZIN collection. It seems most likely that the year of collection and the name of the river on the labels of the type specimens are given with errors. There is no river with the name "Bomyng" in the maps of the XX and XXI centuries. According to P.K. Kozlov, the second name of the river is Ichegyn-Gol. Under that name it is plotted on the color map (enclosure) in V.I. Roborovsky's (1949) book "Travel in East Tien Shan and in Nyan-Shan" (in the black-and-white variant of the map—Ichegyn). In the topographic maps of the General Staff of the USSR of the 1980s, with the scale bar of 1 : 500 000 (sheet J–46–2), this river is called as Makhaikhe in its lower reaches, and as Iche (Yuikakhe), in its upper reaches. In the modern Google services, the lower reaches of the river are called the Mahai River, and its upper reaches, the Yuka River. The coordinates of one of the sections of the lower reaches of the river are 38º05′N, 94º25′E. The lake into which the river runs is called Dzun-Makhain-Nor in Roborovsky's map, Dedzun-Makhai-Nor in the maps of the General Staff of the USSR, and Zongmahai Lake in the modern Google services.

Distribution. Russia (Tuva), Mongolia, the north of China.

Key to the Species of the Genus Stylosomus of the Fauna of Southern Siberia

1 (2). Elytra with confused rows of punctures; punctation fully confused in places (subgenus *Microsomus*). Pronotum rather long, nearly equilateral. Body regularly colored; only tarsi occasionally black. Body length 1.9–2.0 mm in males, 2.2–2.6 mm in females. Omsk and Novosibirsk provinces. On *Limonium* .... ***S. cylindricus*** Morawitz, 1860.

2 (1). Elytra with regular rows of punctures (subgenus *Stylosomus* s. str.).

3 (4). Body dorsally yellow, with darkened posterior part of vertex, with narrowly blackened suture of

elytra and junction of elytra and pronotum. Vague spots on pronotum slightly darker than background. Body length 1.5–1.6 mm in males, 2.2–2.4 mm in females. Novosibirsk Prov., Altai Terr. On *Tamarix* ..... ***S. flavus*** Marseul, 1875.

4 (3). Body black; only legs and labrum yellow. Body length 1.6–1.9 mm in males, 2.1–2.4 mm in females. Tuva. On *Myricaria dahurica* .... ***S. submetallicus*** Chen, 1941.

ACKNOWLEDGMENTS

The study was performed with financial support of a grant of the Russian Scientific Foundation (project no. 16-14-10031).

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