Species of the genus *Stygnocoris* from Russia and adjacent countries (Heteroptera: Lygaeidae)

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Five *Stygnocoris* species from the territory of Russia and adjacent countries are keyed. Their distributions in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg, are mapped. New synonymies are established: *S. cimbricus* (Gredler, 1870) = *S. pilosulus* (Thomson, 1870) = *S. pygmaeus* auct. (non R.F. Sahlberg); *S. sabulosus* (Schilling, 1829) = *S. pygmaeus* (R.F. Sahlberg, 1848).

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Introduction

Though a series of revisions have been done (Wagner, 1953; Péricart, 1999), the identification of species in the genus *Stygnocoris* Douglas & Scott remains difficult. The main aim of the work is to clarify the distribution of *Stygnocoris* species in Russia and adjacent countries with emphasis on the controversy existing in the literature on the identity of *S. pygmaeus* R.F. Sahlberg, 1848. The next aim is to facilitate identification of species of the genus registered in the territory under consideration. A key to these species is presented, diagnoses of species are given, and data on their distribution are refined.

About 800 specimens from the collection of the Zoological Institute, St.Petersburg, were examined. The distributions of species in Russia and adjacent countries are mapped (Figs 17-21). The data on distributions outside this territory are taken from Péricart (2001).

Key to species of *Stygnocoris*

1(2). Pubescence on pronotum adpressed and short, about one-third of eye diameter. Usually subbrachypterous (Fig. 16). First tarsal segment of hind leg 1.6-2.0 times as long as second and third combined (Fig. 9). The largest species; body length: ♂ 3.4-3.6 mm, ♀ 3.9-4.5 mm. Paramere as in Fig. 6 . . . . . **S. rusticus**

2(1). Pubescence recumbent or semierect, but never adpressed, longer than half of eye diameter. Macropterous. First tarsal segment of hind leg not more than 1.5 times as long as second and third combined (Figs 7, 8). Smaller species (body length less than 3.5 mm).

3(4). Frons strongly convex; eyes small, their length less than 0.4 of head height (Fig. 13). Paramere without outer projection (Fig. 5). Body length 2.3-3.3 mm . . . . . **S. fuligineus**

4(3). Frons sloping; eyes large, longer than half of head height (Fig. 14). Paramere with outer projection (Figs 2-4).

5(6). Blade of paramere long and narrow (Fig. 4). Subopaque, uniformly brown. Pubescence short (two-thirds of eye diameter) and recumbent. The smallest species; body length: ♂ 2.2-2.5 mm, ♀ 2.7-3.0 mm . . . . . **S. cimbricus**

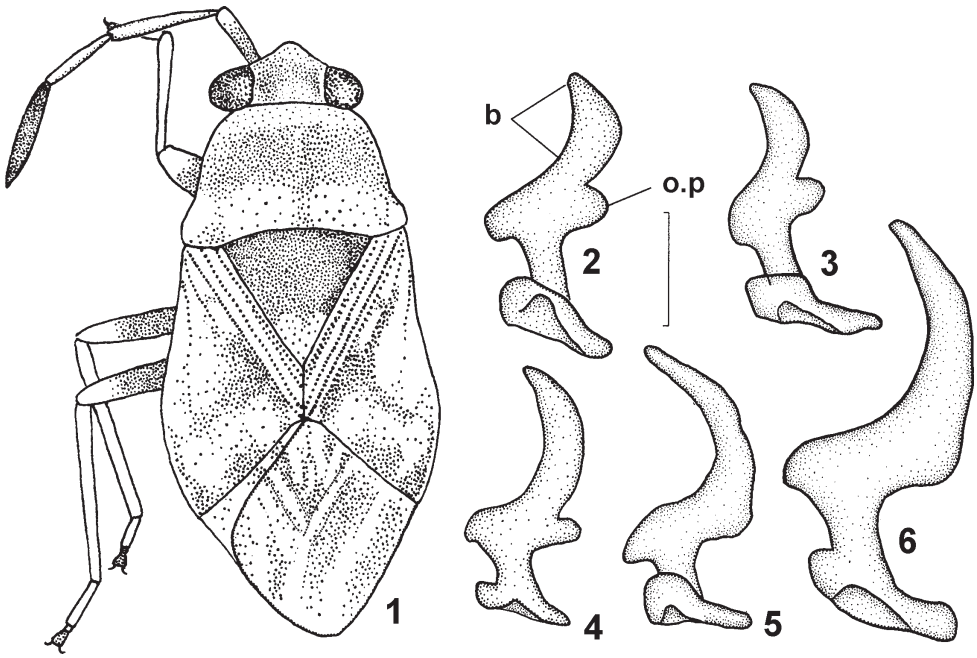
6(5). Blade of paramere short and wide (Figs 2, 3). Body subopaque or shining, brown with basal part of pronotum and apex of scutellum usually paler; clavus and corium often with pale markings. Larger species: ♂ 2.4-3.0 mm, ♀ 2.8-3.3 mm.

7(8). Bases of femora and first antennal segment dark (Fig. 1). Body subopaque. Pubescence on pronotum recumbent, shorter than two-thirds of eye diameter. Paramere as in Fig. 2 . . . . . **S. similis**

8(7). Femora and first antennal segment uniformly yellow. Body shining. Pubescence semierect, about as long as eye diameter. Paramere as in Fig. 3 . . . . . **S. sabulosus**

Stygnocoris rusticus (Fallĕn, 1807) (Figs 6, 9, 10, 16, 17)

Diagnosis. Body uniformly brown, usually opaque. Frons sloping. Width of vertex 1.5-1.6 times the length of first antennal segment. Second antennal segment 1.6-2.0 times as long as first and 1.2-1.4 times as long as third. Fourth antennal segment 1.1-1.2 times as long as third. First metatarsal segment 1.6-2.0 times as long as second and third combined. Pubescence on pronotum short (one-third of eye diameter), adpressed. Usually subbrachypterous, with rudimentary membrane (Fig. 16), but macropterous specimens also found. Larger than other species (especially subbrachypterous specimens). Paramere without outer projection, with long and narrow blade (Fig. 6).



Figs 1-6. *Stygnocoris*: **1**, *S. similis*, general view; **2-6**, parameres (2, *S. similis* (*b*, blade; *o.p*, outer projection); 3, *S. sabulosus*; 4, *S. cimbricus*; 5, *S. fuligineus*; 6, *S. rusticus*). Scale (Figs 2-6): 0.1 mm.

Body length: ♂ 3.4-3.6 mm, ♀ 3.9-4.5 mm.

Distribution. Russia: European part from Murmansk Prov. (Munozero) to extreme south, W Siberia (Tobolsk, Altai Terr.). Estonia, Latvia, Lithuania, Byelorussia, Moldavia, Ukraine, Georgia, Armenia, Azerbaijan, Kazakhstan (Almaty, Zaisan), Kirgizia (Arkit). Europe from Scandinavia to extreme south, NW Africa, China (Xinjiang). Introduced into USA and Canada.

Stygnocoris fuligineus (Geoffroy, 1785)
(Figs 5, 13, 18)

Diagnosis. Body dark brown, subopaque. Distinguished by strongly convex frons and relatively small eyes, less than 0.4 of head height (Fig. 13). Width of vertex 1.5-2.2 times the length of first antennal segment. Second antennal segment 1.3-1.7 times as long as first and 1.3-1.5 times as long as third. Fourth antennal segment 1.3-1.5 times as long as third. First metatarsal segment 1.0-1.4 times as long as second and third combined. Pubescence on pronotum short (two-thirds of eye diameter), recumbent. Basal third of pronotum and apex of scutellum usually paler than the main colour, greyish or pale ochraceous. Macropterous. Clavus greyish. Corium pale brown with greyish base, often with pale markings. Paramere without outer projection, with long and narrow blade (Fig. 5). Close to *S. similis*, but differs in the convex frons and uniformly brownish legs.

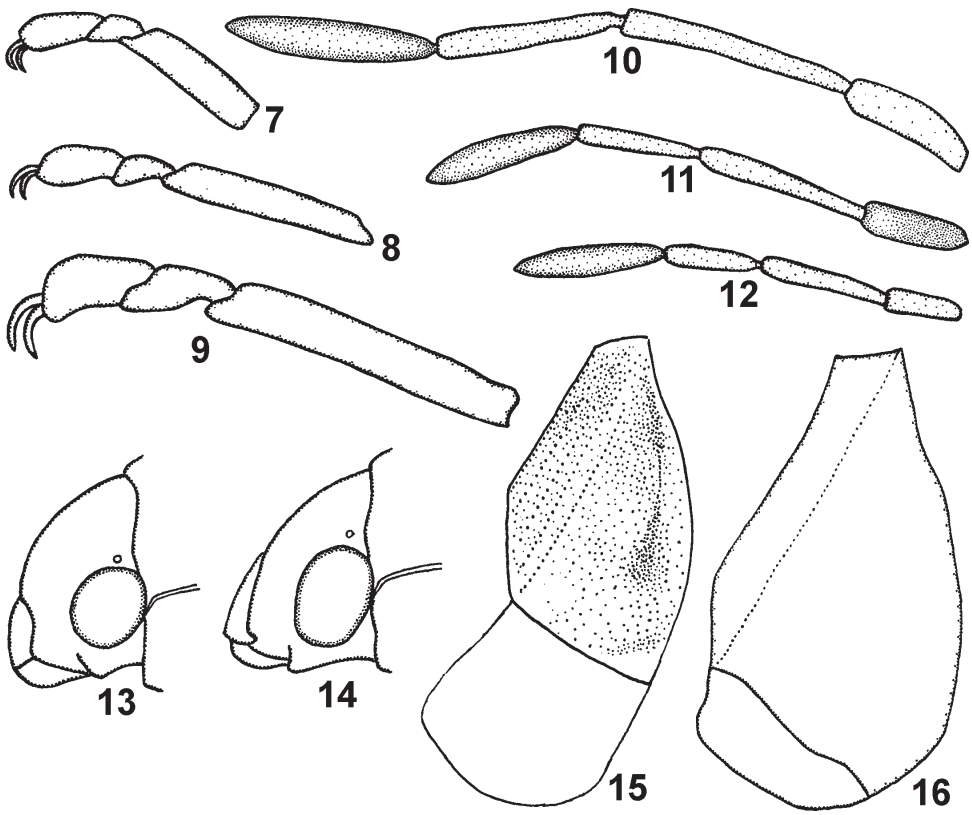
Body length: ♂ 2.3-3.2 mm, ♀ 2.6-3.3 mm.

Distribution. Russia: European part (Karelia, Ulyanovsk, Krasnodar Terr., Dagestan). Estonia, Byelorussia, Moldavia, Ukraine, Georgia, Armenia, Azerbaijan. Europe from Scandinavia to extreme south, NW Africa, Turkey, Israel.

Stygnocoris cimbricus (Gredler, 1870)
(Figs 4, 7, 12, 15, 19)

= *S. pilosulus* (Thomson, 1870), **syn. n.**
= *S. pygmaeus* auct. (non R.F. Sahlberg, 1848).

Diagnosis. Body subopaque, dark brown; clavus, corium and often basal part of pronotum pale brown. Frons sloping. Width of vertex 1.6-2.0 times the length of first antennal segment. Second antennal segment 1.4-2.0 times as long as first and 1.3-1.6 times as long as third. Fourth antennal segment 1.5-1.7 times as long as third. First metatarsal segment 1.0-1.5 times as long as second and third combined. Pubescence on pronotum short (two-thirds of eye diameter), recumbent. Macropterous. The smallest species.



Figs 7-17. *Stygnocoris*: **7-9**, hind tarsus (7, *S. cimbricus*; 8, *S. sabulosus*; 9, *S. rusticus*); **10-12**, antenna (10, *S. rusticus*; 11, *S. similis*; 12, *S. cimbricus*); **13-14**, head in lateral view (13, *S. fuligineus*; 14, *S. similis*);**15-16**, forewing (15, *S. cimbricus*; 16, *S. rusticus*).

Paramere with outer projection, with long and narrow blade (Fig. 4). Similar to *S. sabulosus*, but differs from this in short recumbent pubescence and subopaque body.

Body length: ♂ 2.2-2.5 mm, ♀ 2.7-3.0 mm.

Distribution. Russia (Leningrad, Kirov, Perm', Ryazan', Nizhniy Novgorod, Samara, and Orenburg provinces, Karelia), Ukraine (Crimea). Péricart (2001) cited *S. cimbricus* from Germany, Switzerland, Italy, Austria, Czech Republic, and Slovakia. The records of *S. pygmaeus* from Sweden, Finland, Hungary, Romania and the Balkan Peninsula (including Greece) published before 1999 apparently concern *S. cimbricus* as well.

Note. Reuter (1875, 1877) placed *S. pilosulus* and *S. cimbricus* in synonymy with *S. pygmaeus* and was followed by subsequent authors. Péricart (1999) has shown that *S. pygmaeus* and *S. cimbricus* are separate species. Most of descriptions and records of *S. pygmaeus* (e.g., Kiritshenko, 1951; Kerzhner & Jaczewski, 1964) actually refer to *S. cimbricus*. The original description of *S. pilosulus* fits well *S. cimbricus*. Both Gredler and Thomson had recognized that four species (not three) are common in Northern and Central Europe and that the smallest species was not described earlier. As Gredler's paper was published on May 31, and the exact date for Thomson's work remained unknown, *S. cimbricus* is accepted as the valid name.

Stygnocoris sabulosus (Schilling, 1829)
(Figs 3, 8, 11, 14, 20)

= *S. pygmaeus* (R.F. Sahlberg, 1848), **syn. n.**

Diagnosis. Frons sloping. Width of vertex 1.1-1.6 times the length of first antennal segment. Second antennal segment 1.4-1.9 times as long as first and 1.2-1.5 times as long as third. Fourth antennal segment 1.3-1.7 times as long as third and slightly longer than second. First metatarsal segment 1.0-1.7 times as long as second and third combined. Distinguished from other discussed

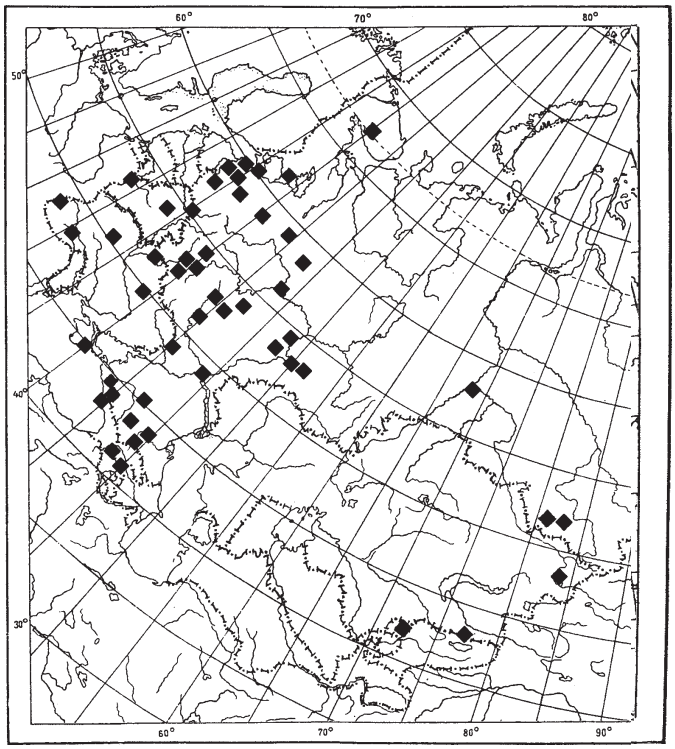


Fig. 17. *Stygnocoris rusticus*, distribution in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg.

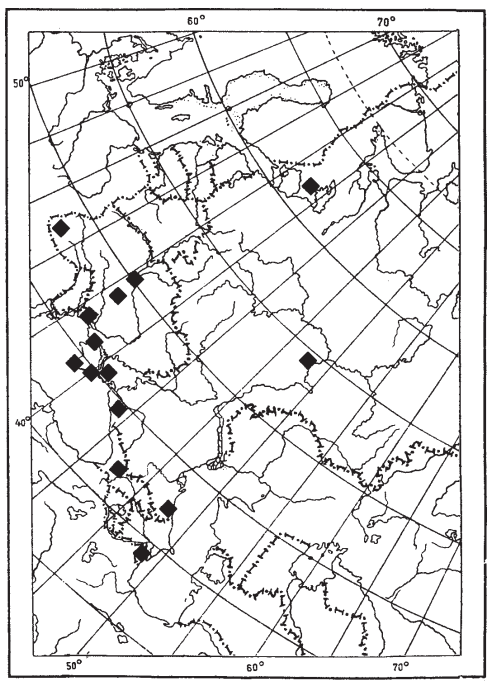


Fig. 18. *Stygnocoris fuligineus*, distribution in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg.

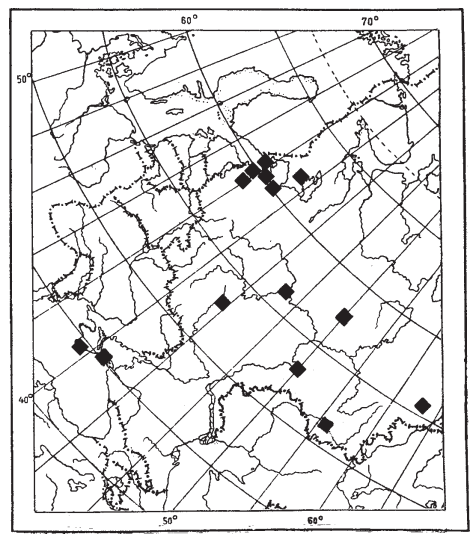


Fig. 19. *Stygnocoris cimbricus*, distribution in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg.

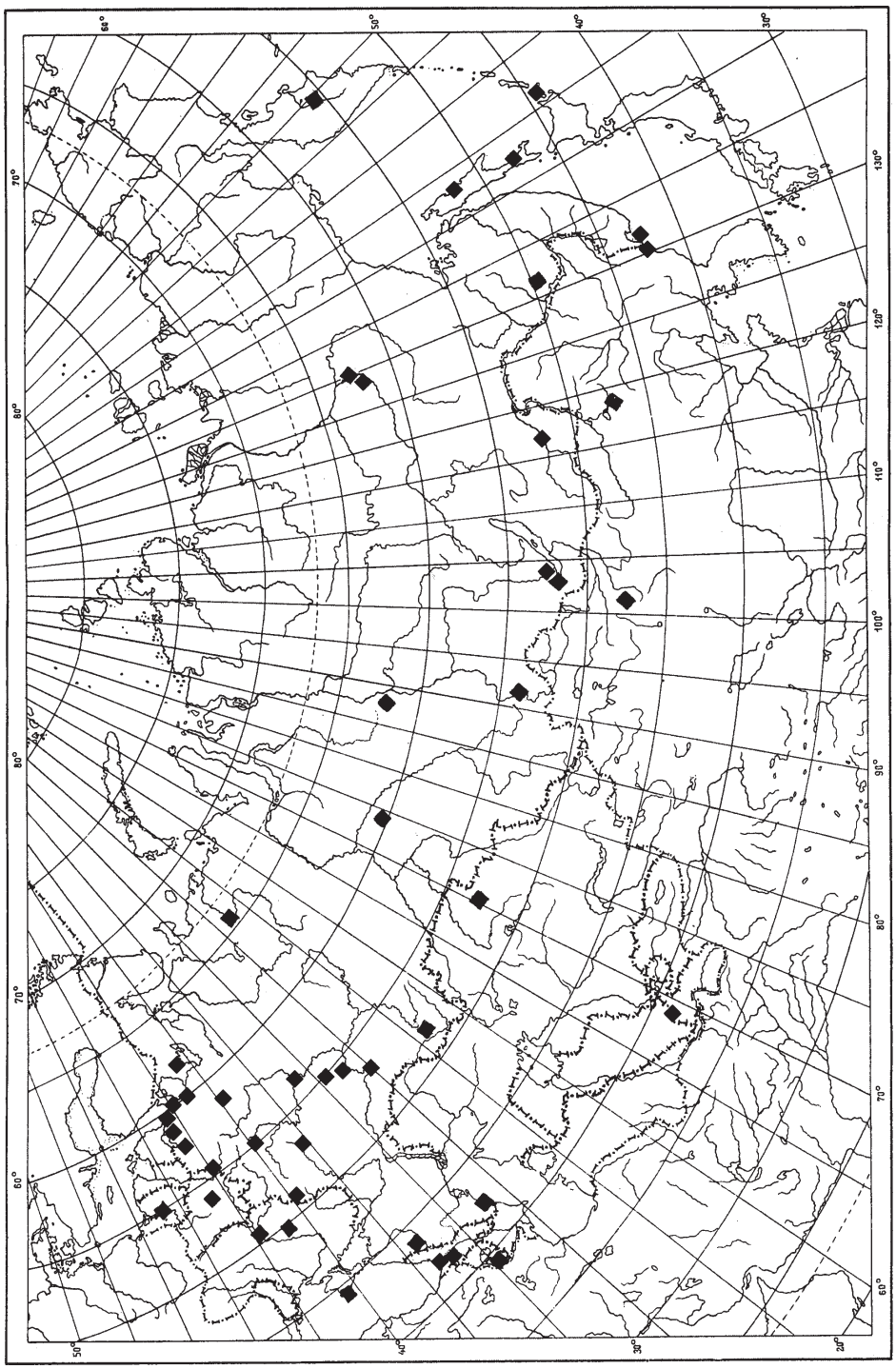


Fig. 20. *Stygnocoris sabulosus*, distribution in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg.

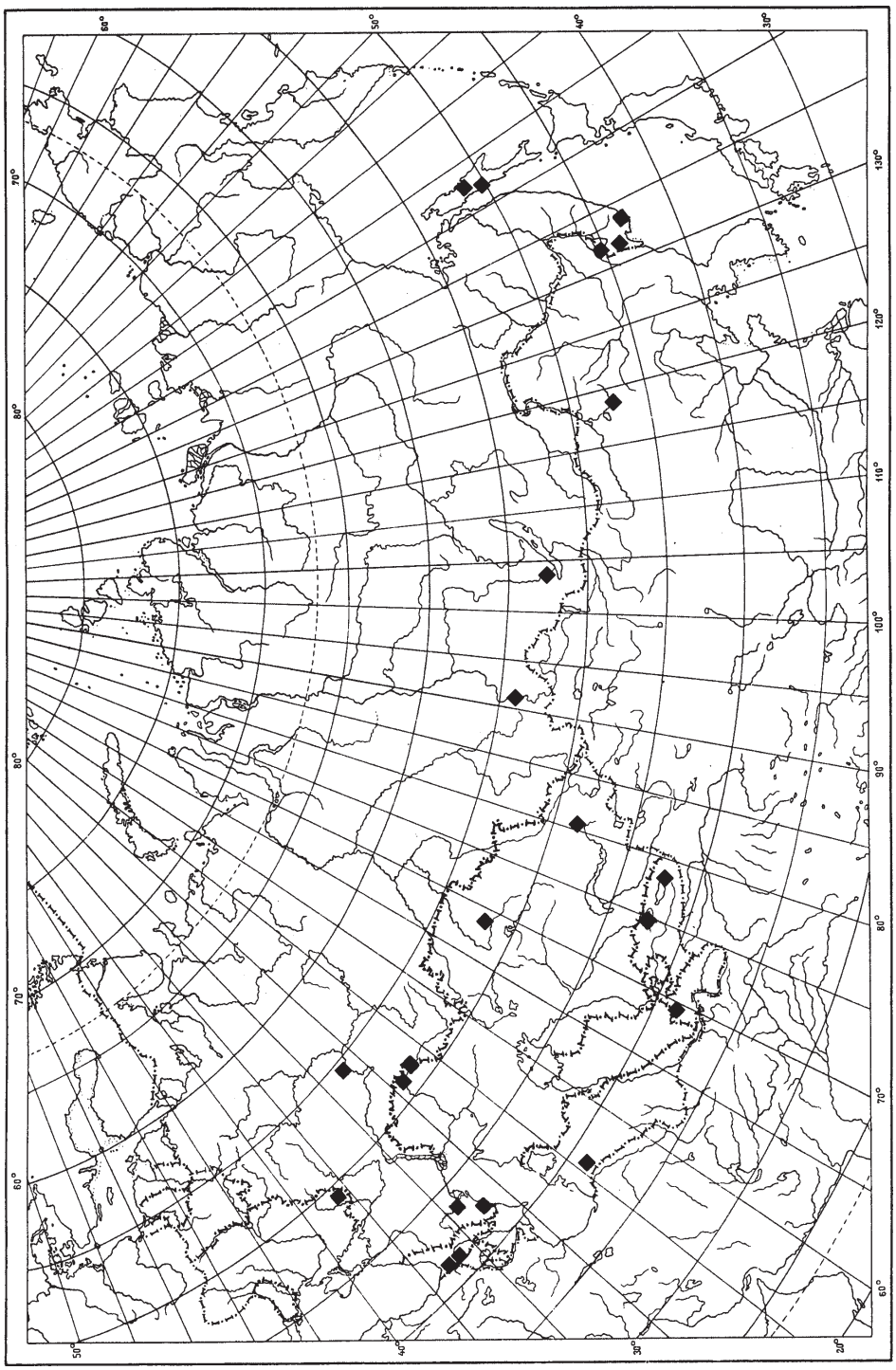


Fig. 21. *Stygnocoris similis*, distribution in Russia and adjacent countries, based on the collection of the Zoological Institute, St.Petersburg.

species of the genus by shining body (old specimens should be washed up with ether), semierect, long, equal to eye diameter pubescence on pronotum, and yellow legs. Basal part of pronotum and apex of scutellum usually paler than main colour. Macropterous. Clavus greyish. Corium brown, covered with diffuse pale spots. Paramere with outer projection, with short and wide blade (Fig. 3), similar to that of *S. similis*. The species is similar to *S. cimbricus*, but body shining, corium covered with diffuse yellow spots, pubescence on pronotum long, semierect; it is also similar to *S. similis*, but first antennal segment and femora uniformly yellow, body shining, spots diffuse, pubescence long, semierect.

Body length: ♂ 2.4-2.5 mm, ♀ 2.8-3.3 mm.

Distribution. Russia: from Karelia, Komi Republic, Central Yakutia and Kamchatka to North Caucasus, Southern Siberia, Primorsk Terr. and Kunashir Island. Estonia, Latvia, Lithuania, Byelorussia, Moldavia, Ukraine, Georgia, Armenia, Azerbaijan, North Kazakhstan (Borovoe), Kirgizia, Tadjikistan (Iskander-kul), Europe from Scandinavia to extreme south, NW Africa, Turkey, Iran, Mongolia, China (Xinjiang), Japan, Canada, USA.

Note. In the original description, *S. pygmaeus* was described as shining ("nitidus"), which fits *S. sabulosus* rather than *S. cimbricus*. The figured paramere of a specimen from Finland (Péricart, 1999: Fig. 201G), which was compared with the lectotype of *S. pygmaeus*, is that of *S. sabulosus*. To verify the possible synonymy, I have examined the lectotype of *S. pygmaeus*, a male from Finland kept at the Helsinki Zoological Museum, and dissected its genitalia. The specimen undoubtedly belongs to *S. sabulosus*. Also the paralectotype of *S. pygmaeus* kept at the University of Turku, a badly damaged male, belongs to *S. sabulosus* (V. Rinne, personal communication). Hence, *S. pygmaeus* should be synonymized with *S. sabulosus*.

Stygnocoris similis Wagner, 1953
(Figs 1, 2, 21)

Diagnosis. Body subopaque. Frons sloping. Width of vertex 1.4-1.8 times the length of first antennal segment. Second antennal segment 1.5-1.7 times as long as first and 1.2-1.4 times as long as third. Fourth antennal segment 1.3-1.5 times as long as third. First metatarsal segment 1.1-1.6 times as long as second and third combined. Distinguished from *S. sabulosus* by first antennal segment and bases of femora darkened. Pubescence on pronotum short (two-thirds of eye diameter), recumbent. Basal part of pronotum and apex of scutellum usually paler than main colour. Macropterous. Paramere with outer projection, with short and wide blade (Fig. 2), similar to that of *S. sabulosus*. Close to *S. fuligineus*, but differs from this in the frons not strongly convex, sloping. Also close to *S. sabulosus*, but pubescence on pronotum short (two-thirds of eye diameter) and recumbent, body subopaque, yellow spots distinct (Fig. 1).

Body length: ♂ 2.7-3.0 mm, ♀ 3.0-3.2 mm.

Distribution. Russia: Dagestan, Ulyanovsk, Orenburg Prov., env. of Minusinsk and Irkutsk, Primorsk Terr., Sakhalin. Ukraine (Lugansk Prov.), Georgia, Kazakhstan (Yanvartsevo at the Ural, Atbasar, Ayaguz), Kirgizia (Kirgizian Alatoo and Karakol), Tadjikistan (Iskander-kul), Turkmenistan (Kopetdag). Recorded also from Spain, France, Italy, Austria, Czech Republic, Croatia, Greece, Bulgaria, Turkey, Cyprus, and Syria.

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