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Contributions to the knowledge of *Stenus* (*Nestus*) species of the *crassus* group (Insecta: Coleoptera: Staphylinidae: Steninae)

1. Four new species from the Russian Far East with taxonomic notes

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The subgenus *Nestus* Rey, 1884 of the genus *Stenus* Latreille, 1797 is revalidated. The *crassus* species group is reestablished. Four new *Stenus* (*Nestus*) species are described from the Russian Far East: *S.* (*N.*) *finalis* sp.n. from Sakhalin, Kuriles, the Khabarovsk Territory, and Maritime Province; *S.* (*N.*) *pardulus* sp.n. from the S Maritime Province; *S.* (*N.*) *finitor* sp.n. and *S.* (*N.*) *minus* sp.n., both from the NE Amur Area. *Stenus* (*N.*) *subcautus* Ryvkin, 2000 is transferred from the *cautus* group to the *crassus* group and reported from the Amur Area for the first time.

Key words: Stenus, Nestus, crassus species group, Russia, Far East, nev species.

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INTRODUCTION

The present paper is expected to be the first in a series dealing with the monophyletic *crassus* group. Puthz (1968) has briefly reviewed the palaearctic representatives of the group in his paper on the subgenus *Tesnus* Rey, 1884; since then some new material has been accumulated and some taxonomic problems have arisen. Accordingly, some doubtful taxa should be revised and some new species should be described.

In addition, since the formal modification of the subgeneric system of the genus *Stenus* Latreille, 1797, having been undertaken recently (Puthz 2001, 2008), evidently confuses the pattern of intrageneric phylogenetic relations of the species groups, including the *crassus* group, I revalidate herein the subgenus *Nestus* Rey, 1884 being both a „repository" of ancestral forms and a collection of basic evolutionary tendencies within the genus.

The *crassus* group is morphologically redefined and diagnosed below. Four new species of the

group are described from the Russian Far East. The measured proportions of body parts in the descriptions of the species are given in points of an eyepiece linear micrometer of a binocular microscope at the magnification 56x.

After the differences between the group in question and some similar ones have been clarified, *S. subcautus* Ryvkin, 2000 proves to belong to the *crassus*, not *cautus* group.

The further issues will contain all the known species of the group with revisional notes and faunistic data. A key for identification as well as an analysis of phylogenetic relations are supposed to be provided in the final part of the work.

ABBREVIATIONS

HT: holotype;
PT, PTT: paratype, paratypes.

AR: Collection of A.B.Ryvkin, Moscow, Russia;
VP: Collection of Dr. V.Puthz, Schlitz, Germany;
ZMMU: Zoological Museum of Moscow State University, Russia.

SYSTEMATIC PART

Genus *Stenus* Latreille, 1797

Nestus Rey, 1884, subgenus proprium

Nestus Rey, 1884: 183
Stenus s.str. (pars); Puthz, 2001, *Philippia*, 10(1): 34
Stenus s.str. (pars); Puthz, 2006, *Revue suisse de Zoologie*, 113(3): 618
Stenus s.str. (pars); Puthz, 2008, *Linzer biologische Beiträge*, 40(1): 140
(For other catalogue references: see Herman 2001)

„Scias characterem non constituere Genus, sed Genus characterem. Characterem fluere e Genere, non Genus e Charactere. Characterem non esse, ut Genus fiat, sed ut Genus noscatur" (Linnaeus 1751). Unfortunately, this instruction by the father of biological systematics has frequently been forgotten at attempts to create a system more „natural" than possible.

Puthz (2001), having put *Nestus* Rey, 1884 in the synonymy of the nominotypical subgenus, was based on the following facts known to all: 1) relative length of posterior tarsus (and also of its individual segments) varies within some species groups to such an extent that the species, which are to belong to the same group for the reasons of their phylogeny, prove to be the members of different subgenera at strict formal use of this character as a subgeneric criterion; 2) neither Casey (1884) nor Bernhauer & Schubert (1911) have been dividing the subgenera named; the latter authors wrote flatly: *„Stenus s. str. + Nestus"* („Viel wichtiger erscheint mir aber die Tatsache, dass weder CASEY (1884) noch BERNHAUER & SCHUBERT (1911) diese beiden genannten Untergattungen unterscheiden, wobei die letzteren Autoren ausdrücklich *"Stenus s. str. + Nestus"* schreiben (p. 152)").

And that's all. For me it is difficult to understand why, according to colleague Puths, the latter argument seems to be „much more important" than the former one to colleague Puthz. Neither Th.L.Casey known for his extreme typological approach nor M.Bernhauer, who has formally erected more than five thousand species and hundreds genera during the main part of his long and productive entomological life, can be regarded as zealous evolutionists. Furthermore, it would be strange to expect Casey to cite Rey's subgenera since both the revisions have been published at the same time (1884). As to citing both the subgenera conjointly in Coleopterorum Catalogus (Bernhauer & Schubert l.c.), I suppose that it was caused by difficulties in subgeneric attribution of many old species descriptions in which Rey's diagnostic characters had been omitted.

The baselessness of the former argument is quite evident as well. „Scias characterem non constituere Genus, sed Genus characterem" (see above). A great number of parallelisms is one of

the characteristic features of the relatively young (cretaceous: Schlüter 1978; Ryvkin 1988) and prosperous taxon, and this fact does not abolish a necessity of analysing concrete phylogeny at taxonomic decision making. The „balanced" dichotomy much infrequently occurs at real macroevolution. The aporia in question has been discussed many times in the theory of systematics. „The same characters vary in value and constancy from group to group and even within a single phyletic series, but this fact does not invalidate their use in those parts of the series where they are constant" (Mayr *et al*. 1953). If a character, diagnostic for a monophyletic taxon in most cases, proves to be irrelevant in any particular group of this taxon, we can either split the taxon or modify the formal diagnosis so that the evident monophyly should not be broken. Even if we have every reason to believe the taxon to be polyphyletic, it would be useful to remember that „the breaking up of polyphyletic groups does not necessarily lead to a more practical system, if we do not know where the fragments belong" (Mayr *et al*. l.c.). The „*cameratus* group", which is cited by Puthz as a solid ground of his standpoint concerning the subgenus *Nestus*, is in fact a part of the compact *circularis-cameratus-rugicollis* complex. Some of the species within the complex have the 1st segment of metatarsi distinctly longer than the 5th whereas the others resemble in this respect the common *Nestus* species in having the 1st metatarsal segment about equal to or smaller than the 5th. Since the phyletic unity of the complex may be proved at the level of the structure of the aedeagus (see, e.g., Puthz 1971), it is quite evident that lengthening the basal segments of metatarsi in some African species, along with such a process in the subgenera *Stenus* s.str., *Hemistenus* Motschulsky, 1860 and some other groups, is a mere case of parallelism in the evolution of the genus. It is to be mentioned particularly that one of both the known fossil cretaceous species of the genus, *S.* (*N.*) *imputribilis* Ryvkin, 1988, is supposed to be closely related to the complex under discussion and has the 1st metatarsal segment unelongated.

Before modifying the generic system on the grounds of the formal characters, it would be useful to remember that none of the subgeneric characters within the genus *Stenus* are likely to be absolute (as well as none of the diagnostic characters of every more or less real species group are likely to be absolute).

Accordingly, as one would expect, in place of a phylogenetic alternative, we obtain a list of 157 species groups (Puthz 2008) erected by different authors (mainly by Puthz himself) at different times. The list is built alphabetically and subdivided by biogeographical macroregions. At establishing most of the groups, no phylogeny has been used, no evolutional relations with other groups have been analysed, and no detailed differential diagnoses have been given. The groups are based mainly on the traditional typological characters of external morphology and genitalia; and all this may be regarded rather as praxis in nomenclature than as preparing a new generic system.

It is quite obvious that the system of Steninae needs a thorough phylogenetic analysis. Improving the system is much likely to be a result of the analysis. But it does not mean that the existing „imperfect" system has to be crushed before „perfect" one is created. And it is quite clear to Puthz kindly permitting to retain the rest subgenera (excluding *Nestus*) till near new phylogenetic division of the whole genus („bis zu einer baldigen phylogenetischen Neueinteilung der gesamten Gattung") „for technical-determinative reasons". But, if that is the case, baseless excluding *Nestus* from the list of the subgenera „forgiven temporarily" seems to be an example of inadmissible subjectivity in taxonomy.

Meanwhile, in the traditional interpretation, the subgenus *Nestus* in its core part is a quite natural group, apparently the most primitive in comparison with other subgenera. The last conclusion corresponds well with maximal diversity of its representatives that is manifested in occurrence of the complete sets of the main characters in the structure of the fore abdominal

tergites, lateral margination of abdomen, tarsal segments, antennal and metatarsal proportions, etc. That can be explained by the well-known „law of specialization of phylogenetic branches" („law of unspeciality": see Tichomirova 1973). The insufficiently considered attempts of merging the subgenus with *Stenus* s.str. may cause far-reaching consequences in understanding evolution within the genus.

Based on the reasons mentioned above, until a reasonable alternative appears, I prefer to consider the subgenus *Nestus* Rey, 1884 as a subgenus proprium.

The *crassus* group

The *crassus* group may be regarded as one of the most problematic within the genus. The problems follow from the presence of many species differing from one another in very feeble distinctions (even concerning the shape of aedeagus) as well as from having some apomorphies that obscure real subgeneric attribution of the group, viz. the abdominal segments nearly cylindrical with the lateral margination reduced to a great extent. Basing on the named characters of the abdominal segments, since the latest decades of the nineteenth century, most of the species now included which had been described at that time were believed to belong to the subgenus *Tesnus* Rey, 1884 (Rey 1884; Ganglbauer 1895; Reitter 1909; Bernhauer & Schubert 1911; etc).

First, Ludwig Benick (1925) referred most of those species to the *opticus* group, but a separate group („der Artenkreis des *Stenus crassus*") was erected by him soon (Benick 1930) within the same subgenus *Tesnus*; though *S. freyi* L.Benick, 1921, as in the aforementioned paper, was placed among the subgenus *Nestus* Rey, 1884 at the same time. In the article of 1935, Benick kept placing the *crassus* group in the subgenus *Tesnus*, transferring *S. freyi* as well as *S. kongsbergensis* Münster, 1911 (with its synonym *S. bergrothi* L.Benick, 1921) to *Nestus* and making an attempt to separate the named species from the species retained in *Tesnus*. Holding to the above concept in this paper, he gave a new key alternative in place of that have been provided before (Benick 1929) for separating both the subgenera:

"2(3) Abdomen seitlich ungerandet oder (*crassus* und Verwandte) mit doppelkieligem Rand am ersten Ring und Randresten mit feiner Schnittlinie an den folgenden Segmenten Subg. *Tesnus*.

3(2) Abdomen seitlich an den vier ersten Segmenten mit doppelkieligem Rand, der eine ± breite Längsvertiefung einschließt
Subg. *Nestus*".

In the next paragraph, Benick admitted that *S. freyi*, *S. kongsbergensis*, and *S. bergrothi* might be closely related to the *crassus* group, and supposed that when the material enough would be accumulated, a study of the structure of the aedeagus should be undertaken („Wenn von den drei Species mehr Material vorliegt, muß der Forcepsbau ebenfalls nachgeprüft werden"). In the subsequent issues, I hope to discuss in more detail whether the characters provided can be applicable to the *Nestus* species named by Benick. Two essential points should be stressed here: the lateral margination of the fore abdominal segments has been regarded by Benick as the main character separating *Tesnus* and *Nestus*; basing on the named character, the *crassus* group in its different parts is supposed to be the intermediate one between both the subgenera.

Puthz (1968) formally retained Benick's last concept in general (with no records of *S. kongsbergensis* or *S. bergrothi*), kept placing the *crassus* group as whole in the subgenus *Tesnus* (he reasonably supposed the latter to be polyphyletic), and kept placing *S. freyi* in *Nestus* as well. He mentioned the close relation of the *crassus* group to *Nestus* („*fuscipes* Gravenhorst-*dissociatus* Eppelsheim-*argus* Gravenhorst" complex), basing on both the presence of sclerotized spermatheca and the internal structure of the aedeagus, but not indicating any characters of the aedeagus structure to prove the relation. This structure is rather conservative and uniform

in many groups in general. As to the degree of sclerotization of spermatheca, it may be highly diverse even within the same species group. Therefore a detailed diagnosis is to be given for the *crassus* group (see below).

In the subsequent publication, Puthz (2006) excluded the *crassus* group eventually from the subgenus *Tesnus*; but after abolishing the subgenus *Nestus* (Puthz 2001) and transferring the group to *Stenus* s.str. its taxonomic position has been obscured substantially. At last, recent joining the *crassus* and *fuscipes* groups (Puthz 2008) completed the homogenization: the species of the named groups merge into united unstructured complex within the unstructured subgenus *Stenus* s.str.

As in the case of the subgeneric division, in the case of erecting groups of species a problem can arise over the presence of intermediate forms concerning a number of characters. But the problem is insubstantial to a great extent. It is quite evident that parallelisms play a considerable part in evolution of such a group, both vast and morphologically homogeneous, as Steninae. Species group (as well as subgenus) makes sense as intercalary taxonomic category, inasmuch as every group, unlike genus, is detached from others with distinct hiatus not necessarily, allowing "contact" and even partial overlap in some morphological characters. It results from well-known tendencies of parallel development in closely related phylogenetic branches. Only a divergence, established practically from the full complex of morphological attributes and morphogenetic tendencies within every monophyletic group, can enable a valid discrimination.

Diagnosis. Fairly small to very small but robust; body length in the known species 1.6 to 3.4 mm.

Head small in comparison with elytra and pronotum, with a median elevation more or less prominent, in some species evidently knob-like; lateral impressions not deep to very feeble. Antennae moderately long to short, with club segments large and rounded.

Elytra nearly rectangular, large, with short rounded humeri, to shortened trapezoid with humeri effaced.

Legs moderately long to rather short; the 4th segment of tarsi without emargination; the 1st segment of metatarsus shorter than the 5th.

Abdomen nearly cylindrical, with paratergites well developed on the abdominal segment 3, sometimes visible but evidently reduced on the segment 4, extremely fine dash-line shaped or entirely erased on the subsequent segments; each of the four anterior visible tergites with four short but evident longitudinal keels at basal part; posterior margin of the tergite 7 with a membranous fringe well-developed to nearly vanishing.

Puncturation diverse, but always non-rugose.

Ground sculpture cellular or net-shaped to entirely absent.

Pubescence normal to very long and outstanding.

Male: Meso- and metatibiae without any teeth; the posterior margin of abdominal sternite 8 shallowly emarginated to about straight; 9th abdominal sternite with posterolateral denticles incurved inwards. Aedeagus with apical sclerotized part of median lobe angular or, to a variable extent, constricted basally, strobile-shaped; endophallus with paired medial bands and H-shaped expulsion clasp producing lateral portions fairly broad.

Female: Posterior margin of abdominal sternite 8 broad rounded to angularly rounded; both valvifera with posterolateral denticle incurved inwards. Spermatheca sclerotized to a greater or lesser extent.

The most closely related to the *fuscipes* and *cautus* groups; differs from both the named groups in the paratergites effaced on the abdominal segments 4 to 7.

Taxa included. Since many species should be revised in the further issues, the thorough list of the taxa included is to be provided after the revision is complete.

***Stenus* (*Nestus*) *finalis* Ryvkin, sp. n.** (Figs. 1–3)

Material. RUSSIA: 1 male-HT(ZMMU): „S of Sakhalin Island, Korsakovskiy | District, 5 km N of Novikovo, | ejected algae at | seashore. 4.vi.[19]90. [K.V.]Makarov [leg.]" [In Russian], „HOLOTYPUS"[my standard printed red label], „*Stenus* HT | *finalis* sp. n. | A.B.Ryvkin det. 2005" [my standard determinative label].—1 female-PT(AR): together with holotype.—2 males-PTT(AR): Sakhalin Area, Kurile Islands, Zelyonyi Island, Sredneye Lake, W shore, peat moss bog in depression between bald mountains: *Sphagnum* spp., *Aulacomnium* sp., *Ledum palustre*, *Vaccinium uliginosum*, *Carex* sp., *Lysichiton camtschatcense*. 06.08.1994. K.Yu.Eskov leg. [In Russian]—1 male-PT(AR): Maritime Prov., Furugelma Island, p/pl.10 *Quercus*, *Lespedeza*, *Rhododendron*, motley grass. 01.10.1976. L.D.Filatova leg. [In Russian]—1 male-PT(AR): Maritime Province, Khasanskiy District, Golubinyi Utyos, Vudunupta River bank, trap cylinder. 02.06.1972. G.Sh.Lafer leg. [In Russian]—1 male-PT(ZIN): [Khabarovsk Territory,] Amur River basin, Komsomol'skiy District, Kondon. 01.10.1957. O.N.Kabakov leg. [In Russian]—1 female(VP): Maritime Prov., Suputinskiy Nature Reserve. 17.09.1966. D.A.Krivolutskiy leg.[In Russian; the only female, identified questionably]. The paratypes listed above are provided also with both „PARATYPUS" printed red label and my standard determinative label each.

Description. Black to pitchy black, distinctly fatty to varnish shining, moderately densely punctured, with not long and moderately dense contiguous silvery pubescence. Antennae brown, with basal segment brownish-black, segments of club dark-brown; palpi brown with segment 1 brownish-yellow; legs yellowish-brown, knees occasionally slightly infuscate; labrum pitchy-black, finely pubescent with short yellowish-silvery hairs.

Length: 2.3–2.8 mm (the last value for the specimen with abdomen extended).

Head by nearly 1/4 broader than pronotum (47:38 in holotype), somewhat broader than elytra between humeri (47:43) and somewhat narrower than the latter in their broadest part (47:50). Front with two moderately deep but well-developed longitudinal impressions; median elevation broad and prominent, posteriorly 2.5 times as broad as each of lateral portions (15:6). Puncturation rather coarse and dense, irregular, partly confluent but not rugose; the greatest punctures nearly as large as the broadest cross-section of antennal segment 3; median elevation of the front with longitudinal strip impunctate, distinctly broader than average diameter of punctures. Length proportion of antennal segments 2–11 as 6:5:4.5:4.5:4:4:3:3.5:4:6; the segment 2 more than twice as long as broad (6:2.5); the segments 9 to 10 quite globular, the segment 11 distinctly oblong (6:4). Antennae not reaching the posterior one-third of the pronotum.

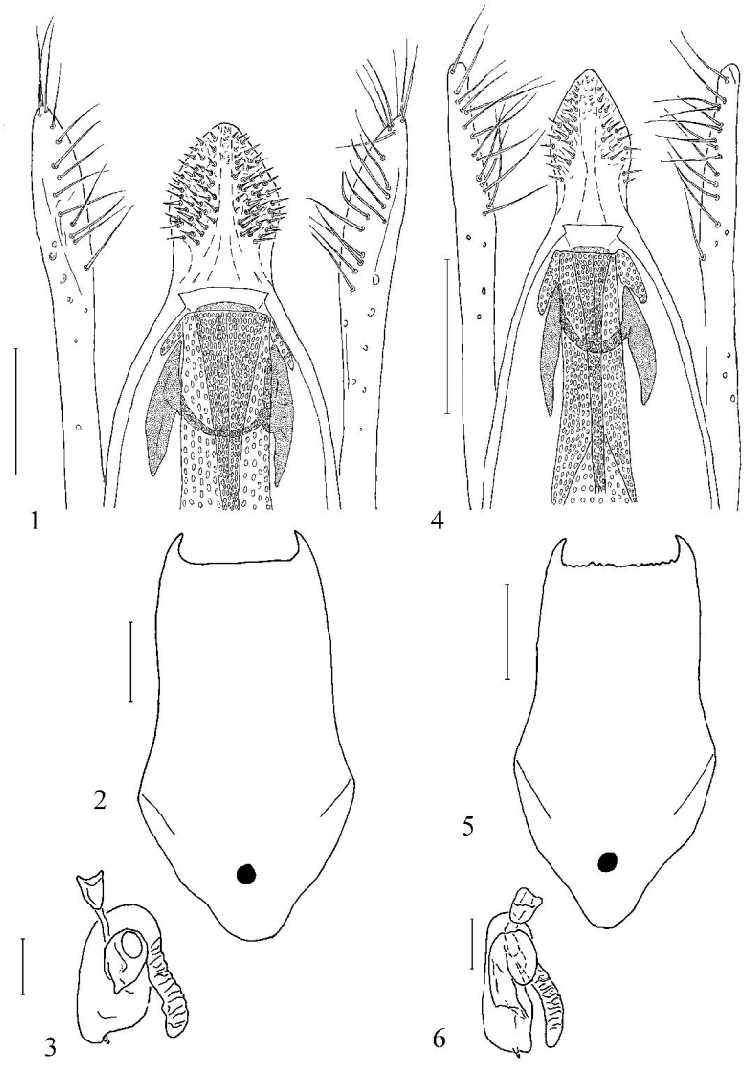
Pronotum moderately convex, a little longer than up to as long as broad (41:38 to 33:33), broadest near the middle, narrowed forwards convexly and backwards concavely, without any furrows and impressions, occasionally with anterior margin a bit elevated. Puncturation of the disk somewhat greater and more regular than that of the head; somewhat coarser, partly non-rugosely confluent near the posterior margin.

Elytra broader than long (50:45), evidently dilated posteriorly (43:50), distinctly longer than pronotum (45:41), with the suture distinctly shorter than the latter (37:41); humeri rounded but distinct, well-developed in the specimen from Golubinyi Utyos; both sutural and humeral impressions very feeble to entirely absent; lateral depressions occasionally presented before the middle of length. Puncturation fairly coarse and dense, not rugose, punctures evidently larger than that of the head and pronotum, about as

large as the cross-section of antennal segment 2 or greater.

Legs moderately long; metatibia by more than 1/2 longer than metatarsus (36:22); segment 1 of metatarsus somewhat shorter than segment 5 (6:7).

Abdomen subcylindrical, slightly narrowed posteriorly; with paratergites well-developed only at the segment 3 and at the basal part of the segment 4 (as in the subgenus *Tesnus* Rey), extremely fine and vague at the segments 5 to 7; each of the four anterior visible tergites with four short but evident longitudinal keels at its basal



Figures 1–6. — Male and female structures of *Stenus* spp. 1–3. *S. finalis* sp.n. (1–2: HT-male, 3: PT-female: Sakhalin Island: Novikovo). 4–6. *S. finitor* sp.n. (4: HT-male, 5: PT-male: Burunda River basin, 6: PT-female: Maltsevskoye Lake). Aedeagus ventrally (1, 4), abdominal sternite 9 ventrally (2, 5), spermatheca (3, 6). Scale = 0.1 mm.

part. Posterior margin of the tergite 7 with a membranous fringe well-developed in the holotype to about vanishing in the specimen from Furugelma. Basitergites 3 to 6 impunctate, with a coarse shagreen only. Puncturation of anterior visible tergites somewhat smaller and distinctly shallower than that of pronotum, denser in lateral parts, medially more distant; posterior margins of the tergites with spots impunctate evidently larger than the diameter of punctures; tergites 6 to 8 punctured more fine and dense.

Ground sculpture between pits of puncturation very variable, in the specimens from Sakhalin well-developed, cellular or net-shaped, excluding nearly smooth fore visible abdominal tergites, but almost absent in the available specimens from the Kuril Islands and the mainland.

Male: Meso- and metatibiae without any teeth; the posterior margin of abdominal sternite 8 with very broad and shallow emargination; 9th abdominal sternite as in fig. 2; aedeagus as in fig. 1.

Female: Posterior margin of abdominal sternite 8 broad rounded; both valvifera with posterolateral denticle incurved inwards; spermatheca as in fig. 3.

Etymology. The specific name is the Latin adjective „finalis" (frontier, utmost, extreme).

Diagnosis. This species can be distinguished from *S. cariniceps* Mäklin, 1852 by the less developed forebody sculpture, the lighter colour of legs, the shorter pubescence, the smaller body size, from *S. immarginatus* Mäklin, 1853 by the more or less lighter colour of legs and the broader head, from *S. tomitaorum* Naomi, 1989 by the somewhat lighter colour of legs, the less prominent humeri, and the broader head, from *S. pilosiventris* Bernhauer, 1915 by the smaller body size, the lighter colour of legs, the shorter pubescence, the less prominent humeri, and the broader head with more prominent median elevation, from *S. subcautus* Ryvkin, 2000 by the somewhat greater body size, the slightly darker colour of legs, the less prominent humeri, and the broader head with more prominent median elevation, from all the known *Stenus* species of the *crassus*-group by the shape of the aedeagus. The differences between *S. finalis* sp.n. and other new species described herein are given below.

Remarks. Extremely variable species with local populations differing one from another in many aspects (as body size, proportions, ground sculpture, etc), but with quite identical shape of the aedeagus.

***Stenus* (*Nestus*) *finitor* Ryvkin, sp. n.** (Figs. 4–6)

Material. RUSSIA: 1 male-HT(ZMMU): „Amur Area, Selemdzhinskiy District, Norskiy Reserve, Selemdzha River basin, 2 km NE of Dvadtsatikha cordon, open swamp near lakeside: plant debris and sparse mosses among tussocks with *Carex* spp., Poaceae gen. spp., *Salix* spp., etc. 09.08.2004. A.B.Ryvkin leg." [In Russian], „HOLOTYPUS"[my standard printed red label], „*Stenus* HT |*finitor* sp. n. | A.B.Ryvkin det. 2005" [my standard determinative label].—2 males, 1 female-PTT(AR): together with holotype.—1 male-PT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Selemdzha River basin, 1.5 km NE of Dvadtsatikha cordon, banks and burnt flood-plain of a rill inflowing to lake, 222 m a.s.l., mosses and leaf litter among *Carex* spp., *Alnus* sp., *Salix* spp., *Padus* sp., undergrowth of *Betula* spp. and *Populus tremula*, etc. 18.08.2006. E.M.Veselova & A.B.Ryvkin leg. [In Russian]—1 male, 1 female-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, lower reaches of Chervinka River, mosses, ferns, leaf litter, plant debris on banks of river and intermittent rill with tussocks of *Carex* spp., Poaceae gen. spp., *Spiraea* spp., *Salix* spp., *Betula* ? *divaricata*, undergrowth of *Betula platyphylla*, etc. 30.06.2005. E.M.Veselova & A.B.Ryvkin leg. [In Russian]—1 female-PT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Maltsevskiy cordon, mosses and plant debris on swampy flood-plain lakeside: *Carex* spp., *Calamagrostis* sp.,

Filipendula palmata, *Geranium* sp., *Comarum palustre*, *Spiraea* sp., *Salix* sp., *Sphagnum* ? *girgensohnii*, *Sph. squarrosum*, *Polytrichum commune*, *P.* sp., *Climacium* sp., *Iris* sp., etc. 28.08.2004. A.B.Ryvkin leg. [In Russian]—2 males, 1 female-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Maltsevskiy cordon, Maltsevskoye Lake, mosses and leaf litter among sedge tussocks with Poaceae gen. spp., *Sphagnum* spp., *Polytrichum* spp., *Hypnum* sp., *Plagiomnium* sp., *Viola* sp., *Filipendula palmata*, *Polemonium* sp., *Anemonidium dichotomum*, etc. 14.06.2005. E.M.Veselova & A.B.Ryvkin leg. [In Russian]—1 male-PT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Maltsevskiy cordon, E side of Maltsevskoye Lake, 210 m a.s.l., mosses and litter under bushes of *Salix* sp., *Spiraea* spp., *Carex* spp. etc. on lakeside. 01.10.2008. E.M.Veselova & A.B.Ryvkin leg. [In Russian]—2 males-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Meunskiy cordon, mosses, leaf litter and plant debris on swampy flood-plain of intermittent rill with *Alnus* sp., *Padus* sp., *Salix* spp., *Betula platyphylla*, *B.* ? *divaricata*, Poaceae gen. spp., *Carex* spp., *Ledum palustre*, *Filipendula palmata*, *Vaccinium uliginosum*, *Convallaria keiskei*, *Trientalis europaea*, *Maianthemum bifolium*, *Sphagnum squarrosum*, *Sph.* ? *girgensohnii*, *Sph.* ? *centrale*, *Sph.* spp., *Hypnum* sp., etc. 10.07.2005. A.B.Ryvkin leg. [In Russian]—1 male-PT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Burunda River near Ozyornyi Rill mouth, mosses and plant debris among sedge-gramineous tussocks on very gentle slope near intermittent channel: *Carex* spp., *Calamagrostis* sp., *Polytrichum* sp. and other true mosses, *Spiraea* sp., etc. 28.09.2004. A.B.Ryvkin leg.[In Russian]—2 males, 3 females-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve (buffer zone), Burunda River basin, 1 km SE of Burunda cordon, mosses and plant debris among sedge tussocks on wide *Carex-Eriophorum*-gramineous swamp with small true mosses, *Sphagnum squarrosum*, *Sph.* sp., *Ledum palustre*, *Vaccinium uliginosum*, sparse *Salix* sp., young growth of *Betula* sp., etc. 21.09.2004. A.B.Ryvkin leg. [In Russian]. The paratypes listed above are provided also with both „PARATYPUS" printed red label and my standard determinative label each.

Description. Black to pitchy-black, bronzeous-fatty shining, moderately densely punctured, with not long and moderately dense contiguous yellowish-silvery pubescence. Antennae brown to dark-brown, with basal segment pitchy-black, segments of club dark-brown; palpi brown with segment 1 brownish-yellow; legs brown to yellowish-brown, knees occasionally slightly infuscate; labrum pitchy-black, finely pubescent with short yellowish-silvery hairs.

Length: 2.45–3.0 mm (the last value for the specimens with abdomen extended).

Head by 1/5 broader than pronotum (42:35), somewhat broader than elytra between humeri (42:39) and somewhat narrower than those in their broadest part (42:45). Front with two not very deep but evident longitudinal impressions; median elevation moderately prominent, posteriorly less than twice as broad as each of lateral portions (12:7). Puncturation moderately coarse and dense, irregular, scarcely, non-rugosely confluent; the greatest punctures are nearly as large as the broadest cross-section of antennal segment 3; median elevation of the front with longitudinal strip impunctate distinctly broader than average diameter of punctures. Length proportion of antennal segments 2–11 as 5.5:5.5:5:4.5:4:3.5:2:3.5:4:5; the segment 2 less than twice as long as broad (5.5:3); the segments 9 and 10 slightly oblong (3.5:3 and 5:4 respectively), whereas the segment 10 distinctly globular (4:4). Antennae scarcely reaching posterior half the pronotum.

Pronotum moderately convex, a bit longer than broad (37:35), broadest near the middle, narrowed forwards convexly and backwards concavely, with neither furrows nor impressions evident. Puncturation of the disk a little larger and more regular than that of the head; somewhat coarser, partly non-rugosely confluent.

Elytra a little broader than long (45:42), somewhat dilated posteriorly (39:45), distinctly longer than pronotum (42:37), with the suture a little shorter than the latter (35:37); humeri rounded but developed; sutural impression feeble but visible, humeral impressions slight, lateral depressions almost invisible. Puncturation fairly coarse and dense, not rugose, punctures evidently larger than that of the head and pronotum, a bit larger than the cross-section of antennal segment 2. Wings very short, rudimentary.

Legs fairly slender; metatibia by nearly 1/2 longer than metatarsus (34:23); 1st segment of metatarsus somewhat shorter than the 5th (5:6.5).

Abdomen subcylindrical, slightly and evenly narrowed posteriorly; with paratergites well-developed only at the segment 3 and at the basal part of the segment 4 (as in the subgenus *Tesnus* Rey), extremely fine and vague at the segments 5 to 7; each of the four anterior visible tergites with four short but evident longitudinal keels at its basal part. Posterior margin of the tergite 7 with extremely fine membranous fringe. Basitergites 3 to 6 impunctate, with a coarse shagreen only. Puncturation of anterior visible tergites somewhat smaller and distinctly shallower than that of head, irregular, somewhat more distant medioposteriorly; tergites 7 to 8 punctured more regular.

Very fine and dense cellular or mesh-like ground sculpture well-developed throughout excluding nearly smooth medioposterior spots on fore visible abdominal tergites and the very base of the median elevation of the head.

Male: Meso- and metatibiae without any teeth; the posterior margin of the 8th abdominal sternite with broad and shallow rounded emargination; 9th abdominal sternite as in Fig. 5; aedeagus as in Fig. 4.

Female: Posterior margin of abdominal sternite 8 broad rounded; both valvifera with posterolateral denticle incurved inwards; spermatheca as in fig. 6.

Etymology. The specific name is the Latin noun „finitor" (surveyor) in apposition.

Diagnosis. The species is closely related to *S. finalis* sp.n. and differs from the latter by the character of puncturation, the shorter antennae, the less prominent median elevation of head, the elytra less divergent posteriorly behind the humeri more developed, and by the shape of the aedeagus.

Remarks. Unlike *S. finalis*, *S. finitor* sp.n. seems to be rather uniform in external characters as well as in the shape of the aedeagus. It is known to present day from the Selemdzha River basin only.

***Stenus* (*Nestus*) *minus* Ryvkin, sp. n.** (Figs. 7–9)

Material. RUSSIA: 1 male-HT(ZMMU): „Amur Area, Selemdzhinskiy | District, Norskiy Reserve [(buffer zone)], | Burunda River basin, 0.5–1 km NW | of Burunda cordon, [plant debris and small true mosses among *Carex* spp. & Poaceae gen. spp. (+sweeping) along] rill bank. | 12.09.2004. A.B.Ryvkin [leg.] #120" [in Russian], „HOLOTYPUS"[my standard printed red label], „*Stenus* HT | *minus* sp. n. | A.B.Ryvkin det. 2004" [my standard determinative label].—2 males, 1 female-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve (buffer zone), Burunda River basin, 1.5 km NW of Burunda cordon, plant debris among tussocks of *Carex* spp. under sparse *Alnus* sp. with young growth of *Larix gmelinii* along rill bank near road. 17.09.2004. A.B.Ryvkin leg. [in Russian]—2 females-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve (buffer zone), Burunda River basin, 0.5 km NW of Burunda cordon, moss and plant debris at edge of swamp: tussocks of Poaceae gen. spp. with *Carex* sp., young growth of *Betula* sp., *Salix* sp., *Spiraea* sp., and small true mosses. 07.10.2004. A.B.Ryvkin leg. [in Russian]—2 males, 1 female-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Meun River mouth, mosses, leaf litter and plant debris on swamp between natural levee and steep slope of bald mountain: *Spiraea* spp., *Alnus* sp., *Padus* sp., *Salix* spp., *Carex* spp.,

Poaceae gen. spp., *Filipendula palmata*, etc. 09.07.2005. A.B.Ryvkin leg. [in Russian]—1 male, 2 females-PTT(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Meunskiy cordon, swamp with sedge tussocks, Poaceae gen. spp., *Sphagnum squarrosum*, *Sph.* spp., etc. 14.07.2005. A.B.Ryvkin leg. [in Russian]—1 male-PT(AR): Amur Area, Selemdzhinskiy District, near Fevral'sk, 268th km of Belogorsk-Fevral'sk road, Tikhiy rill, 275 m a.s.l., mosses and plant debris between sedge & gramineous tussocks among *Alnus* sp., *Salix* sp., *Spiraea* sp. with *Sphagnum squarrosum*, *Sph.* spp., etc. 08.10.2008. A.B.Ryvkin leg. [in Russian]—1 female-PT(AR): same locality, biotope, and collector. 14.10.2008. [in Russian]. The paratypes listed above are provided also with both „PARATYPUS" printed red label and my standard determinative label each.

Description. Black to brownish-black, distinctly fatty to varnish shining, moderately densely punctured, with moderately long and dense contiguous greyish-silvery pubescence. Antennae brown to yellowish-brown, with basal segment pitchy-black, segments of club dark-brown to brown; palpi with segment 1 light yellow, segment 2 brown with yellow base, segment 3 dark brown; legs brown to yellowish-brown, knees occasionally slightly infuscate; labrum pitchy-black with slightly lightened fore margin, finely pubescent with short silvery hairs.

Length: 1.9–2.4 mm (the latter value for the specimens with abdomen extended).

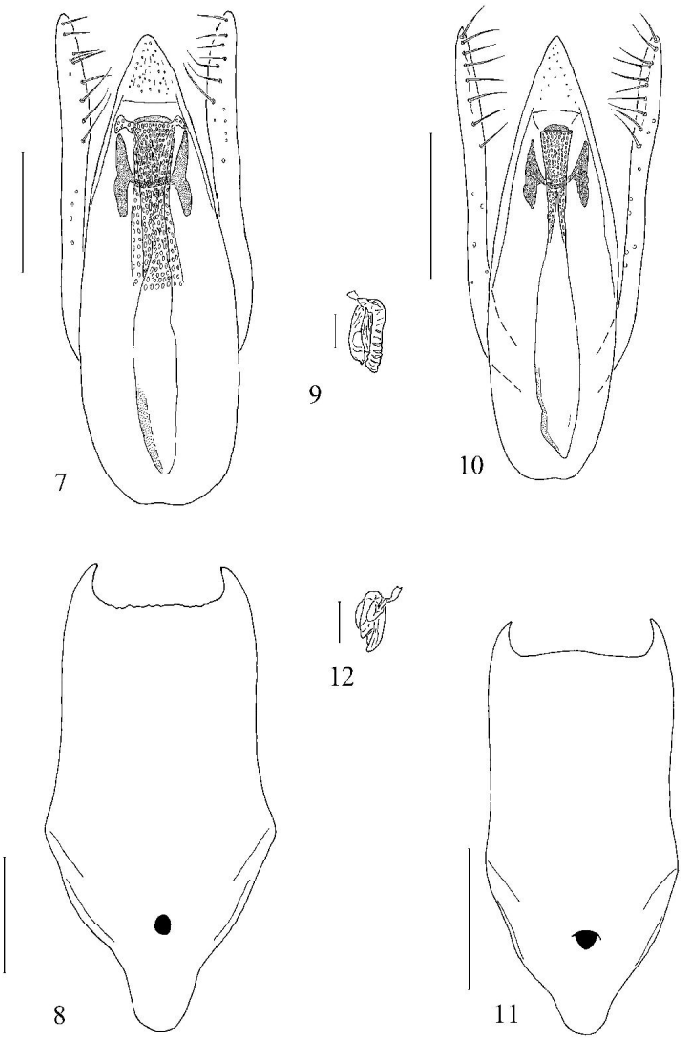
Head by 1/5 broader than pronotum (36:30), a bit narrower to a bit broader than elytra between humeri (36:37 to 32:30) and distinctly narrower than those in their broadest part (36:41 in holotype). Front with two well-developed but not very deep longitudinal impressions; median elevation broad and prominent, posteriorly twice as broad as each of lateral portions (12:6). Puncturation fairly coarse and dense, evidently irregular, partly non-rugosely confluent; the greatest punctures are distinctly larger than the broadest section of antennal segment 3; median elevation with longitudinal strip impunctate as broad as to somewhat broader than average diameter of punctures. Length proportion of antennal segments 2–11 as 4:4:3.5:3:3:3:2:3:4:5; the segment 2 twice as long as broad (4:2); the segments 9 to 11 slightly oblong (3:2.5, 4:3.5, and 5:3.5 respectively). Antennae scarcely reaching posterior half the pronotum.

Pronotum moderately convex, about as long as broad (30:30), broadest near the middle, narrowed forwards convexly and backwards feebly concavely, without furrows and impressions on the disk. Puncturation somewhat sparser and more regular than that of the head, with punctures somewhat larger, particularly near the middle.

Elytra broader than long (41:40 in holotype to 37:33), slightly dilated posteriorly (37:41), much longer than pronotum (40:30), with the suture a little longer than up to as long as the latter (33:30 to 26:26); humeri rectangularly rounded, developed; both sutural and humeral impressions very feeble, lateral impressions absent. Puncturation moderately coarse and dense, fairly regular, rarely confluent, punctures evidently larger than that of pronotum, about as large as the cross-section of antennal segment 2. Winged.

Legs fairly short; metatibia by nearly 1/3 longer than metatarsus (27:20); 1st segment of metatarsus much shorter than the 5th (4:6).

Abdomen subcylindrical, slightly narrowed posteriorly, with evident paratergites only at the segment 3 and at the basal part of the segment 4 (as in the subgenus *Tesnus*), extremely fine and vague (line-shaped) at the segments 5 to 7; each of the four anterior visible tergites at its basal part with four short longitudinal keels, developed in segments 3 to 4 and much more feeble in segments 5 to 6. Basitergites 3 to 6 impunctate, with a coarse shagreen only. Puncturation of anterior visible tergites much finer and denser than that of head, somewhat sparser medioposteriorly; posterior margin of the tergite 7 with a band impunctate before membranous fringe fine but evident; punctures on the tergite 8 much finer and shallower.



Figures 7–12. — Male and female structures of *Stenus* spp. 7–9. *S. minus* sp.n. (7: HT-male, 8: PT-male: Burunda River basin, 9: PT-female: same locality). 10–12. *S. pardulus* sp.n. (10–11: HT-male, 12: PT-female). Aedeagus ventrally (7, 10), abdominal sternite 9 ventrally (8, 11), spermatheca (9, 12). Scale = 0.1 mm.

Very fine and small netting visible throughout excluding nearly smooth median parts of the fore visible abdominal tergites and the very base of the median elevation of the head.

Male: Meso- and metatibiae without any teeth; the posterior margin of the 8th abdominal sternite without emargination, about straight to a bit salient; 9th abdominal sternite as in Fig. 8; aedeagus as in Fig. 7.

Female: Posterior margin of abdominal sternite 8 broad rounded, occasionally with an angular apex; both valvifera with posterolateral denticle incurved inwards; spermatheca as in fig. 9.

Etymology. The specific name is the Latin adjective „minus" [compar. to „parvus"] (smaller).

Diagnosis. *S. minus* sp.n. can be distinguished from the most species of the *crassus* group by

the smaller body size. It differs from *S. subcautus* Ryvkin, 2000 in the somewhat darker colour of legs and the more developed head elevation and impressions; from all the known *Stenus* species by the shape of the aedeagus. The differences between *S. minus* sp.n. and *S. pardulus* sp.n. are given below.

Remarks. The species is known from the Selemdzha River basin only.

***Stenus* (*Nestus*) *pardulus* Ryvkin, sp. n.** (Figs. 10–12)

Material. RUSSIA: 1 male-HT(ZMMU): „Maritime Province, Khasan, | Golubinyi Utyos. 3.viii. | 1991. S.A.Kurbatov [leg.]" [in Russian], „3."[white rectangle], „HOLOTYPUS"[my standard printed red label], „*Stenus* HT | *pardulus* sp. n. | A.B.Ryvkin det. 2005" [my standard determinative label].—1 male-PT(AR): same locality, date, and collector with holotype, „3."[white rectangle], „PARATYPUS"[my standard printed red label], „*Stenus* | *pardulus* sp. n. | A.B.Ryvkin det. 2005" [my standard determinative label].—1 female-PT(AR): same locality and collector, 31.05.1991, „2."[white rectangle], „PARATYPUS"[my standard printed red label], „*Stenus* | *pardulus* sp. n. | A.B.Ryvkin det. 2005" [my standard determinative label].

Description. Brownish-black to black, rather shining, fairly densely punctured, with fairly dense outstanding golden pubescence very long on pronotum, elytra, and abdomen but much shorter and sparser on head. Antennae brown, with middle segments yellowish-brown and basal pitchy-black, segments of club occasionally dark-brown; palpi yellow with segment 3 and apical one-third of segment 2 yellowish-brown; legs brownish-yellow, knees occasionally a bit infuscate; labrum brownish-black, finely pubescent with short silvery hairs.

Length: 1.6–2.0 mm (the last value for the specimens with abdomen extended).

Head by about 1/5 to 1/9 broader than pronotum (35:29 to 38:34), a little broader to a bit narrower than elytra between humeri (35:32 to 38:39) and more or less narrower than those in their broadest part (35:36 to 38:45). Front with two feeble longitudinal impressions and moderately prominent median elevation in between, posteriorly about 4 times as broad as each of lateral portions (12:3). Puncturation fairly coarse and dense, rather irregular, occasionally non-rugosely confluent; the greatest punctures are nearly as large as the broadest section of antennal segment 2; median elevation of the front with median longitudinal spots impunctate not evidently broader than average diameter of punctures. Length proportion of antennal segments 2–11 as 4:4:3:3:2:2:1.5:2:3:4; the segment 2 twice as long as broad (4:2); the segments 9 to 10 distinctly transverse (2:3 and 3:4 respectively), the segment 11 nearly globular (4:3.5). Antennae scarcely reaching posterior half the pronotum.

Pronotum moderately convex, a bit shorter than broad (28:29), broadest near the middle, narrowed forwards convexly and backwards feebly concavely, in the basal one-third with very short median longitudinal furrow masked by puncturation. Puncturation of the disk rather coarse and dense, about as large as to somewhat smaller than that of the head, more regular.

Elytra broader than long (36:34 in holotype), slightly dilated posteriorly (32:36), much longer than pronotum (34:28 in holotype), with the suture a bit longer than the latter (29:28); humeri angularly rounded but prominent; both sutural and humeral impressions very feeble but evident, small lateral depressions near the middle of length nearly vanishing. Puncturation fairly coarse and dense, not rugose, punctures evidently larger on average than that of the head and pronotum, distinctly smaller along the suture. Winged.

Legs fairly short; metatibia by about 2/3 longer than metatarsus (26:15); 1st segment of metatarsus much shorter than the 5th (4:6).

Abdomen subcylindrical, slightly narrowed posteriorly, with evident paratergites only at the segment 3 and at the basal part of the segment 4 (as in the subgenus *Tesnus*); each of the four anterior visible tergites at its basal part with four short longitudinal keels, developed in segments 3 to 5 and much more feeble in segment 6. Posterior margin of the tergite 7 with well-developed membranous fringe. Puncturation of anterior visible tergites somewhat smaller and distinctly shallower than that of pronotum, denser in lateral parts, medially more distant; posterior margin of the tergite 7 with a narrow band impunctate before the membranous fringe.

Ground sculpture between punctures on forebody very fine and irregular, occasionally absent, very feeble netting is visible mainly at the edges of some punctures; the fore visible abdominal tergites obviously smooth, distinctly shining between punctures; the tergite 8 as well as the posterior half of the tergite 7 with more or less evident transverse wavy pattern.

Male: Meso- and metatibiae without any teeth; the posterior margin of the 8th abdominal sternite without emargination, slightly salient; 9th abdominal sternite as in Fig. 11; aedeagus as in Fig. 10.

Female: Posterior margin of abdominal sternite 8 broad rounded; both valvifera with posterolateral denticle incurved inwards; spermatheca as in fig. 12.

Etymology. The specific name is the Latin noun „pardulus" [diminutive from „pardus"] (small leopard) in apposition.

Diagnosis. In the shape of the aedeagus, this species is closely related to *S. minus* sp.n. and can be distinguished from the latter by the smaller body size, the character of puncturation and ground sculpture, the conspicuous pubescence of the body, the sculpture of head and pronotum, and the shape of the apical part of the median lobe of the aedeagus.

Remarks. The species is known from the Khasan vicinity only.

***Stenus* (*Nestus*) *subcautus* Ryvkin, 2000**

subcautus Ryvkin, 2000, Reichenbachia, 33(43): 350

Material. RUSSIA: 1 male-HT(ZMMU), 1 male-PT(MTD), 1 male-PT(AR): Maritime Province, Khasan, Golubinyi Utyos. 30.05.1991. S.A.Kurbatov leg.—1 male-PT(AR), 1 male-PT(ZMMU): same locality & collector. 31.05.1991.—1 male(AR): Amur Area, Selemdzhinskiy District, Norskiy Nature Reserve, Nora River basin near Maltsevskiy cordon, E side of Maltsevskoye Lake, 210 m a.s.l., mosses and litter under arborescent *Salix* sp., *Alnus* sp., *Betula platyphylla*, *Populus tremula*, *Larix gmelinii* with Poaceae gen. spp., *Filipendula palmata*, *Carex* spp., *Polytrichum* sp., *Pleurozium schreberi*, etc. 01.10.2008. E.M.Veselova & A.B.Ryvkin leg.

Remarks. The species has been originally described from the environs of Khasan (S Maritime Province) and placed by me in the *cautus* group on the basis of the structure of the aedeagus. However, it is clear now that the species of both *cautus* and *crassus* group may have long setae on the apical portion of median lobe, as well as the parameres thick and widened to the apical part. Basing on the paratergites entirely reduced in the abdominal segments 5 to 7, *S. subcautus* is to be transferred to the *crassus* group.

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REFERENCES

Benick L. 1921. Über nord-palaearktische Steninen, vorwiegend aus dem

Zoologischen Museum in Helsingfors (Col., Staphyl.). Meddelanden af Societas pro Fauna et Flora Fennica. 46 (1919-1920): 135–156.

Benick L. 1925. Bemerkungen zum Catalogus Coleopterorum regionis palaearcticae, Unterfamilie Steninae. Koleopterologische Rundschau. 11 (3/4): 71–76.

Benick L. 1929. Steninae (Staphyl.). Bestimmungs-Tabellen der europäischen Coleopteren. 96: 1–103.

Benick L. 1930. Der Artenkreis des Stenus crassus Steph. (Col., Staph.). Coleopterologisches Centralblatt. 4 (5/6): 219–232.

Benick L. 1935. Stenus crassus scholzianus nov. var. Entomologische Blätter. 31 (3): 100–103.

Bernhauer M. 1915. Neue Staphyliniden des Paläarktischen Faunengebietes. Wiener Entomologische Zeitung. 34: 69–81.

Bernhauer M., Schubert K. 1911. Staphylinidae. II. In: Schenkling S. (Editor): Coleopterorum Catalogus. Pars 29. W.Junk, Berlin. pp. 87–190.

Casey Th. L. 1884. Revision of the Stenini of America north of Mexico. Insects of the family Staphylinidae, order Coleoptera. Collins Printing House, Philadelphia. 206 pp.

Ganglbauer L. 1895. Die Käfer von Mitteleuropa. Die Käfer der österreichisch-ungarischen Monarchie, Deutschlands, der Schweiz, sowie des französischen und italienischen Alpengebietes. Vol.II. Familienreiche Staphylinoidea. 1. Theil, Staphylinidae, Pselaphidae. Carl Gerold's Sohn, Wien. 6+881 pp.

Herman L.H. 2001. Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the End of the Second Millennium. IV. Staphylinine Group (Part 1) Euaesthetinae, Leptotyphlinae, Megalopsidiinae, Oxyporinae, Pseudopsinae, Solieriinae, Steninae. Bulletin of the American Museum of Natural History. 265: 1807–2440.

Latreille P.A. 1797. Précis des caractčres génériques des insectes, disposés dans un ordre naturel. F. Bourdeaux, Brive. xiv + 201 + 7 pp.

Linnaeus C. 1751. Philosophia botanica in qua explicantur fundamenta botanica cum definitionibus partium, exemplis terminorum, observationibus rariorum, adjectis figuris aeneis. Godofr. Kiesewetter, Stockholmiae. 3+362 pp.

Mäklin F.G. 1852. [Neue Arten]. In: Mannerheim C.G. von: Zweiter Nachtrag zur Kaefer-Fauna der Nord-Amerikanischen Laender des Russischen Reiches. Bulletin de la Société Impériale des Naturalistes de Moscou. 25 (2): 283–372.

Mäklin F.G. 1853. [Neue Arten]. In: Mannerheim, C.G. von: Dritter Nachtrag zur Kaefer-Fauna der Nord-Amerikanischen Laender des Russischen Reiches. Bulletin de la Société Impériale des Naturalistes de Moscou. 26 (3): 95–271.

Mayr E., Linsley E.G., Usinger R.L. 1953. Methods and Principles of Systematic Zoology. McGraw-Hill Book Company, New York–Toronto–London. 328 pp.

Münster T. 1911. Neue Staphyliniden von Norwegen. Nyt Magazin for Naturvidenskaberne. 49 (2/3): 277–283.

Naomi Sh.-I. 1989. Studies on the Subfamily Steninae (Coleoptera, Oxyporidae) from Japan V. Subgenus *Tesnus* of the Genus *Stenus* Latreille, with a Key to the Species of the Subgenera *Tesnus* and *Nestus*. Proceedings of the Japanese Society of Systematic Zoology. 39: 37-42.

Puthz V. 1968. Die *Stenus*- und *Megalopinus*-Arten Motschulskys und Bemerkungen über

das Subgenus *Tesnus* Rey, mit einer Tabelle der paläarktischen Vertreter (Coleoptera, Staphylinidae). (54. Beitrag zur Kenntnis der Steninen). Notulae Entomologicae. 48: 197–219.

Puthz V. 1971. Revision der afrikanischen Steninenfauna und Allgemeines über die Gattung *Stenus* Latreille (Coleoptera, Staphylinidae). (56. Beitrag zur Kenntnis der Steninen). Annales du Musée Royal de l'Afrique Centrale, Tervuren, Série In-8°, Sciences Zoologiques. 187: 1–376.

Puthz V. 2001. Beiträge zur Kenntnis der Steninen CCLXIX. Zur Ordnung in der Gattung *Stenus* Latreille, 1796 (Staphylinidae, Coleoptera). Philippia. 10 (1): 33–42.

Puthz V. 2006. Revision der neotropischen *Stenus* (*Tesnus*) Arten (Coleoptera: Staphylinidae). 288. Beitrag zur Kenntnis der Steninen. Revue suisse de Zoologie. 113 (3): 617–674.

Puthz V. 2008. *Stenus* LATREILLE und die segenreiche Himmelstochter (Coleoptera, Staphylinidae). Linzer biologische Beiträge. 40 (1): 137–230.

Reitter E. 1909. Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. II. Band. K.G.Lutz, Verlag, Stuttgart. 392 pp.

Rey Cl. 1884. Tribu des Brévipennes. Deuxième groupe: Micropéplides. Troisième groupe: Sténides. Annales de la Société Linnéenne de Lyon (n. ser.). 30: 153–415.

Ryvkin A.B. 1988. Novyie melovyie Staphylynidae [sic!] (Insecta) s Dal'nego Vostoka [New Cretaceous Staphylinidae (Insecta) from the Far East]. Paleontologicheskiy Zhurnal. 1988 (4): 103-106.

Ryvkin A.B. 2000. New species and records of *Stenus* (*Nestus*) of the *cautus*-group (Insecta: Coleoptera: Staphylinidae: Steninae). Reichenbachia. Zeitschrift für taxonomische Entomologie des Staatlichen Museums für Tierkunde. Dresden. 33 (43): 1–7.

Schlüter T. 1978. Zur Systematik und Palökologie harzkonservierter Arthropoda einer Taphozönose aus dem Cenomanium von NW-Frankreich. Berliner Geowissenschaftliche Abhandlungen (A). 9: 1-150.

Tichomirova A.L. 1973. Morfoekologicheskiye osobennosti i filogenez stafilinid (s katalogom fauny SSSR) [Morpho-ecological features and phylogeny of Staphylinidae (with a catalogue of the fauna of the USSR)]. Nauka, Moscow. 191 pp.

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