

## On the synonymy of *Stenus* (s.str.) *kamtschaticus* Motschulsky, 1845 (Coleoptera: Staphylinidae: Steninae)

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The lectotype of *Stenus* (s.str.) *kamtschaticus* Motschulsky, 1845 is designated; the name is put in the synonymy of *S.* (s.str.) *clavicornis* (Scopoli, 1763). *Stenus* (s.str.) *aquilonius* L.Benick, 1921 is revalidated as a species propria; new data on its distribution are provided and discussed. Both *S.* (s.str.) *affinisecretus* Zhao & Zhou, 2007 and *S.* (s.str.) *guandiensis* Zhao & Zhou, 2007 are the synonyms of *Stenus* (s.str.) *aquilonius* L.Benick, 1921, not of *S.* (s.str.) *kamtschaticus* Motschulsky, 1845.

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### INTRODUCTION

*Stenus kamtschaticus* Motschulsky, 1845 was originally described based on unspecified number of specimens from the Kamchatka Peninsula. Though the original description was detailed enough including coloration of the legs (“Les pattes sont jaunes avec les genoux, la pointe des jambes et les tarses d’un noir brunâtre.”), J.Sahlberg (1880) deemed it necessary to redescribe the species from a series collected in “territorio arctico et silvoso” of the middle and lower reaches of the Yenisey. Since some differences between both descriptions were quite evident (e.g. in body length, coloration of the femora, etc), Sahlberg supplied the species name with the question mark in his monograph. All the subsequent authors ignored this important marking and followed Sahlberg’s concept, although L.Benick (1921) noted the discrepancy in certain

characters; but that did not prevent the latter from redescribing the same (listed by Sahlberg) species as new under the name *aquilonius* in the same article. Puthz (1965) provided a sketchy but recognisable figure of the aedeagus for the species he regarded as *S. kamtschaticus*, and later (Puthz 1967b) established the synonymy of *S. aquilonius* L.Benick, 1921 with this species. The two species names, *S.* (s.str.) *affinisecretus* Zhao & Zhou, 2007 and *S.* (s.str.) *guandiensis* Zhao & Zhou, 2007, established on the Chinese material, were synonymized by Puthz (2008) with *S. kamtschaticus*.

Some years ago, I have found a male specimen labelled as *S. kamtschaticus* in the Motschulsky collection of the Zoological Museum of Moscow State University. The specimen has been in fairly good condition and corresponded well to the original description. Alexey Gusakov, cura-

tor of Coleoptera in the named Museum, has recently found one more specimen (partly damaged female) with the similar hand-written original label in so called “Historical collection”. Both specimens, which must be regarded as members of the type series, have proved to belong to *Stenus clavicornis* (Scopoli, 1763). Thus we have an opportunity to designate a lectotype and to resolve the taxonomic and faunistic problems concerning *S. kamtschaticus* and related names.

The Systematic results given below contain the lectotype designation as well as new and emended synonymy, additional faunistic data, and analysis of the previous records.

### Abbreviations

ex: specimen, specimens;  
LT: lectotype;  
PLT: paralectotype;

AR: Collection of A.B.Ryvkin, Moscow, Russia;  
AVSh: Collection of A.V.Shavrin, Daugavpils, Latvia;

AYuS: Collection of A.Yu.Solodovnikov, København, Denmark;

DUBC: Daugavpils University, Beetle Collection, Latvia;

EMEC Essig Museum of Entomology, University of California, Berkeley, USA;

IBPM: Institute of Biological problems of the North, Magadan, Russia;

KBR: Kronotskiy State Biosphere Reserve, Yelizovo, Russia;

KG: Collection of K.A.Grebennikov, St.-Petersburg, Russia;

OB: Collection of O.Betz, Tübingen, Germany;

ShIN: Collection of Sh.-I.Naomi, Chiba, Japan;

SMNS: Staatliches Museum für Naturkunde, Stuttgart, Germany;

ZIN: Zoological Institute of the Russian Acad. of Sci., St.-Petersburg, Russia;

ZMMU: Zoological Museum of Moscow State University, Russia;

ZMUC: University of Copenhagen, Zoological Museum, København, Denmark.

## SYSTEMATIC RESULTS

### *Stenus* (s.str.) *clavicornis* (Scopoli, 1763)

*clavicornis* Scopoli, 1763: 100 (as *Staphylinus*)

*clavicornis*; Ryvkin, 1990: 154

*clavicornis*; Veselova & Ryvkin, 1991: 187

*clavicornis*; Lobkova & Semenov, 2012: 95

*clavicornis*; Puthz, 2013: 856

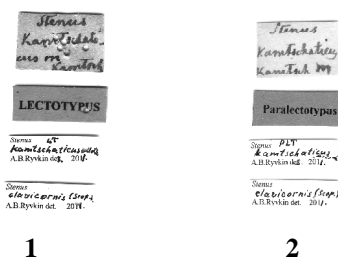
*kamtschaticus* Motschulsky, 1845: 355 **syn. n.**

*kamtschaticus*; Gemminger & Harold, 1868: 637

(For other important catalogue references on *S. clavicornis* see Herman, 2001: 2126)

### Material (Kamchatka only). Type specimens.

(For labels see Figs. 1-2). 1 male-LT (ZMMU, designated here): [without segments 3-11 of the left antenna, 2 apical segments of the left maxillar palpus, and the left metatarsus; with a pin hole in the abdominal segment 4 (2<sup>nd</sup> open); transferred by me from the original mica plate onto the new cardboard rectangle, the original plate has been pinned under the new rectangle] 1: ‘*Stenus | kamtschati-| cus m.* | Kamtsch.’ [black, rusty indian ink on white, yellowed rectangle]; 2: ‘LECTOTYPUS’ [my standard printed red label]; 3: ‘*Stenus LT | kamtschaticus* Mots. | A.B.Ryvkin



**Fig. 1–2.** — The type labels of *Stenus kamtschaticus* Motschulsky, 1845. 1: LT-male; 2: PLT-female.

des. 2011.' [my standard determinative label]; 4: 'Stenus | *clavicornis* (Scop.)| A.B.Ryvkin det. 2011.' [my standard determinative label]. — 1 female-PLT (ZMMU): [without head and prothorax, left hind leg, and the tarsi of extant legs excluding the segments 1-4 of the right metatarsus; with a pin hole in the abdominal segment 4 (2<sup>nd</sup> open); transferred by me from the original small pin onto the new cardboard rectangle, the original pin has been attached under the new rectangle] 1: 'Stenus | *kamtschaticus* | Kamtsch. m.' [black, rusty indian ink on white, yellowed rectangle]; 2: 'Paralectotypus' [my standard printed red label]; 3: 'Stenus PLT | *kamtschaticus*| Motsch.| A.B.Ryvkin des. 2011' [my standard determinative label]; 4: 'Stenus | *clavicornis* (Scop.)| A.B.Ryvkin det. 2011' [my standard determinative label]. **Additional material.** 2 females (AR): Kozyrevsk. 20.06.1975. B.A.Korotyayev leg. — 1 female (AR): 11 km W of Petropavlovsk. 16.06.1975. B.A.Korotyayev leg. — 1 male, 1 female (AR): near Paratunka, birch forest with Poaceae gen. spp., leaf litter. 12.08.1987. A.V.Tanasevitch leg. — 1 female (AR): near Mil'kovo, Kamchatka River valley, birch forest with ferns and motley grass, leaf litter. 24.08.1987. A.V.Tanasevitch leg. — 1 male, 2 females (AR): Geyser Valley, open slope, grass and leaf litter. 30.08.1987. A.V.Tanasevitch leg. — 1 female (AR): same locality, in moss on warm slope. 30.08-05.09.1987. A.V.Tanasevitch leg. — 1 female (AR): same locality, birch forest with motley grass on slope, leaf litter. 01.09.1987. A.V.Tanasevitch leg.

**Remarks.** One of the most widely distributed species in the temperate Palaearctic, found principally in litter and moss of mesic communities (middle to late stages of plant successions and climax) (Veselova & Ryvkin, 1991). It is also collected in several points of the Nearctic; contrary to the widespread opinion (e.g. Puthz 2013), the Nearctic distribution is not restricted to eastern territories of North America: I have on hand a male specimen of the species from British Columbia (EMEC).

I have mentioned *S. clavicornis* for Kamchatka formerly (Ryvkin 1990), it has also been recorded from there recently by Lobkova & Semenov (2012)

based in part on my old identifications. The specimens from Kamchatka, as well as many other Far-Eastern specimens, frequently have the body more convex with the abdominal segments subcylindrical, resembling those of *S. (s.str.) distans* Sharp, 1889 and other similar species of the *clavicornis* group; but at the same time the shape of aedeagus is extremely conservative and demonstrates no variability throughout the whole wide range of *S. clavicornis*.

***Stenus (s.str.) aquilonius* Benick, 1921, species propria**

*aquilonius* L.Benick, 1921: 139

*aquilonius*; Scheerpeltz, 1933: 1145

*kamtschaticus*; J.Sahlberg, 1880: 76

*kamtschaticus*; Fauvel, 1875: xv

*kamtschaticus*; Heyden, 1881: 77

*kamtschaticus*; Eppelsheim, 1893: 55 (misidentification!)

*kamtschaticus*; Heyden, 1898: 35 (see the preceding)

*kamtschaticus*; Jakobson, 1909: 480

*kamtschaticus*; Poppius, 1909: 15

*kamtschaticus*; Bernhauer & Shubert, 1911: 161

*kamtschaticus*; L.Benick, 1921: 138

*kamtschaticus*; L.Benick, 1924: 251

*kamtschaticus*; Scheerpeltz, 1933: 1158

*kamtschaticus*; Puthz, 1965: 26, Figs.1(a,b)

*kamtschaticus*; Puthz, 1967a: 76

*kamtschaticus*; Puthz, 1967b: 47

*kamtschaticus*; Puthz, 1971: 137

*kamtschaticus*; Tichomirova, 1973: 172

*kamtschaticus*; Kurcheva, 1977: 68

<?>*kamtschaticus*; Wilson & Elias, 1986: 153, 156

*kamtschaticus*; Campbell & Davies, 1991: 111

<?>*kamtschaticus*; Short et al., 1992: 385

*kamtschaticus*; Anderson, 1997: 412, 442

*kamtschaticus*; Anishchenko & Shavrin, 1998: 32

*kamtschaticus*; Ryabukhin, 1999: 45

<?>*kamtschaticus*; Elias et al., 2000: 1354

*kamtschaticus*; Herman, 2001: 2244

*kamtschaticus*; Smetana, 2004: 558

*kamtschaticus*; Shavrin, 2007: 122

*kamtschaticus*; Shavrin & Puthz, 2007: 122

*kamtschaticus*; Puthz, 2008: 148

<?>*kamtschaticus*; Kastcheev & Puthz, 2011: 446  
*kamtschaticus*; Lobkova & Semenov, 2012: 96  
*kamtschaticus*; Puthz, 2013: 856

*mongolicus*; Eppelsheim, 1889: 183 (pars)

*simpliciventris*; Poppius, 1909: 15 (pars)

*affinisecretus* Zhao & Zhou, 2007: 12

*guandiensis* Zhao & Zhou, 2007: 13

**Material. RUSSIA: YAMALO-NENETS AUTONOMOUS REGION:** 1 male, 2 females (AR): Polar Ural, Kharp research station. VII.1970. [?V.Olschwang leg.] — 1 female (AR): same locality. 17.07.1971. V.Olschwang. — **TAYMYR AUTONOMOUS REGION:** 1 female (AR): nr. Potapovo, plot N2, sample 2: Ao F. 08.08.1994. L.B.Rybalov leg. — 2 males (AR): Putorana Highland, nr. Ayan Lake, Kapchug River, valley larch forest with true mosses. 31.05.1983. K.Yu.Eskov leg. — 1 male (AR): Putorana Highland, nr. Ayan Lake, Bolshoy Khonomakit River mouth, mesotrophic sedge-mossy bog. 22-23.07.1983. K.Yu.Eskov leg. — **KRASNOYARSK TERRITORY:** 1 female (AR): Turukhanskiy District, Bakhta River basin, near Keteollo Lake, 325 m a.s.l., mosses and litter by edge of mossy-yernik swamp with *Betula exilis*, *Larix ? czekanowskii*, *Picea obovata*, *Betula* sp., *Pinus sibirica*, *Ledum* sp., *Rubus chamaemorus*, *Polytrichum* spp., *Sphagnum* spp., *Aulacomnium* sp., *Pleurozium schreberi*, *Hylocomium splendens*, *Dicranum* sp., etc. 05.08.1992. A.B.Ryvkin leg. — 1 female (AR): Turukhanskiy District, Bakhta River basin: near Keteollo Lake, 390 m a.s.l., mosses and litter on overgrown slope kurum (2nd profile): *Larix ? czekanowskii*, *Ledum palustre*, *Vaccinium vitis-idaea*, *Vaccinium myrtillus*, *Vaccinium uliginosum*, *Rosa* sp., *Sphagnum* spp., *Cladonia* spp., *Hylocomium splendens*, *Pleurozium schreberi*, *Polytrichum* spp., etc. 15.08.1992. A.B.Ryvkin leg. — 2 males, 1 female (AR): Turukhanskiy District, Bakhta River basin: near Keteollo Lake, 450 m a.s.l., mosses and litter under *Larix ? czekanowskii*, *Picea obovata*, *Pinus sibirica* with *Ledum palustre*, *Vaccinium uliginosum*, *Cladonia* spp., *Hylocomium*


*splendens*, *Pleurozium schreberi*, *Polytrichum* spp., etc. on overgrown slope kurum. 23.08.1992. A.B.Ryvkin leg. — 1 male (AR): same locality and collector, mosses and litter under *Larix ? czekanowskii*, *Picea obovata*, *Pinus sibirica* with *Hylocomium splendens*, *Pleurozium schreberi*, *Polytrichum* spp., etc. 23.08.1992. — 1 male (AR): Turukhanskiy District, Mirnoye, plate 1, 10 traps. 13-23.06.1988. L.B.Rybalov leg. — 1 male (AR): Yermakovskiy District, Sayano-Shushenskiy Biosphere Reserve, Bolshiye Ury River near Ottug-Suuk River mouth, 880 m a.s.l., litter at sparse burnt flood-plain forest with Poaceae gen. sp. and at river bank. 16.05.1989. A.B.Ryvkin leg. — 1 female (AR): Yermakovskiy District, Verkhneusinskoye, 550 m a.s.l., on concrete foot-path in hospital yard. 03.06.1989. A.B.Ryvkin leg. — **EVENKIA:** 3 males, 2 females (AR): Baykitskiy District, Bakhta River, 3 km below Bolodzhyokit River mouth, 380 m a.s.l., moss and litter on large rock fragments in larch forest with sparse *Betula* sp. (*Pleurozium schreberi*, *Hylocomium splendens* etc.). 05.08.1989. A.B.Ryvkin leg. — 1 male (AR): same locality and collector, mosses and litter under *Larix ? czekanowskii*, *Picea obovata*, *Betula* sp., *Alnus* sp. with *Vaccinium uliginosum*, *Vaccinium vitis-idaea*, *Linnaea borealis*, *Cladonia* spp., *Pleurozium schreberi*, *Hylocomium splendens*, *Sphagnum* sp., etc. on overgrown kurum. 20.08.1991. — 1 male, 2 females (AR): Baykitskiy District, island on Bakhta River 1,5 km up-stream of Goldoikta River mouth, 310 m a.s.l., mosses and litter under *Larix ? czekanowskii*, *Picea obovata*, *Pinus sibirica*, *Betula* sp. with *Vaccinium uliginosum*, *Vaccinium vitis-idaea*, *Linnaea borealis*, *Pleurozium schreberi*, *Hylocomium splendens*, *Polytrichum* sp. etc. 21.08.1991. A.B.Ryvkin leg. — 1 male, 5 females (AR): same locality, collector and date, mosses and litter under *Larix ? czekanowskii*, *Picea obovata*, *Pinus sibirica*, *Betula* sp. with *Ledum palustre*, *Vaccinium uliginosum*, *Vaccinium vitis-idaea*, *Pleurozium schreberi*, *Hylocomium splendens*, *Polytrichum* spp., *Sphagnum* spp. etc. — 1 female (AR): Baykitskiy District, Bakhta River, Goldoikta River mouth, 310 m a.s.l., moss and litter in swampy larch forest with *Vaccinium uliginosum*, *Lonicera altaica*, *Betula* sp., sparse

- Pinus sibirica* and *Picea obovata*. 07.08.1989. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Bakhta River 5 km up-stream of Maygungna River mouth, Maraka tract, 270 m a.s.l., mosses and litter on swamped gentle slope with *Larix ? czekanowskii*, *Picea obovata*, *Cladonia* spp., *Sphagnum fuscum*, *Sphagnum* spp., *Ledum palustre*, *Chamaedaphne calyculata*, *Carex* sp., *Vaccinium uliginosum*, *Vaccinium vitis-idaea*, *Oxycoccus* sp., *Empetrum* sp. etc. 26.08.1991. A.B.Ryvkin leg. — 1 male, 2 females (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River basin: Birapchana River below Khorolgotka River mouth, 360 m a.s.l., litter and mosses (*Pleurozium schreberi*, *Hylocomium splendens*, *Dicranum* sp., etc.) on slope with *Picea obovata*, *Abies sibirica*, *Betula* sp., etc. 07.07.1989. A.B.Ryvkin leg. — 2 males (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River basin: Kulingna River near Pravyi Usas River mouth, 180 m, mosses and litter at slope forest with *Larix* sp., young *Picea obovata* and *Pinus sibirica*, *Vaccinium vitis-idaea*, *Pleurozium schreberi*, *Hylocomium splendens*, etc. 02.09.1989. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River basin: Kulingna River, 500 m below Bolshoy Rapid, 140 m a.s.l., mosses and litter on swamp with *Pinus sylvestris*, *Picea obovata*, *Betula* sp., *Salix* sp., *Ledum palustre*, *Eriophorum* sp., *Vaccinium vitis-idaea*, *Vaccinium uliginosum*, *Oxycoccus* sp., *Empetrum nigrum*, *Sphagnum* spp., *Pleurozium schreberi*, *Hylocomium splendens*, etc. 06.09.1989. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River basin: Kulingna River near Usas River mouth, 90-180 m a.s.l., slope of bald mountain from river bank (*Alnus* sp., *Salix* sp., etc.) to the crest (sparse forest with *Betula* sp., *Pinus sibirica*, *Picea obovata*, *Abies sibirica*, *Larix* sp., *Ledum palustre*, *Lonicera* sp., *Pleurozium schreberi*, *Hylocomium splendens*, *Cladonia* sp., etc.). 09.09.1989. A.B.Ryvkin leg. — 5 males, 2 females (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River (II), 14 km below Dulkuma River mouth, dual mouth of left confluent, 85 m a.s.l., litter and mosses among large rocky debris on slope with *Ledum palustre*, *Betula* sp., *Picea obovata*, *Vaccinium vitis-idaea*, *Equisetum* sp., *Cladonia* sp., *Sphagnum* spp., *Polytrichum* sp., *Ptilium crista-castrensis*, *Pleurozium schreberi*, etc. 10.07.1990. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Central Siberian Biosphere Reserve, Stolbovaya River, 8 km up-stream of river mouth, 60 m a.s.l., swamp with *Sphagnum* spp., *Ledum palustre*, *Vaccinium uliginosum*, *Betula* sp., *Picea obovata*, *Larix* sp., *Pinus sibirica*, *Pinus sylvestris*, *Pleurozium schreberi*, *Hylocomium splendens*, etc. 30.07.1991. A.B.Ryvkin leg. — 1 female (AR): Baykitskiy District, Podkamennaya Tunguska River basin, environs of Kuz'movka, Kuz'movskiy Rill, 60 m a.s.l., moss and litter on slope near the rill: *Picea obovata*, *Abies sibirica*, *Larix sibirica*, *Salix* sp., *Alnus* sp., *Lonicera altaica*, *Ribes* sp., *Equisetum* sp., *Vaccinium vitis-idaea*, *Vaccinium myrtillus*, sparse *Betula* sp., *Hylocomium splendens*, *Pleurozium schreberi* etc. 12.08.1989. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Podkamennaya Tunguska River, Listvennichnaya River mouth, 65 m a.s.l., slope sparse forest with *Pinus sibirica*, *Picea obovata*, *Abies sibirica*, *Betula* sp., *Vaccinium vitis-idaea*, *Chamaedaphne calyculata*, *Ledum palustre*, *Sphagnum* spp. etc. 26.08.1990. A.B.Ryvkin leg. — 1 male (AR): Baykitskiy District, Podkamennaya Tunguska River 270 km up-stream of mouth, near Velmo River mouth, 55-60 m a.s.l., river (silt, shingle beds, *Carex* spp.) and rill (drift, litter) banks. 17.08.1990. A.B.Ryvkin leg. — 1 male (AR): Taymura River near Kerbo, moss and litter in slope larch forest with *Vaccinium vitis-idaea* and *Ledum palustre*. 17.08.1982. K.Yu.Eskov leg. — 2 females (AR), 1 female (SMNS): Taymura River near Neptenne River mouth. 30.07.1982. K.Yu.Eskov leg. — 1 male (AR): near Tura, Kochechum River bank, alder bushes. 29.08.1982. K.Yu.Eskov leg. — Тува: 2 males, 3 females (AR): Ulug-Khemskiy District, Ishtiy-Khem, on afloat debris in rill. 19-22.06.1979. S.G.Korolyov leg. — 2 males (AR): Piy-Khemskiy District, 25 km S of Turan, near Vesolyi Pass, N aspect, mosses and litter on slope with Poaceae gen. spp., *Vicia* sp., *Iris* sp., *Geranium* sp., *Lonicera* sp., *Salix* sp., *Picea obovata*, etc. near mountain rill. 09.08.1984.

- A.B.Ryvkin leg. — 1 male (AR), 1 female (ZMUC): same locality, biotope and collector. 10.08.1984. — 1 female (AR): Todjenskiy District, Azas Nature Reserve, Azas River basin, middle reaches of Kara-Tesh River (environs of the 2nd hut), 1000 m a.s.l., litter and mosses under *Larix sibirica*, *Picea obovata*, *Pinus sibirica*, with *Pleurozium schreberi*, *Hylocomium splendens*, *Vaccinium vitis-idaea*, *Carex* sp., Poaceae gen. spp., etc. 07.06.1990. A.B.Ryvkin leg. — 1 female (AR): Todjenskiy District, Bol'shoy Yenisey (Biy-Khem) River basin, Serlig-Khem River 6 km upstream of river mouth, 1060 m a.s.l., mosses and litter on slope near small rill: *Larix sibirica* and *Picea obovata* with *Pleurozium schreberi*, *Hylocomium splendens* etc. 11.06.1992. A.B.Ryvkin leg. — 2 males, 2 females (AR): Todjenskiy District, Bol'shoy Yenisey (Biy-Khem) River basin, Serlig-Khem River 8 km upstream of river mouth, Tuyutut-Khem River mouth, 1070 m a.s.l., Tuyutut-Khem River bank: mosses and litter among *Carex* spp., Poaceae gen. spp., *Salix* spp., young *Picea obovata*, etc. 11.06.1992. A.B.Ryvkin leg. — **IRKUTSK AREA**: 1 female (AR): Zhigalovskiy District, pipeline route Kovykta-Zhigalovo, plot #13, burnt forest. 13.08.2006. V.B.Semenov & L.B.Rybalov leg. — 1 female (AVSh): 18th km of Ust'-Kut—Magistral'nyi road, right side of Lena River, N 56°38.375' E 106°03.572', 391 m a.s.l., forest with *Pinus sylvestris*, *Larix gmelinii*, *Betula* sp. at foot of slope and aspen forest with osier-bed. 26-28.07.2008. A.Shavrin & I.Enushchenko leg. — 1 male (AVSh): Baikalo-Lenskiy Nature Reserve, Pokoynitskaya, fire-site, in moss. 23-30.06.1995. A.Shavrin leg. — 3 males, 1 female (AVSh): Vitimskiy Nature Reserve, Chelolek River valley, near thermal spring. 25-26.07.2000. A.V.Shavrin leg. [“*Stenus* (s.str.) sp. A.V.Shavrin det. 2000”]. — 6 females (AVSh): 65 km SE of Yerbogachen, left side of Chona River, 2 km up-stream of Meringda [=Miringda] River mouth, N 61°12.417' E 108°47.238', 280 m a.s.l., swamp with *Sphagnum* spp., *Vaccinium uliginosum*, *Betula fruticosa* near small rill (confluent of Chona River). 18-25.08.2008. A.Shavrin & I.Enushchenko leg. — **BURYATIA**: 2 females (AR): Baikal Mt Ridge, 15 km NW Severobaikalsk, Goudjikit River, mosses and litter under *Larix gmelinii* with *Ledum palustre* and *Vaccinium vitis-idaea* on slope near the river bank. 19.07.1984. A.B.Ryvkin leg. — 1 male (AYuS): W Khamar-Daban Mts, middle reaches of Malyi Zanginsan River. 20-29.05.1999. A.Shavrin leg. [“*Stenus* (*Par.*) *aureolus* Fauv. A.Shavrin det. 99.”]. — 1 female (AVSh): Tunkinskiy District, headwaters of Kyngarga River, 2500 m a.s.l. 04.07.1993. V.G.Shilenkov leg. [“*Stenus kamtschaticus* Motsch. det. V.Puthz 1999”]. — 1 male (KG): East Sayan Mts, 1500 m a.s.l., upper reaches of Kyngarga River, in litter. 18-23.07.1995. A.Shavrin leg. [“*Stenus* (s.str.) *kamtschaticus* Motsch. Shavrin det. 1998”]. — 1 female (AVSh): E Siberia, Khamar-Daban Mt. Ridge, upper reaches of Slyudyanka River valley, weather station. 16.06.2008. A.Shavrin leg. — 1 female (AR): Buryatia, Romanovka-Butuy road. 06.06.1969. V.V.Zherikhin leg. — 1 female (AR): Bol'shoy Amalat River. 01.07.1968. O.N.Kabakov leg. — **CHITA AREA**: 1 female (AYuS): near Malyie Kovali, Chichatka River. 22-29.07.1999. A.Shavrin leg. [“*Stenus* (s.str.) *kamtschaticus* Motsch. Shavrin det. 99.”]. — 2 males, 2 females (AVSh): near Malyie Kovali, Chichatka River. 20-28.07.1999. A.V.Shavrin leg. [“*kamtschaticus*”]. — 1 female (ZIN): Transbaikalian Area, Chita. 20.06.1912. Kirchner leg. [“*Stenus spec.* L.Benick det.”]. — **YAKUTIA**: 1 female (AR): near Yakutsk, right side of Lena River, Nizhniy Bestyakh. 02-15.07.2001. S.A.Kurbatov leg. — 1 female (AVSh): Nizhniy Bestyakh. — 1 female (AVSh): Srednekolymsk. 12.07.1991. Alexeev leg. [“*Stenus kamtschaticus* Motsch. det. V.Puthz 2006”]. — **MAGADAN AREA**: 3 females (AR): upper reaches of Kolyma River, 5 km NE of Laryukovoye. 16.06.1981. A.Ryabukhin leg. — 2 females (AR): upper reaches of Kolyma River, 13 km NE of Srednekan. 10.06.1981. A.Ryabukhin leg. — 1 male, 1 female (AR): same locality and collector. 13.06.1981. — 2 males, 1 female (AR): upper reaches of Kolyma River, 25 km SW of Srednekan. 07.06.1981. A.Ryabukhin leg. — 1 ex (IBPM): upper reaches of Kolyma River, 8 km NNE of Omsuktchan. 04.07.1980. E.G.Matis leg. — 1 ex (IBPM): same locality and collector. 07.07.1980. — 1 ex (IBPM): same locality. 06.07.1980. O.Mashukova leg. □ ½-(½-□ male (AR): upper reaches of Kolyma River, 18 km NNE of

- Omsuktchan, <sup>1</sup> 170-171. 12.07.1980. O.Mashukova leg. □ ½-(<sup>1</sup>½-2 males, 1 female (AR): upper reaches of Kolyma River, 18 km N of Orotukan. 18.06.1981. A.S.Ryabukhin leg. — 1 female (AR): upper reaches of Kolyma River, 78-11, 5 km W of Sibit-Tyhellakh. 10.06.1978. E.G.Matis leg. — 1 male (AR): Ten'kinskiy District, near Sibit-Tyhellakh, alder bushes, pitfall trap. 19.08-08.09.1980. D.I.Berman leg. — 1 male (AR): same locality and collector, alder bushes. 10-20.08.1982. □ ½-(<sup>1</sup>½-□ male (AR): same locality and collector, pitfall trap in larch forest. 07-17.06.1983. □ ½-(<sup>1</sup>½-□ female (AR): near Magadan, Novaya Vesolaya. <sup>1</sup> 226. 14.06.1979. O.Mashukova leg. □ ½-(<sup>1</sup>½-□ **AMUR AREA:** 1 male, 1 female (AR): near Zeya Town. 04.06.1978. V.V.Belov & S.A.Kurbatov leg. — 1 female (AR): source of Selemdzha River: Deremikan River. 24.08.1979. O.N.Kabakov leg. — 1 male (AR): Selemdzhinskiy District, Selemdzha River basin, 5-6 km up-stream of Ekimchan, Unerikan Rill, 1-2 km up-stream of mouth, 490 m a.s.l., mosses and leaf litter in forest and on open bank of rill: *Abies nephrolepis*, *Picea ajanensis*, *Larix gmelinii*, *Betula* sp., *Hylocomium splendens*, *Pleurozium schreberi*, *Sphagnum squarrosum*, *Sph.* ? *girgensohnii*, *Sph.* spp., Poaceae gen. spp., *Equisetum* spp., etc. 05.08.2005. A.B.Ryvkin leg. — 3 females (AR): Selemdzhinskiy District, Selemdzha River, 4 km up-stream of Ekimchan, up-stream of Unerikan River mouth, 495 m a.s.l., mosses and leaf litter under *Populus* sp., *Picea ajanensis*, *Abies nephrolepis*, with Poaceae gen. sp., *Equisetum* spp., *Pyrola* sp., *Ribes* sp., *Rosa* sp., *Vaccinium vitis-idaea*, etc. in riverside forest. 27.08.2006. A.B.Ryvkin leg. — 1 female (AR): Selemdzhinskiy District, near Selemdzhinsk, 270-280 m a.s.l., under bark of rotten twig in village. 11.08.1976. E.M.Veselova & A.B.Ryvkin leg. — 1 female (AR): Selemdzhinskiy District, Norskiy Nature Reserve, right side of Meun River near mouth, mosses and litter in spruce forest with *Maianthemum bifolium*, *Trientalis europaea*, *Equisetum pratense*, *Hylocomium splendens*, *Pleurozium schreberi*, etc. 18.08.2004. A.B.Ryvkin leg. — 1 female (AR): Selemdzhinskiy District, Norskiy Nature Reserve, Nora River, 0.5 km up-stream of Gryashchinskaya Mt., mosses and leaf litter under *Betula platyphylla* and *Larix gmelinii* with *Calamagrostis* sp., *Equisetum sylvaticum*, *E. pratense*, *Maianthemum bifolium*, *Smilacina davurica*, etc. in burnt forest along river bank. 27.08.2004. A.B.Ryvkin leg. — 2 females (AR): Selemdzhinskiy District, Norskiy Nature Reserve (buffer zone), Burunda River basin, 4 km NW of Burunda cordon, mosses and leaf litter on very gentle slope with *Larix gmelinii*, *Alnus* sp., *Ledum palustre*, undergrowth of *Betula platyphylla*, *Hylocomium splendens*, *Dicranum* sp., etc. 08.10.2004. A.B.Ryvkin leg. — 2 males (AR): Mazanovskiy District, right side of Nora River, S slope of Zmeinaya Mt. (from foot to rill) among *Alnus* sp., *Larix gmelinii*, *Picea ajanensis*, *Populus* spp., *Padus* sp. with Poaceae gen. spp., *Carex* spp., *Marchantia* sp., etc. 17.07.2005. A.B.Ryvkin leg. — **KHABAROVSK TERRITORY:** 1 male (AR): Okhotskiy District, Amka River mouth (Ulya River basin). 13.08.1987. I.D.Sukacheva leg. — 1 male (ShIN): Verkhnebureinskiy District, Bureinskiy Nature Reserve, Pravaya Bureya River up-stream of Medvezhye winter hut, 870 m a.s.l., mosses and litter among *Larix gmelinii* and *Duschekia* sp. with *Vaccinium vitis-idaea*, sparse Poaceae gen. spp., *Carex* spp., *Ledum palustre*, *Hylocomium splendens*, *Pleurozium schreberi*, *Dicranum* sp., *Sphagnum* spp. etc. in flood-plain forest at riverside. 18.07.2007. A.B.Ryvkin leg. — 1 male (AR): Verkhnebureinskiy District, island on Niman River 700 m up-stream of Niman cordon of Bureinskiy Nature Reserve, 1040 m a.s.l., mosses and leaf litter in flood-plain forest with *Populus* sp., *Salix* sp., *Spiraea* spp., *Sorbaria sorbifolia*, Poaceae gen. spp., *Carex* spp., *Sphagnum* sp., *Polytrichum* sp., *Hylocomium splendens*, etc. 11.08.2008. A.B.Ryvkin leg. — 1 male (lost at sending): Khabarovsk Territory, Verkhnebureinskiy District, left side of Olga River valley 3 km up-stream of Sofiysk, 880 m a.s.l., mosses, leaf litter & plant debris on gentle slope near rill amid mari with hummocks of *Sphagnum* spp., *Carex* ? *globularis*, *C.* spp., Poaceae gen. spp., *Ledum* sp., *Vaccinium uliginosum*, *V. vitis-idaea*, *Polytrichum* sp., *Hypnum* sp., *Hylocomium splendens*, *Pleurozium schreberi*, *Ptilium crista-castrensis*, *Betula* spp., etc. 19.08.2008. A.B.Ryvkin leg. — 2 females (DUBC): Verkhnebureinskiy District, Bureinskiy Nature

Reserve, “Strelka” cordon, soil in forest with *Abies nephrolepis*. 27.07.2006. A.Barševskis & U.Valainis leg. — 1 male, 1 female (DUBC): same locality and collectors, 26-27.07.2006. — 1 female (OB): Verkhnebureinskiy District, Bureinskiy Nature Reserve, Levaya Bureya River up-stream of Imganakh River mouth, 650 m a.s.l., loamy bank of the river with *Carex* sp. and Poaceae gen. sp. 05.07.2011. A.B.Ryvkin leg. — 1 female (OB): Verkhnebureinskiy District, Bureinskiy Nature Reserve, Levaya Bureya River up-stream of Imganakh River mouth, 660-670 m a.s.l., moss and litter on mari with *Ledum* sp., *Sphagnum* spp. *Pleurozium schreberi*, *Vaccinium vitis-idaea*, *Larix gmelinii*, *Cladonia* spp., etc. 05.07.2011. A.B.Ryvkin leg. — 1 female (AR): Verkhnebureinskiy District, left side of Bureya River opposite Shakhtinskiy, 370 m a.s.l., UV light. 16.06.2013. A.B.Ryvkin leg. — **MARITIME PROVINCE**: 1 female (AR): Kavalerovskiy District, Uglovoy Rill. 29.06.1972. A.P.Rasnitsyn leg. — 1 female (AR): Kavalerovskiy District, Priiskovaya Pad’, pine-deciduous forest, in litter, sample #1. 28.07.1977. L.D.Filatova leg. — 1 female (AR): same locality and collector, burnt forest. 29.07.1977. — **KAMCHATKA AREA**: 2 ex (IBPM): Esso, flood-plain of Bystraya River. 27.06.1975. B.A.Korotyayev leg. — 1 female (KBR): Kamchatka, Lazo, Barber trap near cow-house. 20.06.1986. L.E.Lobkova leg.

**Remarks.** Since all the authors who mentioned *S. kamtschaticus* after Sahlberg S-(‘S-) redescription followed his concept of the species, all their records are to be related to *S. aquilonius* L.Benick, 1921, sp. propria, which the concept conforms to in fact, excluding evident misidentifications. Therefore I cite the records of *S. kamtschaticus* from the catalogues (Fauvel 1875, Heyden 1881, 1898, Jakobson 1908, etc) in this section only, though each of them certainly contains reference to Motschulsky’s original description and should be formally provided under both *aquilonius* and *clavicornis* as well. Both *S. affinisecretus* Zhao & Zhou, 2007 and *S. guandiensis* Zhao & Zhou, 2007 have to be transferred to the synonymy of *S. aquilonius* L.Benick, 1921. I have seen no material from China; the figures of aedeagi for *S. affinisecretus* and *S.*

*guandiensis* obviously differ in the original description one from another and from that of real *S. aquilonius*; so the synonymy is given here according to Puthz (2008) who has on hand a male-paratype of the first-named species.

This species extremely variable in its external characters has supposedly been confused by some authors with other representatives of the subgenus *Stenus* s.str. The record of the Tobolsk Government in Jakobson (1909) is likely based on misinterpretation as none of the sources cited by him contains a mention of similar locality. Puthz (1967b) has noted a misidentification in Poppius (1909); the same author has found that the specimens reported by Eppelsheim (1893) as ‘*S. kamtschaticus*’ belong in fact to *S.* (s.str.) *innuptus* Eppelsheim, 1893 and *S.* (s.str.) *secretus* Bernhauer, 1915 (Shavrin & Puthz 2007), as well as a female syntype of *S.* (str.) *mongolicus* Eppelsheim, 1889 actually belonging to ‘*S. kamtschaticus*’. I find very doubtful also that study of isolated elytra from subfossil deposits can help to identify this species correctly (Wilson & Elias 1986, Short et al. 1992, Elias et al. 2000); so all the known palaeontological records must be considered questionable at least. I have seen no specimens of *S. aquilonius* from North America, however Dr. Puthz has kindly sent me a list of Nearctic localities, including Alaska and the Yukon Territory, from which the males of this species are known to him. Finally, the record from the Altai (Kastcheev & Puthz 2011) seems to be a result of misidentification by the first coauthor: Dr. Puthz has sent me the lists of the Kazakhstan material identified by him himself, and this specimen is absent there.

As *S. kamtschaticus*, the species has been reliably reported for the northern reaches of the Yenisey (J.Sahlberg 1880) and Lena River (Poppius 1909, Puthz 1967b), Tuva, Buryatia (Shavrin & Puthz 2007), Irkutsk Area (Anishchenko & Shavrin 1998, Shavrin, 2007, Shavrin & Puthz 2007), Chita Area (L.Benick 1924; Shavrin & Puthz 2007), Magadan Area (Ryabukhin 1999, on my identifications), Kamchatka (L.Benick 1921; Puthz 1965, 1967b; Ryabukhin 1999, on my identifications; Lobkova



& Semenov 2012, on my identifications), Mongolia (Puthz 1967a, 1971), and China (Puthz 2008, 2013).

The new data provided above in the Material section (more than 150 specimens deposited mainly in my collection) makes it possible to fill evident gaps in the pattern of distribution of *S. aquilonius* and to define more exactly the westernmost limit of the species range. This limit in its main part corresponds well to the Yenisey valley; and only in its Subarctic segment stretches westwards to the Polar Ural. According to my observation, in the middle part of the Yenisey valley, the species is rather occasional even on the right (eastern) river bank and vanishes completely on the left (western) side, whereas in 30-60 km eastwards the finds are quite common. I believe it to replace partially *S. clavicornis* there in habitats with somewhat higher soil moisture (hygro-mesic). The southernmost segment of the limit seems to be more intricate; in the West Sayan Mts and Tuva, *S. aquilonius* inhabits anyway both sides of the Yenisei.

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