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Contribution to the knowledge of the fauna of Steninae (Coleoptera, Staphylinidae) of the Kazakhstan¹

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Abstract

A list of 56 species of *Stenus* LATREILLE and one species of *Dianous* GYLLENHAL (Coleoptera, Staphylinidae, Steninae) of Kazakhstan is given, more than half of the taxa are first records. 55 species are recorded from material studied, 2 species are quoted from the literature. Remarks on biotopical distributions and a zoogeographical analysis is provided.

Zusammenfassung

Eine Checklist der bisher aus Kasachstan bekannten 56 Steninen-Arten (55 *Stenus*, 1 *Dianous*) wird vorgelegt. Mehr als die Hälfte davon stellen Erstmeldungen dar, 55 Meldungen sind durch untersuchtes Material belegt, 2 aus der Literatur zitiert. Bemerkungen über das Vorkommen der Arten in verschiedenen Biotopen und eine zoogeographische Analyse werden gegeben.

¹319th Contribution to the Knowledge of Steninae

Introduction

Kazakhstan is a large territory with various natural-climatic zones and some isolated mountain regions. A rich variety of landscapes, diverse forms of the microrelief and many types of habitats provide a rich staphylinid fauna. No special studies on the Stenine-fauna of Kazakhstan have been published so far. Only single fragmentary data, few descriptions of new species and separate records of species have been available (LUZE 1904; PUTHZ 1968-2009; RYVKIN 1989, 1990; TIKHOMIROVA 1973).

Some biological and ecological data have been contributed by the first author (KASTCHEEV 1985-2002).

During 30 years field works (1978- 2009) a large amount of material has been accumulated. The present article is mainly based on this material, nearly 5000 specimens of *Stenus* from different regions of Kazakhstan, amongst which there was found one new species. The complete material is now stored in collections of V. KASTCHEEV and V. PUTHZ.

We give a complete annotated list of the Steninae of Kazakhstan. Included are species, which already have been noted for Kazakhstan or recorded from adjacent territories (BERNHAEUER & SCHUBERT 1911; SCHEERPELTZ 1925-1934; JAKOBSON 1908-09; TIKHOMIROVA 1973; HERMAN 2001). This list is a contribution to close the gap between better known faunas of adjacent areas/countries including Iran (SERRI in prep).

Since some regions of this large country have been studied insufficiently and since the collecting methods have been restricted so far this list should be regarded as a first step towards a complete inventory of the Stenine fauna of Kazakhstan. Some species, which have been recorded from adjacent territories (Russia and the republics of Central Asia), should be expected to live also in Kazakhstan.

Abbreviations in the text : C - central; E - east; N - north; S - south; W - west, western; M - Material; D - Distribution; riv.- river; mnt. - mountains; lk. - lake; vill. - village; ur. - urochische, natural boundary (including combination).

List of species of *Dianous* GYLLENHAL, 1810 and *Stenus* LATREILLE, 1797 of the Kazakhstan

Dianous coerulescens GYLLENHAL, 1810

M: **Altai:** Naryn riv., Maimer, 1 ♀: 06.08.1986, wet laying; **Tarbagatai:** Karakol riv., 1 ♂, 2 ♀ ♀: 23.08.1989, silt-sandy coast at stream; **Dzhungar mnt.:** Keskenterek, 1 ♂: 27. 08. 1988; **Charyn riv.:** Aktogai, 1 ♂: 09.05.1990, willow laying on pebble at river; **Bajankol riv.:** near Narynkol vill., 1 ♀: 15.09.1988, among stones at river.

D: Europe, Russia, Caucasus, Kazakhstan, West Siberia.

Stenus aereus SOLSKY, 1871

Described from Uzbekistan, recorded from Turkestan (SOLSKY 1874; EPPELSHEIM 1892). RYVKIN (1990) characterized this species as wide-spread in Central Asia.

M: Ketmen mnt.: Podgornoe, 1♂, 3♀♀: 22.06.1984; 1♂, 1♀: 15.09.1987; **Dzhungar mnt.,** Borokhuzdir riv., 3♂♂, 1♀: 15.06.1985; 1♂, 1♀: 15.04.1979, grassy bog on soils with superfluous humidifying; **Narynkol:** Tekes riv., 1♂, 3♀♀: 26.06.1984, among stones at riv; Bayankol riv., 3♂♂ 3♀♀: 07.09.1987; 1♂, 2♀♀: 15.09.1988, pebble on river bank; **Ile riv.:** Kapchagai, 85th km, 5♂♂: 26.09.1981, silt among dry reed-mace on low flat coast; Kapchagai, Pristan Nauka, 1♀: 21.09.1981; Aldarly, 4♂♂, 1♀: 14.04.1991, at the bottom of dried up inundated reservoir; Bakanas, 1♀: 2.06.1989; Karagach, 20.09.1986; **Syrdaria riv.:** Chyeli, 7♂♂, 4♀♀: 19.06.1980, wet laying; 1♂, 2♀♀: 21.06.1990; Cellinnoe, 1♂, 2♀♀: 19.06.1985, thin alluvium with small cereals on the river bank; Djetsysai, 1♂, 1♀: 6.05.1980, water meadow with developed forbs and willow thickets; Arys, 1♀: 5.06.1989; Shaulder, 1♀: 31.05.1985, laying in tugai from oleaster with hygrophite vegetation; **Aksu-Djabagly:** Kara-Alma, 1♂, 2♀♀: 17.05.1985, silt-sandy coast at stream; Tasutkol lk., 4♂♂, 1♀: 09.05.1985, **Karatau mnt.:** Baizhansai, 2♂♂, 2♀♀: 13.06.1983, willow laying on pebble at river.

Narynkol: Tekes riv., 3♀♀: 6-12.06.1992, S. Kasantsev (Mus. Basel); **Charyn riv.:** W Chundzha vil., 650 m, 1♂, 1♀: 21-31.05.2001, Schawaller (Mus. Stuttgart)

D: Georgia, Uzbekistan, Kyrgyztan, Kazakhstan, Tadjhikistan, Turkmenistan, Afghanistan, West Siberia, Iran, Lebanon, Syria.

Stenus affaber BAUDI, 1848

Described from Syria.

M: Dzhungar mnt.: Karatal riv., near Tekeli, 1♀ (cf. det.): 7-17.05.1991, N. Tselikov (Mus. Basel).

D: Kazakhstan, Iran, Turkey, Lebanon, Syria.

Stenus assequens REY, 1884 (=pusio CASEY, 1884, =simillimus L.BENICK, 1949)

M: Dzhungar mnt.: Keskenterek riv., 1♀, 23.08.1987.

D: Holarctic.

Stenus ater MANNERHEIM, 1830

Until now, no reliable record from Kazakhstan are known to us. Records of SOLSKY (1874) and EPPELSHEIM (1892) are doubtful and refer mostly to other species.

M (?): 1♀: Ural riv.: near Kharkino (20 km N Inder), 29.7.1951, L. Arnoldi (Mus. St. Petersburg).

D: Morocco, Algeria, Europe, Russia, Tukey, Georgia, Armenia, Azerbaijan, Iran.

[*Stenus aterrimus* ERICHSON, 1839]

No records from Kazakhstan, but from Uzbekistan (SOLSKY 1874; JAKOBSON 1908-09; RYVKIN 1990) and W. Siberia (SHAVRIN & PUTHZ 2007). Myrmecophilous, living with species of the subgenus *Formica* (MÄRKEL 1841; JANÁK & VYSOKY 1992; ZERCHE 2009).

D: Europe, Russia, NW Caucasus, Uzbekistan, S Cisbaikalia.

Stenus bernhauerianus JAKOBSON, 1909 (= *indubius* BERNHAUER, 1905; = *turkestanicus* BERNHAUER & SCHUBERT, 1911)

This species was described from Taraz (=Aulie-Ata, =Dzhambul) as *indubius* BERNHAUER, 1905 (nec SHARP, 1889). SOLSKY'S (1874) record from Uzbekistan probably refer to this species.

M: **Ile riv.:** Ile x Balkhasch, 1♀: 30.08.1982, reed-mace-cane bog in delta; Karagach, 1♂: 05.08.1981, sandy coast and shallow without vegetation; Kazakhstan vill., 1♂, 3♀: 28.07.1982; Aldarly, 2♀: 12.04.1984, water meadow on island with separated willows and oleaster; Buryndysu, 1♂, 1♀: 13.06.2004; **Chylik riv.:** Barthagai, 3♀: 24.03.1982, wet laying; **Syrdaria riv.:** Chardara, 2♂♂: 13.05.1979, sandy coast and shallow without vegetation.

D: Iran, Kazakhstan, Kyrgyztan.

Stenus bifoveolatus GYLLENHAL, 1827

Recorded from Uzbekistan (SOLSKY 1874; HOCHHUTH 1849).

M: **Irtysh riv.:** Lebyazh'e, 1♂, 1♀: 18.05.1979, laying in tangled vegetation of river valley; Bel'ozek riv., 1♂: 19.08.1988, wet laying; **Altai:** Ul'ba river, Cheremshanka, 1♂: 10.07.1989.

D: N and Centr. Europe, Russia, Caucasus, Kazakhstan, Siberia to Baikal.

Stenus biguttatus (LINNAEUS, 1758)

M: **Altai:** Narym riv., Maimer, 1♀: 06.08.1988, wet laying; Bukhtarma riv., Katon-Karagai, 2♀: 15.07.1989, wet moss at butt of tree, 4♂♂, 1♀: Ul'ba river, Cheremshanka, 10.07.1989, 2♂♂, 1♀: Bukhtarma river, Dzhambul, 10.08.1988; **S Kazakhstan:** Saryagach, Keles riv. aryk, 1♀: 07.07.2010.

D: Europe, Russia, Georgia, Azerbaijan, Armenia, Siberia, Sakhalin, China (?), Japan. Transpalaeartic species (TIKHOMIROVA 1973).

[*Stenus binotatus* LJUNGH, 1804]

This species has not been found in Kazakhstan! The record in LÖBL & SMETANA (2004) is based on a misidentified female of *S. wuesthoffi*.

D: Europe, East and West Siberia, Turkey, Syria.

Stenus bohemicus MACHULKA, 1947 (= *palmi* L. BENICK)

M: **Altai:** Bukhtarma, 5♂♂, 1♀: 14.08.1988, wet moss at butt of tree; Tauchylik riv., 1♂, 1♀: 15.08.1989, coastal shaft of stones; Katon-Karagai, 2♂♂, 1♀: 15.07.1989, wet moss at butt of tree; Bukhtarma, Uryl'-Chingistai, 62♂♂, 126♀♀: 15.08.1988, wet moss at butt of tree.

D: Europe, Kazakhstan, Mongolia, China, Siberia, Far East of Russia, Korea, Japan.

Stenus boops LJUNGH, 1810

M: **Ural riv.:** Lbischensk, 1♂: 4.10.1980, water meadow with developed forbs and willow thickets; Dzhambeity, 1♂, 1♀: 15.04.1982, sedge-cane bog at a stream; Inder, 2♂♂, 3♀♀: 10.06.2006, silt-sandy coast at stream; Ganyushkino, 1♂, 2♀♀: 10.08.2004, silt among dry reed-mace on low flat coast, sedge-reed-mace water meadow ashore inundated reservoir; Bogatskoe, 1♂: 16.10.1980, river inwashes on river bank; **Irgyz-Turgai riv.:** Kurдум vill., 1♂, 1♀: 17.07.1984, sedge-cane bog at a stream; Momyr vill., 4♂♂, 2♀♀: 27.07.1983, thin alluvium with small cereals on the river bank; 1♂, 1♀: 30.07.1984; Irgyz town, 1♀: 23.07.1983; **Altai:** Ulba riv., Cheremshanka, 3♂♂, 5♀♀: 08.07.1989; 1♂1♀: 03.07.1991, river inwashes on river bank; Katon-Karagai, 3♂♂, 5♀♀: 15.07.1989, wet moss at butt of tree; **Burabai** (Borovoe): Zhukei lk., Burevestnik, 1♂, 2♀♀: 20.07.2002, six-summer ashes on place of pine forests.

D: Europe, European part of Russia, Georgia, Kazakhstan, China, Mongolia, Japan.

Stenus burjaetus PUTHZ, 1980 (= *nuntiator* RYVKIN, 1987)

M: **Irtyshev riv.:** Bel'ozek riv., 1♀, 19.08.1988; **Altai:** Burkhat pass, 2♂♂, 4♀♀: 06.06.1989, wet moss at butt of tree; Bukhtarma, Archaty, 1♂, 1♀: 29.07.1989, laying among stones at water; Marchikha riv., 1♀ 13.08.1989, 1♀, 08.07.1991, pebble on river bank; Tautekeli + Karakoba riv., 3♂♂, 6♀♀, 1.08.1989; Ile-Alatau, Zhynishkhe riv., 2♂♂, 17.08.1988.

D: Russia, Kazakhstan, Sayan, Khamar-Daban, Amur province.

Stenus canaliculatus GYLLENHAL, 1827

M: **Ural riv.:** Lbischensk, 1♂: 04.10.1980, water meadow with developed forbs and willow thickets; Bogatskoe, 2♂♂, 1♀: 16.10.1980, river inwashes on river bank; Inder, 1♂, 1♀: 10.06.2006, silt-sandy coast at stream, Ganyushkino, 2♀♀: 10.08.2004, silt among dry reed-mace on low flat coast; **Altai:** Cheremshanka, 1♂, 2♀♀: 10.07.1989, river inwashes on river bank; Sarymsakty riv., Katon-Karagai, 2♂♂, 1♀: 3-7.08.1991, wet moss at butt of tree.

Dzhungar mnt.: Sarkand, 2♀♀: 29.6.1990, Dolin (Mus. Basel).

D: Iceland, Europe, Russia, Ural, Kazakhstan, Iran, Turkey, Siberia, Yakutiya, Mongolia, Korea, Canada, USA.

Stenus carbonarius STEPHENS, 1833

M: **Kungei mnt.:** Zhalanash, 2♀♀, 14.07.1984.

D: North palaeartic, Kazakhstan, Siberia.

Stenus cautus ERICHSON, 1839 (= *submarginatus* STEPHENS, 1833; = *vafellus* ERICHSON, 1839)

M: **Altai:** Sarymsakty, 1♂, 1♀: 22.06.1984; Bukhtarma riv., Dzhambul, 1♂, 1♀: 10.08.1988; **Charyn riv.:** Aktogai, 29.05.1988, thin alluvium with small cereals on the river bank; **Narynkol:** Bayankol riv., 3♀♀: 07.09.1987; 1♀: 15.09.1988, coastal shaft of stones; **Syrdaria riv.:** Shaulder, 1♂, 1♀: 31.05.1985, wet laying;
Dzhungar mnt.: **Ural riv.:** near Kharkino (20 km N Inder), 1♀: 07.1951, L. Arnoldi (Mus. St. Petersburg).
D: Europe, Russia, Kazakhstan, Turkey, Siberia.

Stenus cephalenicus BERNHAUER, 1915 (= *vastus* L. BENICK, 1925)

M: **Altai:** Putincevo, 10 km N Zyrjanovsk, 1♂: 1-2.8.1993, Snizek (Mus. Wien) (PUTHZ 2008: 157).
D: SE-Europe, Russia, Georgia, Turkey, Kazakhstan, Kyrgyzstan.

Stenus cicindeloides (SCHALLER, 1783)

M: **Ural riv.:** Dzhangala, 1♂, 2♀♀: 20.04.1982, wet laying; Lbischensk, 2♂♂: 04.10.1980, water meadow with developed forbs and willow thickets; Inder, 1♂, 3♀♀: 10.06.2006, silt-sandy coast at stream; Ganyushkino, 1♂, 2♀♀: 10.08.2004, sandy coast and shallow without vegetation; **Altai:** Cheremshanka, 1♂, 2♀♀: 8-10.07.1989, pebble on river bank; Uryl'-Chingistai, 1♀: 15.08.1988, 1♀: 30.08.2010, wet moss at butt of tree; Bukhtarma riv., Katon-Karagai, 1♂, 1♀: 15.07.1989, slope with exuding water; **Dzhungar mnt.:** Golubinovka, 2♂♂, 2♀♀: 03.06.1984, wet laying, Keskenterek, 1♀: 23.08.1987, alpine forb meadow; Argynaty riv., 1♂, 2♀♀: 20.08.2006, coastal shaft of stones; **Kyrgyz mnt.:** Merke riv., 2♂♂, 3♀♀: 12.06.1988, slope with exuding water; Near Taraz, Golovachevka, 1♂: 28.05.1983, wet laying. Tarbagatay mnt.: 4 km NE Petrovskoe, 1100 m, 1♂: 22.6.2001, Schawaller (Mus. Stuttgart).
D: Madeira, Europe, Russia, Kazakhstan, Mongolia, China, Vietnam, Korea, Japan, Taiwan.

Stenus circularis GRAVENHORST, 1802

M: **Ural riv.:** Budarino, 1♂, 2♀♀: 20.10.1980, river inwashes on river bank; Pervomaiskiy, 1♀: 30.09.1984, silt-sandy coast at stream.
D: Europe, Russia, Georgia, Kazakhstan, Turkey.

Stenus clavicornis (SCOPOLI, 1763)

M: **Ural riv.:** Budarino, 1♂, 1♀: 20.10.1980, river inwashes on river bank; Lbischensk, 1♂: 04.10.1980, water meadow with developed forbs and willow thickets; Karachaganak, Abai, 3♀♀: 24.09.1989; 1♂: Kalmykovo, 28.09.1980, wet moss at butt of tree; **Altai:** Bukhtarma, Katon-Karagai, 1♂, 1♀: 15.07.1989, slope with exuding water; Bukhtarma, Topkain, 1♂, 4♀♀: 14.08.1988; 1♀: 17.07.1989, among stones at river; Marchikha riv., 1♂: 13.08.1989; Sarymsaky riv., 2♀♀: 16.07.1989; **Dzhungar mnt.:** Kokjota mnt., Pikhtovka, 2♂♂: 06.06.1987, wild woods from apple-tree, hawthorn, apricot with a dense circle of cereals and forbs; **Karatal riv.:** 30 km Taldy-Kurgan, 2♀♀: 01.07.2004, sedge-reed-mace water meadow ashore inundated reservoir; Chulak-Kurgan, 1♂, 1♀: 04.06.1983, wet laying; **Kungei mnt.:** Sarydjaz, 2♀♀: 27.06.1984, alpine forb meadow; Kul'bastau, 1♂, 5♀♀: 16.07.1987, meadow with cryopetrophytes forbs; **Ile mnt.:** Isyk, Dendropark, 1♂: 15.05.1990; Isyk riv, Isyk vill., 1♂: 02.07.1984, slope with exuding water; Turgen, Batan riv., 1♀: 25.06.1988, coastal shaft of stones; near Talgar, 1♀: 27.08.1987;

Kaz. Inst. zemledelia, prilavki, 1♂: 20.06.1988, wet laying; Butakovka, 1♂, 1♀: 20.06.1980, wet moss at butt of tree; **Ile riv.:** splav, Zhelturanga, 1♂, 1♀: 29.05.1984, thin alluvium with small cereals on the river bank; Araltobe, 1♂, 1♀: 20.08.1980, water meadow with developed forbs and willow thickets; **Koktal riv.:** Chkalovo, 3♀♀: 06.06.1984; Kaskasu riv., Zhalpaksai, 2♂♂, 4♀♀: 10-12.07.1983, sedge-cane bog at a stream; Karabau riv., 1♂, 2♀♀: 10.07.1983.

D: Holarctic.

Stenus comma LECONTE, 1863 (= *bipunctatus* ERICHSON, 1839)

M: **Ural riv.:** Bogatskoe, 2♂♂, 3♀♀: 16.10.1980, river inwashes on river bank; Lbischensk, 1♂, 1♀: 04.10.1980, inundated tall-grass a meadow; Inder, 2♀♀: 10.06.2006, silt-sandy coast at stream, Ganyushkino, 1♂, 2♀♀: 10.08.2004, wet soil on place of the dried up reservoir at the river; **Irgyz–Turgai:** Sarycopa lk., 1♂, 2♀♀: 14.08.1984, at the bottom of dried up inundated reservoir; Momyr vil., 2♂♂, 3♀♀: 30.07.1984; **Kyzylkum des.:** 26 km NW Nukus, 2♂♂, 4♀♀: 15.09.1979, sandy coast and shallow without vegetation; Chaban-kazgan, 2♂♂, 1♀: 25.04.1979, Kaska, 1♂, 1♀: 31.10.1978, sandy coast of an artesian chink with very rare vegetation; **Altai:** Ulanka riv., Ulanskoe, 1♂, 2♀♀: 18.08.10; Sarymsakty riv., Katon-Karagai, 1♀: 25.08.2010; 2♂♂, 4♀♀: 28.08.2010; Zaisan lk., Uydene, 1♂, 3♀♀: 20.08.1989, sandy coast and shallow without vegetation; Bukhtarma riv., Chyndagatui, 1♀: 30.07.1989, pebble on river bank; Uryl'-Chingistai, 2♂♂, 3♀♀: 15.08.1988; 2♂♂: 30.08.2010; Archaty, 1♂, 3♀♀: 29.07.1989; Bukhtarma riv., Djambul, 3♂♂, 1♀: 10.06.1988, laying in tangled vegetation of river valley; Marchikha riv., 1♂, 1♀: 08.07.1991; Cheremshanka, 3♂♂, 3♀♀: 8-10.07.1989, pebble on river bank; Tautekeli-Karakoba riv., 1♀: 11.08.1989, among stones at river; Irtysh riv.: Lebyaszhe, 2♂♂, 1♀: 18.05.1979, laying in tangled vegetation of river valley; Chernyi Irtysh, Buran, 1♂, 1♀: 20.08.1988, thin alluvium with small cereals on the river bank; **Burabai:** Zhukei lk., Burevestnik, 1♂, 1♀: 20.07.2002, six-summer ashes on place of pine forests; **Ilek riv.:** Aktyubinsk, 2♂♂, 1♀: 17.05.1987, wet laying; **Tengiz lk.:** Sultan-Keldy, 2♀♀: 23.05.1979, sedge-cane bog at a stream; **Koktal riv.:** Chkalovo, 2♂♂: 06.06.1984; **Tarbagatai mnt.:** Bazar riv., 2♀♀: 09.07.1986; Narymskiy khr., 40 km E Slavyanka, Bazar riv., 1♀: 1.08.1986, among stones at river; **Karatal riv.:** 30 km Taldy-Kurgan, 2♂♂, 4♀♀: 01.07.2004, silt-sandy coast at stream; 33 km N-W Ush-Tobe, 2♂♂, 8♀♀: 28.06.2004, willow laying on pebble at river; **Ketmen mnt.:** Shalkudysu riv., 2♀♀: 04.06.1982, pebble on river bank; **Charyn riv.,** Aktogai, 3♂♂, 2♀♀: 26.08.1987, coastal shaft of stones; 1♂, 3♀♀: 29.05.1988; 4♂♂, 1♀: 25.06.1991, alluvium with small cereals on the river bank; **Syrdaria riv.:** Cellinnoe, 1♂, 1♀: 19.06.1985, thin alluvium with small cereals on the river bank.

D: Holarctic.

Stenus crassus STEPHENS, 1833

M: **Altai:** Ulanka riv., Ulanskoe, 1♂: 18.08.2010; **Dzhungar mts.:** Keskenterek riv., 1♀: 03.08.1987.

D: Europe, Russia, Kazakhstan, Mongolia.

Stenus cooteri ROUGEMONT, 2001

M: **Aksu-Dzhabagly:** Ulken-Kaindy, 2300 m, 13.6.1999, grubbing at snow melt, J. Cooter (Museum Manchester).

Of this species only the types are known.

Stenus formicetorum MANNERHEIM, 1843 (= *minus* HOCHHUTH, 1849; = *littoralis* THOMSON, 1857; = *borealis* MÄKLIN, 1880; = *freyi* L. BENICK, 1921)

M: **Ural riv.:** Chapaev, 2♂♂, 3♀♀: 06.10.1980, wet laying; Lbischensk, 1♂: 04.10.1980, inundated tall-grass a meadow; Inder, 1♂, 2♀♀: 10.06.2006, silt-sandy coast at stream; Zaroslyi, 4♀♀: 17.06.2005, sedge-cane bog at a stream; Ganyushkino, 1♂, 3♀♀: 10.08.2004, at the bottom of dried up inundated reservoir; Karachaganak, Utwa riv., 2♂♂, 2♀♀: 09.06.1989; **Dzhungar mnt.:** Tekeli, Karoi riv., 1♂, 2♀♀: 02.10.1984, laying in tangled vegetation of river valley; Koksuv. Rudnichnyi, 1♂: 15.06.1984, grassy bog on soils with superfluous humidifying; Alakol, Gorkyi kluch, 1♀: 20.06.1981, grassy bog on soils with superfluous humidifying. – The material has to be revised again after the publication of the group revision planned by A. B. RYVKIN.

D: Europe, Russia, NW Caucasus, Kazakhstan, Uzbekistan, Baikalian Siberia, Amur region, Canada.

Stenus fornicatus STEPHENS, 1833 (= *contractus* ERICHSON, 1839; *basalis* CURTIS, 1840; *tumidulus* SOLSKY, 1874)

M: **Ural distr.:** Dzhambeity, 1♂, 1♀: 15.04.1982, sedge-cane bog at a stream; Lbischensk, 1♂: 04.10.1980, water meadow with developed forbs and willow thickets; Inder, 3♀♀: 10.06.2006, silt-sandy coast at stream; Ganyushkino, 1♂, 2♀♀: 10.08.2004, wet laying; Chapaev, 2♂♂: 06.10.1980, wet laying; Budarino, 1♀: 20.10.1980, river inwashes on river bank.

D: N Africa, Europe, Azerbaijan, Kazakhstan, Iran, Siberia.

[*Stenus guttula* P. W. J. MÜLLER, 1821]

Records of this species from neighbouring countries (FAUVEL 1873; SOLSKY 1874; HORION 1963; COIFFAIT 1970) refer to other species (mostly to *S. postcalis* EPPELSHEIM).

Stenus humilis ERICHSON, 1839

M: **Ural distr.:** Bogatskoe, 3♀♀: 13-16.10.1980, slope with exuding water; Pervomaiskiy, 1♂, 2♀♀: 30.09.1984, silt-sandy coast at stream; Lbischensk, 2♀♀: 04.10.1980, water meadow with developed forbs and willow thickets; Inder, 2♂♂, 1♀: 10.06.2006, silt-sandy coast at stream; **Altai:** Ulba riv., Cheremshanka, 1♂, 1♀: 08.07.1989, river inwashes on river bank; Bukhtarma riv., Uryl'-Chingistai, 1♂: 15.08.1988; Katon-Karagai, 1♂, 2♀♀: 15.07.1989, slope with exuding water; **Ile mnt.:** Talgar, 27.08.1987, wet moss at butt of tree; Turgen riv., Asy, 1♂, 1♀: 06.07.1984, laying among stones at water; Kaskelen, 30 km W Almaty, 1♂, 1♀: 22.04.2002, wet laying.

D: Europe, W republics of ex-U.S.S.R., European part of Russia, Crimea, Georgia, Azerbaijan, Armenia, Ural, Kazakhstan, Turkmenistan, Turkey, Siberia.

Stenus hypoproditor PUTHZ, 1965 (= *pinguis* KRÁSA 1941)

M: **Ural riv.:** Karachaganak, Utwa riv., 1♂, 1♀: 09.06.1989, wet laying; Dzhangala, 2♂♂, 3♀♀: 20.04.1982, galophyte cereal-forbs meadow on low lake terrace; Lbischensk, 1♂: 04.10.1980, silt among dry reed-mace on low flat coast; Pervomaiskiy, 1♂, 1♀: 30.09.1984, silt-sandy coast at

stream; Furmanovo, 2♀♀: 20.06.1984; Inder, 2♂♂, 2♀♀: 10.06.2006, silt-sandy coast at stream; Zaruslyi, 1♂, 4♀♀: 17.06.2005, grassy bog on soils with superfluous humidifying; Ganyushkino, 3♂♂, 2♀♀: 10.08.2004, wet laying; **Altai**: Sarymsakty riv., Katon-Karagai, 2♂♂: 28.08.10; **Irgyz-Turgai riv.**: Kurdum vil., 1♂, 1♀: 17.07.1984; **Irtysk riv.**: Pavlodar, Irtysk riv., 1♂: 18.05.1979; **Dzhungar mnt.**: Aksu riv., Djansugurov, 1♂, 1♀: 15.08.1987, wet laying; Keskenterek riv., 2♂♂, 2♀♀: 24.06.1987; 1♂: 23.08.2004, willow laying on pebble at river; Oisaz-Chizhe, 1♀: 21.08.1987, pebble on river bank; Karatal riv., 30 km Taldy-Kurgan, 2♂♂: 01.07.2004, laying among stones at water; **Kyrgyz Alatau**: Koshirme konezavod., 1♀: 09.07.10; **Ile mnt.**: Kok tyube 2400 m, 1♂: 23.08.2010; 8 km W Isyk, Isyk riv. 2♀♀: 30.08.09; **Chylik riv.**: Barthagai, 1♀: 24.03.1982, wet laying; **Ile riv.**: Ajak-Kalkan, 2♀♀: 21.04.1987, wet moss at butt of tree; 35 km NW Chylik, 3♂♂, 2♀♀: 21.05.1983; Bakanas, 1♂, 1♀: 02.06.1989, laying in tugai from oleaster with hygrophyte vegetation; **Sogety mnt.**: Chyngilsu riv., 1♂, 2♀♀: 13.06.2004, laying under a willow; **Karatau mnt.**: Byilikol lk., sub mountains, 1♂: 11.07.10; Kantagi riv., eger post, 1♂: 21.07.2010; **Talas riv.**: Golovachevka, 1♀: 28.05.1983, wet laying, Zhetyzhol mnt., SW Almaty distr., 1♂: 06.2002, A. Putchkov (coll. Schülke).

D: Europe, Turkey, Russia, Iran, Kazakhstan, Kyrgyzstan.

***Stenus incrassatus* ERICHSON, 1839**

M: Lbischensk, 1♂: 04.10.1980, silt among dry reed-mace on low flat coast; Furmanovo, 1♂, 1♀: 20.06.1984, at the bottom of dried up inundated reservoir; Inder, 2♀♀: 10.06.2006, silt-sandy coast at stream; Zaruslyi, 1♂, 1♀: 17.06.2005, wet laying; Ganyushkino, 2♀♀: 10.08.2004, wet laying; **Ile riv.**: Karagach, 1♀: 10.07.1982; Bakanas, 1♀: 02.06.1989, willow laying on pebble at river; Aidarly, 3♀♀: 18.04.1991, laying under a willow.

D: Europe, European part of Russia, Azerbaijan, Turkey, Middle Asia (Caspian Sea), Iran, Kazakhstan, Siberia.

***Stenus intricatus zoufali* FLEISCHER, 1909 (= *intricatus bidenticulatus* PUTHZ, 1969, = *simplaripes* PUTHZ, 2009)**

The strong variability of this taxon has been recognized recently (PUTHZ 2010).

M: **Irgyz-Turgai riv.**: Momyr vill., 1♂, 1♀: 27.08.1983, wet soil on place of the dried up reservoir at the river; 1♂: 29.07.1984; 2♂, 1♀: 27.07.1983, thin alluvium with small cereals on the river bank; near Irgyz town, 1♀: 23.07.1983, wet laying; **Alakol lk.**: Gor'kiy kluch, 1♀: 20.06. 1980, silt-sandy coast at stream; **Kungei mnt.**: Zhalanash, 1♀: 14.07.1984, silt-sandy coast at stream; **Talas riv.**: near Taraz (Dzhambul), 4♂♂, 3♀♀: 17.06.1989; 1♂, 2♀♀: 05.07.1989, slope with exuding water; Zhanatas, Berkuty riv., 12♂♂, 7♀♀: 17.06.1989, stream coast in depression submountain plains; Budenovka, 8♂♂, 7♀♀: 06.07.1989, willow laying on pebble at river; Talass mnt.: Belye Wody, 1♂, 2♀♀: 25.05.1988, wet laying; **Karzhantau**: Ugamsk, 1♂, 3♀♀: 10.07.1983, silt-sandy coast at stream; **Syrdaria riv.**: Cellinnoe, 1♀: 19.06.1985, thin alluvium with small cereals on the river bank; Arys, 1♀: 05.06.1989, wet laying, Arys, Shaulder, 2♂♂, 1♀: 05.06.1989, laying in tugai from oleaster with hygrophyte vegetation, Chyeli, 1♂: 20.04.1980, at the bottom of dried up inundated reservoir; 20.09.05.1979, wet laying; Chardara, 4♂♂, 2♀♀: 10.05.1979, silt among dry reed-mace on low flat coast; Djetyysai, 1♀: 06. 06.1980, Djusalı, 1♂: 23.06.1980; **Sogety mnt.**: Chyngilsu riv., 2♀♀: 13.06.2004, laying under a willow.

D: SE-Europe, Tukey, Georgia, Azerbaijan, Iran, Afghanistan, Kazakhstan, Turkmenistan, Uzbekistan.

Stenus juno (PAYKULL, 1789)

M: **Ural distr.:** Inder, 1♂, 1♀: 12.06.2006, at the bottom of dried up inundated reservoir; Bogatskoe, 2♀♀: 13.10.1980; Chapaev, 1♂, 3♀♀: 06.10.1980, thin alluvium with small cereals on the river bank; Lbischensk, 2♀♀: 04.10.1980, wet laying; **Irgyz-Turgai riv.:** Momyr vil., 1♂, 2♀♀: 30.07.1984, thin alluvium with small cereals on the river bank; Turgai riv., near Turgai town, 1♀: 04.08.1985, galophyte cereal-forbs meadow on low lake terrace; Taup, 1♂, 1♀: 21.07.1984, sedge-cane bog at a stream; **Altai:** Bukhtarma riv., Topkain, 2♂♂: 07.06.1988; Cheremshanka, 1♀: 08.07.1989, river inwashes on river bank; Katon-Karagai, Sarymsakty riv, 1♂, 1♀: 15.07.1989, 1♂: 28.08.2010, laying among stones at water; Marchikha, 1♂, 3♀♀: 08.07.1991; **Ile mnt.:** Kaz.Inst.zemledelia, 1♀: 20.06.1988, prilavki, wet moss at butt of tree; near Almaty, Kaskelen, 1♂, 2♀♀: 23.05.1979, wet laying; **Aksu-Djabagly:** Daubaba, 1♂: 14.07.1983, wet moss at butt of tree; Taldy-Bulak riv., 1♂, 2♀♀: 23.05.2001, laying under a willow.

Akmolinsk distr., Atbasar, 1♀, Skopin (Mus. Paris).

D: Holarctic.

Stenus kantschaticus MOTSCHULSKY, 1845

M: **Altai:** Berel' riv., Rakhmanovskie Kluchi, 1♂: 20.07.1989.

D: Russia (Siberia), Mongolia, China, Kazakhstan; Alaska, N Canada.

Stenus kastcheevi PUTHZ, 2009

M: **Altai:** Marchikha river, 2♂♂, 3♀♀: 08.07.1991, among stones at river; Bukhtarma river, Topkain, 4♀♀: 14.08.1988; 3♀ 29.07.1989, silt-sandy coast at stream; Bukhtarma riv., Uryl'-Chingistai, 2♂♂, 1♀: 15.08.1988, wet moss at butt of tree; 1♂, 1♀: 30.07.1989, laying under a willow; Tautekeli+Karakoba riv., 7♂♂, 5♀♀: 11.08.1989, thin alluvium with small cereals on the river bank; Ul'ba river, Cheremshanka, 3♂♂, 4♀♀: 10.07.1989, pebble on river bank; **Ile Alatau:** Zhyniske river, 1♂: 17.06.1988; **Kyrgyz Alatau:** Koshirme konezavod, 1♂: 09.07.2010.

D: Kazakhstan..

Stenus kirghisorum RYVKIN, 1988

M: **Ketmen mnt.:** Bolshoi Kyrgisai, 1♂: 16.05.1996; 1♂, 1♀: 12.07.2009; Dolaity riv., 1♂: 13.06.1988; Bolshoi Ketmen, 1♂, 2♀♀: 22.07.2009.

D: Kazakhstan, Kyrgyzstan.

Stenus kushanus PUTHZ, 2001

M: **Kyzylkum des.:** 26 km NW Nukus, 2♂♂, 1♀: 15.09.1979, sandy coast and shallow without vegetation; Chaban-kazgan, 1♂: 25.04.1979, Kaska, 1♂, 2♀♀: 31.10.1978, sandy coast of an artesian chink with very rare vegetation; **Irgyz-Turgai riv.:** Kurdum vill., 1♂, 3♀♀: 29.07.1983, silt among dry reed-mace on low flat coast; Momyr vill., 1♀: 27.07.1983, thin alluvium with small cereals on the river bank; **Dzhungar mnt.:** Kokjota mnt., Pikhtovka, 6♀♀: 12.08.1987, sandy coast and shallow without vegetation; Koktal riv., Chkalovo, 1♂: 06.06.1984; **Kungei mnt.:** Kul'bastau, 10♂♂, 15♀♀: 16.07.1987; 4♂♂, 1♀: 03.06.1988, meadow with cryopetrophytes forbs; **Ile mnt.:** Batan riv., 1♂, 3♀♀: 25.06.1988; Turgen riv., Chin-Turgen, 1♀: 04.07.1984, pebble on river bank; Isyk riv., Isyk vill., 1♂, 2♀♀: 02.07.1984, slope with exuding

water; **Chylik riv.:** Kurmetty, 1♂: 1.06.1987; Taldy, 3♂♂, 7♀♀: 09.07.1987, pebble on river bank; Bartogoi, 1♂: 24.03.1982, wet laying; **Syrdaria riv.:** Chyeli, 2♂♂, 1♀: 21.06.1980, silt-sandy coast at stream; Shaulder, Arys riv., 1♂: 05.06.1989, laying in tugai from oleaster with hygrophite vegetation; **Karatau mnt.:** Babaisu riv., 1♂: 18.07.2010.

D: Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, Afghanistan.

Stenus latifrons ERICHSON, 1839

M: **Talas riv.:** Budenovka, 1♀, 06.07.1989.

D: Europa, Turkey, Iran, Kazakhstan.

Stenus latissimus latissimus BERNHAUER, 1938

M: **Altai:** Bukhtarma, Archaty, 1♀: 25.07.1989, Bukhtarma, Chindagatui, 1♀, 30.07.1989.

D: East palaeartic, Russia, Kazakhstan, China, Mongolia.

Stenus ludyi FAUVEL, 1886

M: **Altai:** Ulanka riv., Ulanskoe, 1♀: 19.08.2010; Ul'ba riv., Cheremshanka, 1♂, 2♀♀: 21.08.2010.

D: Europe, Russia, Kazakhstan.

Stenus melanarius STEPHENS, 1833 (= *verecundus* SHARP, 1874).

M: **Karatau mnt.:** Baizhansai, 1♂: 13.06.1983, willow laying on pebble at river; Babaikurgan, 1♀: 09.06.1989, sandy coast and shallow without vegetation; Ushbas riv., Zhanatas, 1♂, 1♀: 31.05.1983, among stones at river.

D: Holarctic.

Stenus micros SOLSKY, 1874

M: **Dzhungar mnt.:** Koksuv riv., Rudnichnyi, 1♀: 15.06.1984, grassy bog on soils with superfluous humidifying; **Kungei mnt.:** Kul'bastau, 1♂: 03.06.1988, meadow with cryopetrophytes forbs; **Ile mnt.:** Chylik, 1♀: 21.10.2001; **Aksu-Djabagly:** Djabagly riv., Kshi-Kaindy, 1♂, 3♀♀: 19.06.2001; 5♂♂, 2♀♀: 23.06.2001; 1♂, 1♀: 17.07.1988; among stones at river; Ulken-Kaindy, 2♂♂: 14.05.1980, meadow with cryopetrophytes forbs; Taldy-Bulak riv., 1♂, 1♀: 19.05.1979, alpine forb meadow; Chuuldak, 1♂, 1♀: 26.06.2001, wet laying; Kara-Alma, 1♂, 3♀♀: 17.05.1985, silt-sandy coast at stream; **Syrdaria riv.:** Chardara, 2♂♂, 2♀♀: 11.05.1979; Saryagach, Keles riv., 08.06.1980; **Karatau mnt.:** Byilikol' Ik., sub mountains, 2♂♂, 4♀♀: 11.07.2010; Baizhansai, 52♂♂, 80♀♀: 13.06.1983, willow laying on pebble at river; Boroldai mnt., 13 km E Boroldai, 1♀: 24.05.1988; Boroldai x Kashratarata riv., 9 ex: 16.7.2010; Kantagi riv., eger post, 4 ex: 21.10.2010; Byzhi riv., Rynagus strim, 3 ex: 24.07.2010; Ashchysai riv., 3 ex: 19.7.10; **Karzhantau:** Ugamsk, 5♂♂, 2♀♀: 10.07.1983.

D: Kyrgyzstan, Tadzhikistan, Turkmenistan, Uzbekistan, Kazakhstan.

Stenus mongolicus EPPELSHEIM, 1889 (= *auliensis* BERNHAUER, 1902; = *parilis* LUZE, 1904; = *caporiaccoi* BERNHAUER, 1934; = *afghanicus* SCHEERPELTZ, 1961).

M: **Ketmen mnt.:** Podgornoe, 1♀: 22.06.1984, laying in tangled vegetation of river valley; **Charyn riv.:** Aktogai, 2♂♂, 2♀♀: 09.05.1990, willow laying on pebble at river; Chundzha, Jasenevaya rostcha, 1♀: 11.7.09; Sartogai, 3 ex: 21.7.09; **Narynkol:** Bayankol riv., 3♂♂, 1♀: 15.09.1988, coastal shaft of stones; **Ile riv.:** Kapchagai, 1♀: 04.06.1990, at the bottom of dried up inundated reservoir; **Chylik riv.:** Barthagai, 3♂♂, 2♀♀: 24.03.1982, wet laying; **Isyk riv.:** 8 km W Isyk, 1♀: 30.08.2009; **Tekes riv.:** Mikhailovka, 2♀♀: 16.06.1986, wet soil on place of the dried up reservoir at the river; Belye Wody, 3♀♀: 28.06.1983, thin alluvium with small cereals on the river bank; **Kyrgyz Alatau:** Koshirme riv., konezavod, 1♂, 1♀: 09.07.2010; **Aksu-Djabagly:** Ulken-Kaindy, 1♂, 1♀: 14.05.1980, coastal shaft of stones; Daubaba, 2♀♀: 14.07.1983, wet moss at butt of tree; **Syrdaria riv.:** Djetyesai, 1♂, 1♀: 04.05.1980, meadow osier-bend on a river bend; Chardara, 4♀♀: 11-13.05.1979, sandy coast and shallow without vegetation; Saryagach, Keles riv., 2♀♀: 19.05.1980; 1♂: 15.08.1980; 6 ex: 08.06.1980; 9 ex: 07.07.2010, river inwashes on river bank; **Karatau mnt.:** Baizhansai, 2♀♀: 13.06.1983, willow laying on pebble at river; Boroldai x Kashrara riv., 2 ex: 16.07.2010; Babaisu riv, 3 ex: 18.07.2010; Byzhi riv, Rynagus strim, 2 ex: 24.07.2010; Zhanatas, Ushbas riv., 2 ex: 30.06.1989; **Karzhantau:** Karabau vil., 3 ex: 04.07.1983.

Ili mnt.: Talgar 1100 m, 1♀: 1.7.1979, Hieke (Mus. Berlin); Alma-Ata distr., 1♂, 1♀: 12.06.1959, A. Rasnitzyn (coll. Tichomirova); near Almaty, 1♀: 10.07.1981, J. Majer (Mus. Berlin); **Ketmen mnt.:** Temurlik riv., 1000 m, 1♂: 24.6.1993, Schawaller (Mus. Stuttgart); **Centr Rfzakhstan:** Akmolinsk distr., Atbasar, 1♀, Skopin (Mus. Paris).

D: Turkey, Georgia, Iran, Afghanistan, Uzbekistan, Tadzhikistan, Kyrgyzstan, Kazakhstan, Russia, Altai, Mongolia, China, India, Pakistan.

Stenus morio GRAVENHORST, 1806

M: **Ural riv.** (and distr.): Budarino, 2♂♂: 20.10.1980, river inwashes on river bank; Bogatskoe, 4♂♂, 1♀: 15.10.1980, thin alluvium with small cereals on the river bank; Lbischensk, 1♂, 1♀: 04.10.1980, inundated tall-grass a meadow; **Irgyz-Turgai riv.:** Irgyz town, 3♂♂, 2♀♀: 23.07.1983; Momyr vill., 3♀♀: 27-28.07.1983; Kurdum vill, 1♂, 1♀: 29.07.1983, silt among dry reed-mace on low flat coast; **Burabai** (Borovoe): Zhukei lk. 1♀: 10.06.2002, inundated tall-grass a meadow; **Dzhungar mnt.:** Aksu riv., Djansugurov, 1♀: 15.08.1987; Andreevka, near riv., 1♂: 18.06.1992; **Ketmen mnt.:** Shalkudysu riv., 1♀: 04.06.1982, pebble on river bank; Dolaity riv., 2 ex.: 13.06.1988; **Ile Alatau:** Turgen riv., Kyrbaltabai, 1♂, 2♀♀: 22.05.1989, river inwashes on river bank; **Sogety mnt.:** Chyngilsu riv., Kokpek pass, 1♂: 13.06.2004, laying under a willow; Isyk vill., Isyk riv., 2 ex.: 2.07.1984, slope with exuding water; **Talas riv.:** Budenovka, 1♂, 2♀♀: 06.07.1989, wet laying; near Taraz (Dzhambul), Pobeda vill., 2 ex.: 28.08.1988; Mikhailovka, 1♂, 1♀: 16.08.1986, grassy bogs on low lakeside terrace with thickets of reed and reed-mace; **Ile riv.:** Kazakhstan vill., 9♂♂, 1♀: 28.07.1982, wet moss at butt of tree; Aldarly, 7♂♂, 4♀♀: 14-18.04.1991; 3♂♂, 2♀♀: 22.04.1986, laying in tugai from oleaster with hygrophyte vegetation; Uchjarna, 3♂♂, 1♀: 15.06.1982, sedge-reed-mace water meadow ashore inundated reservoir; Kapchagai, 2♂♂, 1♀: 28.09.1981; Pristan Nauka, 4♂♂, 2♀♀: 21.09.1981; Karagach, 2♂, 1♀: 05.08.1981, sandy coast and shallow without vegetation; 1♂, 2♀♀: 23.08.1982; Buryndysu, 1♂, 2♀♀: 04.06.1983; delta Ile riv., 3♀♀: 30.02.1982; Araltobe, 1♂, 1♀: 23.08.1982; Bakanas, 2♀♀: 02.08.1982; Aldarly, 3 ex: 12.04.1991; Zhelturanga, 2 ex: 22.07.1982; **Charyn riv.:** Aktogai, 4♂♂, 2♀♀: 29.05.1988, alluvium with small cereals on the river bank; Jasenevaya roscha, 4♀♀: 12.06.2004; 1♂: 11.07.2009; **Aksu-Djabagly:** Djabagly riv., Kshi-Kaindy, 1♀: 17.07.1986; 1♂. 2♀♀: 25.04.1979; **Syrdaria riv.:** Djetyesai, 2♀♀: 01.09.1978, wet laying; Amanlykol vill., 2♂♂. 2♀♀: 07.06.1985, reed-mace-cane bog in delta; Cellinnoe, 4♂♂, 5♀♀: 19.06.1985, thin alluvium with small cereals on the river bank; Djusaly, 4♂♂, 2♀♀: 23.06.1980; Arys, 2♂♂: 30.05.1985;

2♂♂, 2♀♀: 05.06.1989; Chyeli, 3 ex.: 20.04.1980; **Karatau mnt.**: Boroldai, Glinkovo, 6 ex.: 23.05.1986, wet laying; Boroldai x Kasharata riv., 2 ex.: 16.07.2010.

NE Caspy sea: Atyrau distr., Akkyztogai, 1♀: 23.4.1994, Bidashko (coll. A.Shavrin). **Narynkol**: Tekes riv., 3♀♀: 8-12.06.1992, S. Kasantsev (Mus. Basel).

D: Holarctic.

Stenus nigrutilus GYLLENHAL, 1827

M: **Ural riv.**: Charkin (Kharkino), 1♂, 03.07.1951, Arnoldi (Mus. St. Petersburg).

D: Europe, Turkey, Uzbekistan, Russia (Siberia).

[*Stenus noctivagus* CASEY, 1884 (= *methodii* RYVKIN, 1988).]

The record from Kazakhstan (PUTHZ 1993) refers to *S. veselovae* RYVKIN.

Stenus obscuripalpis HUBENTHAL, 1911

Recorded from the Akmolinsk district of Kazakhstan (RYVKIN 1990).

D: Austria, Hungary, Russia, Ukraine, Kazakhstan.

Stenus opticus GRAVENHORST, 1806

M: **Ural riv.**: Bogatskoe, 1♀, 16.10.1080.

D: Europe, Russia, Siberia, Kazaksthan.

Stenus pallitarsis STEPHENS, 1833

Recorded from Kyrgyztan (EPELSHEIM 1892, 1894).

M: **Altai**: Bukhtarma, Uryl', Chingistai, 1♀: 14-15.08.1988, wet moss at butt of tree; Katon-Karagai, 2♂♂: 15. 07.1989, laying among stones at water; Narym river, Maimer, 2♂♂, 1♀: 06.08.1986, 3♀♀: 4-6.08.1988, wet laying.

D: Morocco, Algeria, Tunisia, Europe, Russia, Georgia, Armenia, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, Turkey, Iran, China.

Stenus palposus ZETTERSTEDT, 1838

M: Karachaganak, Utwa riv., 1♂, 2♀♀: 09. 06.1989, Ilek riv.: Aktyubinsk, 3♂♂: 17.05.1987.

D: Europe, Kazakhstan.

Stenus posticalis EPELSHEIM, 1892

M: **Dzhungar mnt.**: Keskenterek riv. 3♂♂, 4♀♀: 24.08.1987, coastal shaft of stones; Borokhudzir riv., 2♂♂, 3♀♀: 31.08.1988, coastal shaft of stones; Oisaz-Chizhe riv., 1♂, 1♀: 21.08.1987, meadow with cryopetrophytes forbs; **Koktal riv.**: Chkalovo, 1♀: 06.06.1984;

Charyn riv.: Aktogai, 1♀: 29.05.1988, alluvium with small cereals on the river bank;

Jasenevaya rostcha, 1♂, 2♀♀: 08.06.2004, wet moss at butt of tree; **Ketmen mnt.**: Bolshoi Kyrgysai, 1♂: 12.07.2009; Bolshoi Ketmen, 1♂: 18.07.2009; Dolaity, 1♀: 13.06.1988; **Narynkol**: Baiankol riv., 1♀: 15.09.1988, coastal shaft of stones; **Aksu-Djabagly**: Djabagly riv., Kshi-Kaindy, 1♂, 1♀: 17.07.1986, among stones at river; Koksai, 2♂♂, 2♀♀: 02.07.2001; 3♀♀: 16.06.2001, coastal shaft of stones; Kara-Alma, 1♂: 15.06.2001; **Karatau mnt.**: Ashchysai riv., 1♂: 19.07.2010; **Karzhantau**: Karabau, 1♂: 4.07.1983, willow laying on pebble at river; Zhalpaksai, Kaskasu riv., 1♂, 2♀♀: 12.07.1983, grassy bog on soils with superfluous humidifying; Koiguty riv., 1♀: 06.05.1985, mashrooms.
D: Kazakhstan, Uzbekistan, Kyrgyzstan, Tadjikistan.

Stenus proprius L. BENICK, 1921 (= *longipennis* EPPELSHEIM, 1888)

M: **Ile mnt.**: Kaz. Inst. zemleledia, prilavki, 2♀♀: 20.06.1988, wet laying; Zhynishke riv., 2♂♂: 17.06.1988, pebble on river bank; **Aksu-Djabagly**: Djabagly riv., Ulken-Kaindy, 1♂: 14.05.1980, meadow with cryopetrophytes forbs; Djabagly riv., Kara-Alma, 1♀: 17.05.1985, silt-sandy coast at stream; **Kaskasu riv.**: Zhalpaksai, 2♀♀: 12.07.1983, willow laying on pebble at river.
D: Turkmenistan, Uzbekistan, Kyrgyzstan, Turkmenistan, Iran, Kazakhstan, Tadjikistan, Greece.

Stenus providus ERICHSON, 1839

Recorded by RYVKIN (1990), from West Kazakhstan (Mugodjary mnt.).
D: Morocco, Algeria, Tunisia, Europe, Russia, Georgia, Armenia, Kazakhstan, Iran, Turkey.

Stenus pubescens fraternus CASEY, 1884

M: **Altai**: Buktharma riv., Uryl' Chigistai, 1♂, 1♀, 15.08.1988.
D: Russia (Siberia), Kazaksthan, Mongolia, Canada, U.S.A.

Stenus rufomaculatus BERNHAUER, 1902 (= *subguttatus* L. BENICK, 1914)

This species has been described from Kazakhstan (Aulie Ata = Dzhambul = Taraz).

M: **Altai**: Buktharma, Archaty, 1♂: 27.07.1989, alpine forb meadow; Dzhambul, 1♂, 2♀♀: 10.08.1988, among stones at river; Katon-Karagai, 2♂♂, 2♀♀: 15.07.1989, laying among stones at water; **Kungei mnt.**: Kul'bastau, 1♀: 16.07.1987, meadow with cryopetrophytes forbs; 1♂, 1♀: 03.07.1988, wet laying; **Charyn riv.**: Aktogai, 2♂♂, 2♀♀: 29.05.1988, alluvium with small cereals on the river bank; Jasenevaya rostcha, 1♂, 3♀♀: 08.06.2004, among stones at river; **Ile riv.**: Aldarly, 1♂: 18.04.1991; 1♀: 12.04.1983, wet laying; Uchjarma, 1♂, 2♀♀: 15.08.1982, laying in tangled vegetation of river valley; Ajak-Kalkan, 1♂, 1♀: 21.04.1987, reed-mace-cane bog in delta; Buryndysu, 1♂, 1♀: 13.06.2004; **Ile mnt.**: Isyk vill., 1♀: 02.07.1984, laying in tugai from oleaster with hygrophyte vegetation; Malovodnoe, Bel'Shaidar, 1♂: 20.07.1999, sedge-cane bog at a stream.
D: Kazakhstan, Transbaikalia, China, Mongolia.

Stenus ruralis ERICHSON, 1840

M: **Altai:** Bukhtarma, Archaty, 1♀: 27.07.1989, alpine forb meadow; Dzhambul, 1♂, 1♀: 10.08.1988, among stones at river; **Bajankol riv.:** Karatogan vil., 1♂: 11.09.1988.

D: Europe, European part of Russia, Azerbaijan, Kazakhstan, Siberia, Far East, Mongolia, China, Japan, Korea.

Stenus sahlbergi PUTHZ, 1968

M: **Ile riv.:** Karagach, 2♀♀: 05.08.1981, sandy coast and shallow without vegetation; Aldarly, 3♀♀: 18.05.1991; 1♂, 1♀: 06.10.1984, grassy bog on soils with superfluous humidifying; Kazakhstan vill., 2♀♀: 28.07.1982, laying among stones at water; Ajak-Kalkan, 21.04.1987; Aksu-Djabagly: Kara-Alma, 1♂, 1♀: 17.05.1985, wet laying; Syrdaria riv.: Djetyesai, 1♀: 06.06.1980, silt-sandy coast at stream; **Talas riv.:** 10 km E Dzhambul., 1♂: 05.07.1989; Sarybulak, 1♂, 1♀: 25.07.1989, laying in tugai from oleaster with hygrophyte vegetation.

D: Kazakhstan, Kyrgyzstan.

Stenus similis (HERBST, 1784)

M: **Altai:** Marchikha riv., 2♂♂, 2♀♀: 13.08.1989, sandy coast and shallow without vegetation; Bukhtarma, Katon-Karagai, 2♀♀: 17.07.1989, coastal shaft of stones; **Dzhungar mnt.:** Kokjota mnt., Pikhtovka, 2♂♂, 1♀: 06.06.1987, laying in tangled vegetation of river valley; Keskenterek riv., 2♂♂, 3♀♀: 24.08.1987, coastal shaft of stones; Chernaia rechka, 1♂, 1♀: 13.06.2005, meadow with cryopetrophytes forbs; **Kungei mnt.:** Sarydjaz, 1♂, 1♀: 27.06.1984, alpine forb meadow; Chylik, Taldy, 12.07.1987, alpine forb meadow; Zhalanash, 1♂: 12.06.2002, wet moss at butt of tree; **Ile mnt.:** Isyk vill., 1♂, 2♀♀: 02.07.1984; Kaz. Inst. Zemledelia, 1♂: 20.06.1988, prilavki, laying under a willow; Kaskelen, 28.05.1984, silt-sandy coast at stream; Chylik, Bartogai, 3♀♀: 24.03.1982, wet laying; **Koktal riv.:** Chkalovo, 1♀: 06.06.1984, reed-mace-cane bog in delta; **Karatau mnt.:** Kantagi riv. eger post, 4♀♀: 21.07.2010.

Narynkol: Tekes riv., 1♀: 8-12.06.1992, S. Kasantsev (Mus. Basel) **Dzhungar mnt.:** Karatal riv., near Tekeli, 1♂, 3♀♀: 05.1991, N. Tselikov (Mus. Basel, cP).

D: Morocco, Algeria, Tunisia, Europe, Russia, Georgia, Armenia, Azerbaijan, Kazakhstan, Turkey, Iran, Siberia, Mongolia.

Stenus sylvester ERICHSON, 1839

M: **Ural riv.:** Karachaganak, Abai, 3♂♂: 24.09.1989, wet laying; Utwa riv., 1♀: 09.06.1989, reed-mace-cane bog in delta, Budarino, 1♀, 20.10.1980; **Dzhungar mnt.:** Aksu riv., Sauksai, 16.08.1987, laying among stones at water; Kapal riv., 1620 m, 1♀: 04.08.1984, willow laying on pebble at river.

D: Europe, Russia, Kazakhstan.

Stenus tarsalis LJUNGH, 1810

M: **Altai:** Marchikha riv., 1♂, 08.07.1991.

D: Europe, Russia (W-Siberia), Kazakhstan.

Stenus turk PUTHZ, 1972

M: **Dzhungar mnt.:** Kokjota mnt., Pikhtovka, 1♂: 12.08.1987, sandy coast and shallow without vegetation; Borokhudzir riv., 1♂: 31.08.1988; **Ile mnt.:** Kaz. Inst. zemledelia, 1♀: 20.06.1988, prilavki, wet laying; Kurdai pass., 1♂, 3♀♀: 06.05.1985, wet laying; Isyk riv., near Isyk, 1♂: 03.07.1984; **Syrdaria riv.:** Chardara, 1♂: 11.05.1979; near Shoulder, 4♂♂, 1♀: 22.05.1979, at the bottom of dried up inundated reservoir, B. Iskakov; **Kyrgyz Alatau:** Koshirme riv., konezavod, > 400 ex.: 09.07.2010; Ters-Aschybulak, 2♀♀: 14.05.1985, grassy bogs on low lakeside terrace with thickets of reed and reed-mace; **Aksu-Djabagly:** Topshak riv., 1♀: 30.05.1979, silt-sandy coast at stream; Taldy-Bulak riv., 1♂: 03.05.1986, wet moss at butt of tree; Kara-Alma, 5♂♂, 6♀♀: 17.05.1985, silt-sandy coast at stream; **Karatau mnt.:** Baizhansai, 5♂♂, 3♀♀: 13.06.1983, willow laying on pebble at river; Karzhantau, Kyrykkyz, 1♂, 2♀♀: 05.07.1983; **Talas riv.:** Taraz, Bilikol lk., 2♀♀: 05.07.1989, sedge-reed-mace water meadow ashore inundated reservoir.

Ili mnt.: near Almaty, Kargali, 1♂, 3♀♀: 30.8.1936, B. Zvetkov (Mus. Moskau); Uzun-Agatshskii r-n, Kargaly, 1♂, 3♀♀: 30.8.1936, B. Zvetkov (Mus. Moskau)

D: Ukraine, Georgia, Azerbaijan, Iran, Turkmenistan, Kazakhstan, Uzbekistan, Tadzhikistan, Kyrgyzstan.

Stenus veselovae RYVKIN, 1987

M: **Altai:** Bukhtarma, Chyndagatui, 2♀♀: 30.07.1989, meadow with cryopetrophytes forbs; Marchikha riv., 1♂: 13.08.1989, pebble on river bank; Chingistai, 1♂, 1♀: 28.07.1989, laying under a willow; **Dzungar mnt.:** Koksuv riv., Rudnichnyi, 1♀: 15.06.1984, grassy bog on soils with superfluous humidifying; Oisaz-Chizhe riv., 1♀: 21.08.1987; Kokjota mnt., Pikhtovka, 1♂, 1♀: 12.08.1987, wild woods from apple-tree, hawthorn, apricot with a dense circle of cereals and forbs; **Chylik riv.:** Kurmetty, 3♂♂, 1♀: 11.08.1987, wet moss at butt of tree; Taldy, 2♀♀: 09.07.1987, meadow osier-bed on a river bend; Sarybastau, 1♂: 14.06.1988, pebble on river bank; Kul'bastau, 4♀♀: 16.07.1987, 2♂♂, 2♀♀: 28.08.1987; 1♀: 03.06.1988, meadow with cryopetrophytes forbs; Sarydjaz, 1♂, 1♀: 27.06.1984, alpine forb meadow; **Ketmen mnt.:** Tuyuk riv., 1♂, 1♀: 19.09.1988, meadow osier-bed on a river bend; Dolaity riv., 2♂♂, 5♀♀: 13.06.1988; **Narynkol:** Bayankol riv., 1♀: 15.09.1988, coastal shaft of stones; **Ile mnt.:** Isyk riv., Isyk vill., 1♀: 02.07.1984, slope with exuding water; Batan riv., 2♂♂, 4♀♀: 25.06.1988, Zhynishke riv., 2♂♂: 17.06.1988, pebble on river bank; Turgen riv., Asy, 2♀♀: 05.07.1984, sandy coast and shallow without vegetation; Chin-Turgen, 3♀♀: 04.07.1985; **Ile riv.:** Kazakhstan vill., 2♂♂, 2♀♀: 28.07.1982, laying in tugai from oleaster with hygrophite vegetation; **Aksu-Djabagly:** Kshi-Kaindy, 1♀: 16.06.2001; **Koktal riv.:** Chkalovo, 1♀: 06.06.1984, wet laying.

Tarbagatai mnt.: 4 km NE Petrovskoe, 1100 m, 1♀: 22.06.2001, Schawaller (Mus. Stuttgart); Ile mnt.: „Alma-Ata, Tān-sān, ca. 2500 m”, 2♂♂, 1♀, 11.05.1978, J. Strejček (coll. Hromádka).
D: Russia, Kyrgyzstan, Kazakhstan.

Stenus wuesthoffi L. BENICK, 1941

M: **Ural riv.** (and distr.): Bogatskoe, 276 ex.: 15-17.10.1980, meadow osier-bed on a river bend; Pervomaiskyi, 3♂♂, 2♀♀: 25.10.1980, wet laying; Budarino, 2♂♂, 4♀♀: 20.10.1980, river inwashes on river bank; Lbischensk, 1♂, 2♀♀: 05.10.1980, wet laying; Inder, 2♂♂, 6♀♀: 12.06.2006, at the bottom of dried up inundated reservoir; Ganyushkino, 3♂♂, 2♀♀: 10.08.2004, silt among dry reed-mace on low flat coast; Aksai, 3♂♂, 3♀♀: 23.09.1989; **Irgyz-Turgai riv.:** Kurdum vill., 2♀♀: 29.07.1983, silt among dry reed-mace on low flat coast; Kumkol' lk., 1♂,

1 ♀: 04.08.1983, laying in tugai from oleaster with hygrophite vegetation; **Altai:** Naryn riv., Maimer, 1 ♀: 06.08.1988, wet laying; **Ile riv.:** Kazakhstan vill., 21 ♂♂, 1 ♀: 08.07.1982; Kapchagai, 85-km, 1 ♂, 1 ♀: 26.09.1981, silt among dry reed-mace on low flat coast; **Irtys' riv.:** Pavlodar, Kubanskoe, 3 ♂♂, 2 ♀♀: 10.05.1973, laying under a willow; Lebyazh'e, 1 ♂: 18.05.1979, laying in tangled vegetation of river valley; **Dzung'har mnt.:** Keskenterek, 4 ♂♂, 5 ♀♀: 23.08.1987, alpine forb meadow; Tekeli, Karoi riv., 2 ♂♂, 4 ♀♀: 02.10.1984, silt-sandy coast at stream; **Tengiz lk.:** Sultan-Keldy, 1 ♂, 2 ♀♀: 23.05.1979, sedge-cane bog at a stream. **Ural riv.:** near Kharkino (20 km N Inder), 1 ♀: 29.7.1951 (Mus. St. Petersburg); **Dzung'har mnt.:** Aksu riv., near Matai, 1 ♀: 29.6.2001, Schawaller (Mus. Stuttgart).
D: South European Russia, Ukraine, Kazakhstan, Uzbekistan, West Siberia.

The following species, which have not been recorded from Kazakhstan so far, may occur also in this country: *Stenus altaicus* PUTHZ (Altai), *S. aterrimus* ERICHSON (Uzbekistan), *S. claritarsis* PUTHZ (Tadzhikistan), *S. erythrocnemus* EPPELSHEIM (Tadzhikistan), *S. humboldti* PUTHZ (Altai), *S. khnzoriani* PUTHZ (Tadzhikistan) and *S. sibiricus* J. SAHLBERG (Tadzhikistan).

Features of geographical and biotopical distributions

Our knowledge of the Stenine-fauna of such an extensive territory is preliminary. Many regions of Central and Northern Kazakhstan ranges have not been investigated so far. For example local mountain ridges and gorges of Southern Kazakhstan remain poorly studied. Karatau, Mugodzhari, Tarbagatai, Kazakh smallhill promise many interesting records.

Specific structures and features of biotopical distribution and diversity considerably differ in landscape-climatic zones and high-rise belts of Kazakhstan. Concerning the Stenine-fauna mountains and foothills are richest in species variety and in the number of staphylinid's ecological groupings. In density and aggregate number they are surpassed considerably by coasts of the flat rivers and constant reservoirs.

The main part of Kazakhstan's plain consists of desert and semidesert zones of the Turansky lowland, where rove beetles live only in a restricted number of habitats. In arid areas *Stenus* habitats are only found at shores of reservoirs. For example, *S. comma* and *S. kushanus* are found in the desert Kyzyl Kum centre only on the sandy margin of ponds at an artesian chink grown with some grass.

The mountain systems of Kazakhstan provide rather various climatic conditions - from xerophytic in Karatau till taiga formations of Kazakhstan's Altai. Moreover in all ridges exist intrazonal and azonal disperse biotopes, which are stable in structure and biocoenotic connections, which is also found in their staphylinid fauna. Substantial differences of the Kazakhstan Altai from other ridges of the country can be observed both from specific structure and from ecological requirements of different species.

In Kazakhstan Steninae have not been found above 3000 m. At heights of 2000-2500 m at

shores of the mountain rivers (especially on pebbles) one meets *D. coerulescens*, *S. morio* and occasionally other *Stenus*-species (KASTCHEEV 1992).

In the south of Kazakhstan all over the year *Stenus* can be found. They are active and numerous even in the winter months at thaw. The maximum number of *Stenus* adults has been observed from May to the end of September.

The zoogeographical analysis of material presented in this paper leads to the following results:

11 holarctic species (*S. assequens*, *S. canaliculatus*, *S. clavicornis*, *S. comma*, *S. formicetorum*, *S. juno*, *S. kamtschaticus*, *S. latissimus*, *S. melanarius*, *S. morio*, *S. pubescens fraternus*);

6 transpalaeartic species (*S. biguttatus*, *S. bohemicus*, *S. boops*, *S. burjaetus*, *S. cicindeloides*, *S. ruralis*);

17 euro-siberian (incl. westpalaeartic) species (*D. coerulescens*, *S. bifoveolatus*, *S. boops*, *S. cautus*, *S. circularis*, *S. crassus*, *S. humilis*, *S. incrassatus*, *S. ludyi*, *S. nigrutilus*, *S. opticus*, *S. pallitarsis*, *S. palposus*, *S. similis*, *S. sylvester*, *S. tarsalis*, *S. wuesthoffi*);

12 mediterranean species (*S. affaber*, *S. ater*, *S. cephalenicus*, *S. fornicatus*, *S. hypoproditor*, *S. intricatus zoufali*, *S. josefkrali*, *S. latifrons*, *S. obscuripalpis*, *S. providus*, *S. mongolicus*, *S. wuesthoffi*);

13 kazakhstan-turanian species (*S. aereus*, *S. bernhauerianus*, *S. cooteri*, *S. kastcheevi*, *S. kirghisorum*, *S. kushanus*, *S. micros*, *S. mongolicus*, *S. posticalis*, *S. proprius*, *S. rufomaculatus*, *S. sahlbergi*, *S. turk*).

Regarding general living conditions of *Stenus* groups we differ two morpho-ecological forms:

- stratobionts - inhabitants of a laying and a dense herbage. They have a more compact body and short feet – *S. micros*, *S. morio*, *S. melanarius*, *S. cautus*, *S. wuesthoffi*.

- open- living species, prefer sandy or clay shallows with a rare sedge or bulrush. They live on open soil at edges of water or between grass stalks – *S. comma*, *S. aereus*, *S. posticalis*, *S. turk*, *S. rufomaculatus*, *S. proprius*.

The following biotopical preferences of *Stenus*-species have been observed:

- silt-sandy coast at reservoirs – *S. bernhauerianus*, *S. cautus*, *S. cicindeloides*, *S. comma*, *S. hypoproditor*, *S. incrassatus*, *S. kastcheevi*, *S. melanarius*, *S. mongolicus*, *S. sahlbergi*, *S. turk*;

- laying in tugais with an abundance of near-water vegetation – *S. bohemicus*, *S. canaliculatus*, *S. clavicornis*, *S. formicetorum*, *S. josefkrali*, *S. kushanus*, *S. similis*, *S. sylvester*, *S. veselovae*;

- water meadow with high grassy vegetation – *S. intricatus zoufali*, *S. boops*, *S. fornicatus*, *S. morio*, *S. proprius*;

- river inwashes on the edge of rivers and lakes - *S. circularis*, *S. humilis*, *S. micros*, *S. posticalis*;

- clay and pebble sites with separated reeds and few dispersed grass – *S. aereus*, *S. burjaetus*, *S. juno*, *S. rufomaculatus*, *S. wuesthoffi*.

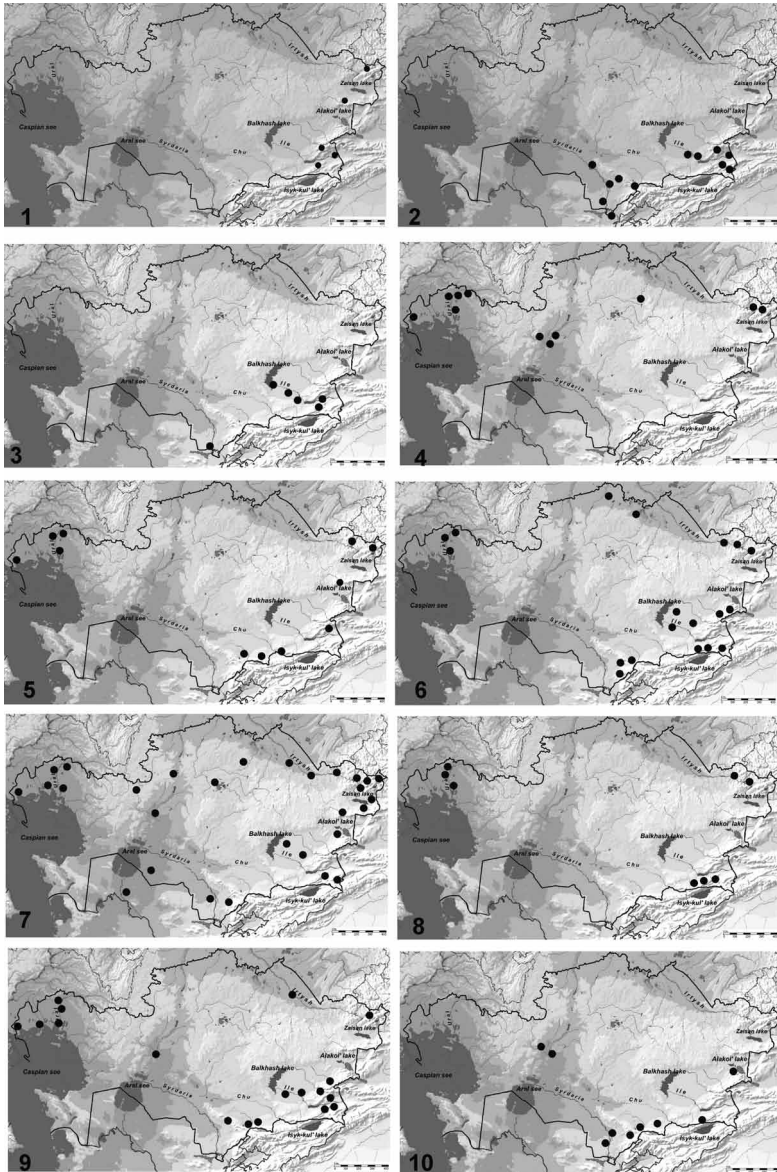
The density of specialized species mosaically increases in some biotops. Their number is high enough on the limited sites. For example, *S. wuesthoffi* is much more numerous on extensive inundated meadows where their density reaches 300 specimens on one square meter. Recently an aggregation of *S. turk* has been observed at the Koshirme river (see above).

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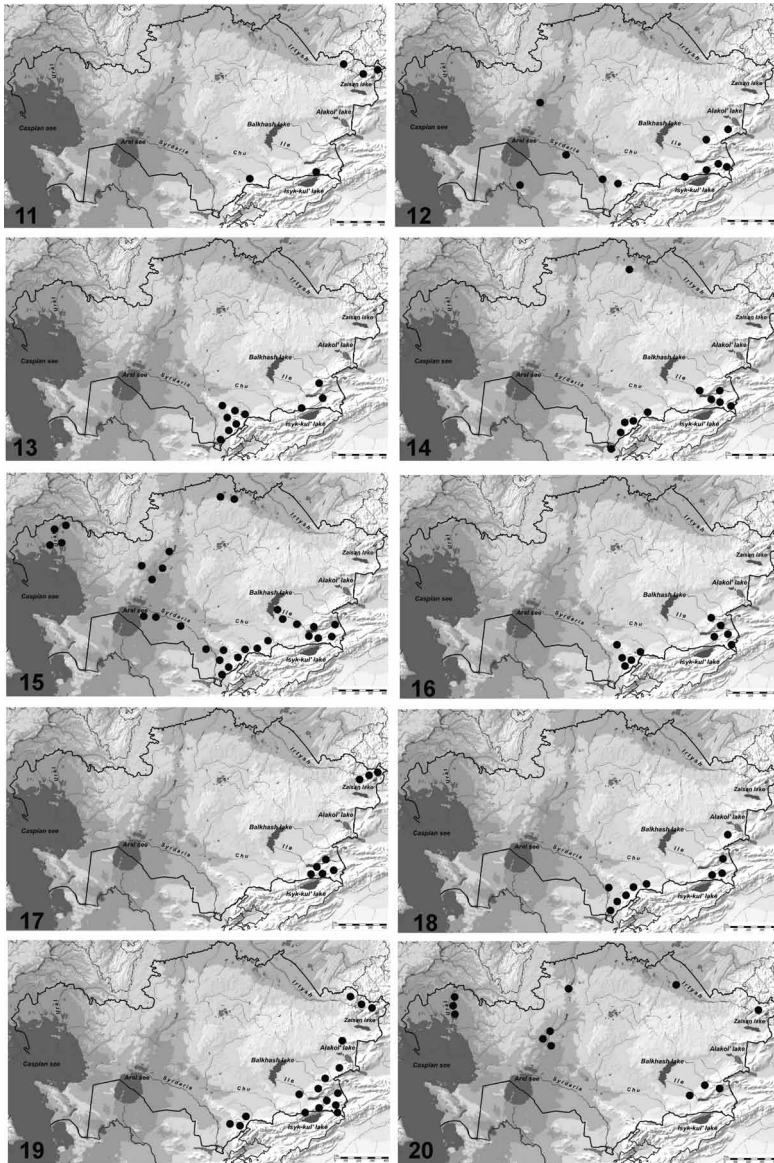
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Figs 1-10: Distribution of *Dianous*- and *Stenus* species in Kazakhstan: (1) *Dianous coerulescens* GYLLENHAL, (2) *Stenus aereus* SOLSKY, (3) *S. bernhauerianus* JAKOBSON, (4) *S. boops* LJUNGH, (5) *S. cicindeloides* (SCHALLER), (6) *S. clavicornis* (SCOPOLI), (7) *S. comma* LECONTE, (8) *S. humilis* ERICHSON, (9) *S. hypoproditor* PUTHZ, (10) *S. intricatus zoufali* FLEISCHER.



Figs 11-20: Distribution of *Stenus* species in Kazakhstan: (11) *Stenus kastcheevi* PUTHZ, (12) *S. kushanus* PUTHZ, (13) *S. micros* SOLSKY, (14) *S. mongolicus* EPPELSHEIM, (15) *S. morio* GRAVENHORST, (16) *S. postalis* EPPELSHEIM, (17) *S. rufomaculatus* BERNHAUER, (18) *S. turk* PUTHZ, (19) *S. veselovae* RYVKIN, (20) *S. wuesthoffi* L. BENICK.

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