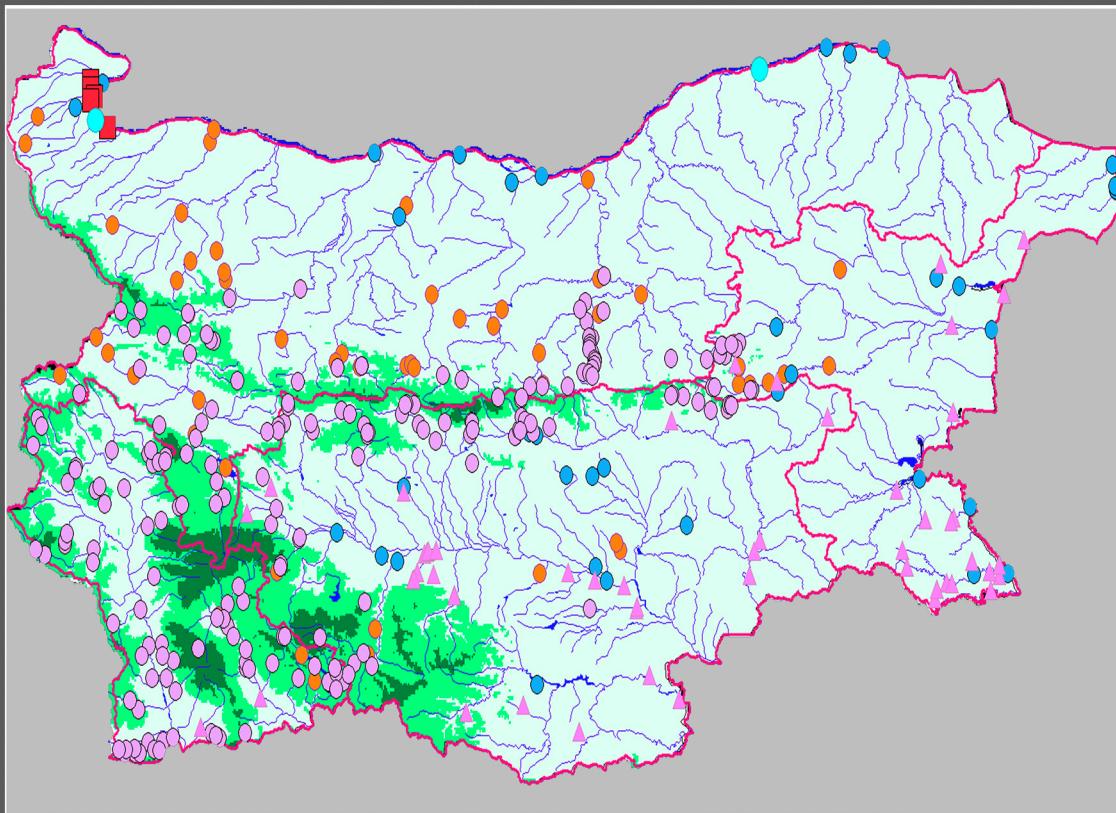


2018 ZooNotes

Supplement 6

D. Bechev, S. Kazandzhieva

**Distribution of freshwater Decapoda
(Crustacea: Malacostraca)
in Bulgaria**



ZooNotes

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Distribution of freshwater Decapoda (Crustacea: Malacostraca) in Bulgaria *

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Abstract. All literature and some new data for the distribution of native species *Astacus astacus*, *Astacus leptodactylus*, *Austropotamobius torrentium*, *Potamon ibericum*, and alien *Orconectes limosus* and *Eriocheir sinensis* are summarised and mapped.

Key words: freshwater Decapoda, Astacidae, Potamidae, Bulgaria, distribution maps.

INTRODUCTION

There are three native species of crayfish, *Astacus astacus* (Linnaeus, 1758), *Astacus leptodactylus* (Eschscholtz, 1823), *Austropotamobius torrentium* (Schrank, 1803) and one species of freshwater crab, *Potamon ibericum* (Bieberstein, 1809) in Bulgaria. Also, two alien freshwater decapod species are found: *Orconectes limosus* (Rafinesque, 1817) (Decapoda: Cambaridae) and *Eriocheir sinensis* H. Milne-Edwards, 1853 (Decapoda: Varunidae). In this paper all the literature data are summarized and some new localities are reported.

The crayfish *Astacus pachypus* (Rathke, 1837) was reported from Bulgurkov (1964), but subsequently, several studies were carried out in the country, but the existence of that species was not confirmed.

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** Corresponding author.

MATERIAL AND METHODS

Data sources

Literature data sources are given in the text for every species, and also in the tables for each locality. Some unclear localities are omitted, e.g. “streams and rivers north of Varna Town” (Bulgurkov 1961), „Iskar River” (Trichkova *et al.* 2013) and others. All new localities are on the base of author’s investigations.

Geographic coordinates

Degrees, minutes, seconds coordinates given in some papers (Todorov *et al.*, 2014 and others) are converted in decimal degrees. Coordinates for most of the localities from literary are taken using “Forestry GIS based platform” of WWF (available at: <https://gis.wwf.bg/mobilz>), having in mind the geographical names of rivers and closest settlements.

Mapping the distribution

The distributional maps are made using DIVA-GIS software (Hijmans *et al.* 2012). The catchment basins are presented in Fig. 1.

Tables 2–5 with localities of the species are placed at the end of the paper.

RESULTS

NATIVE SPECIES

***Astacus astacus* (Linnaeus, 1758)**

Synonyms for Bulgaria: *Potamobius astacus* Leach (*Astacus fluviatilis* Fabr.): Bulgurkov, 1938.

Literature sources: Bulgurkov (1938, 1961), Kozarov *et al.* (1972), Russev & Janeva (1975, 1986), Janeva & Russev (1985, 1997), Islam *et al.* (1986), Kovachev & Uzunov (1986), Subchev & Stanimirova (1986, 1998), Janeva (1987), Kovachev *et al.* (1999), Zaikov *et al.* (2010), Stoynov *et al.* (2013).

Distribution in Bulgaria. In rivers and some dams of the Danube River, Black Sea and Aegean Sea basins (Fig. 2), most frequently in the rivers of the Stara Planina Mountains and Predbalkan Mountains in North Bulgaria. Registered between 0 and 1600 m a.s.l. (Subchev & Stanimirova 1998), but probably most frequently up to 700-800 m (Fig. 8). Up to now was not established in the rivers of the Danube River Basin in Dobrudza (NE Bulgaria) and in Strandzha and Sakar Mountains (SE Bulgaria).



Fig. 1. Catchment basins in Bulgaria.

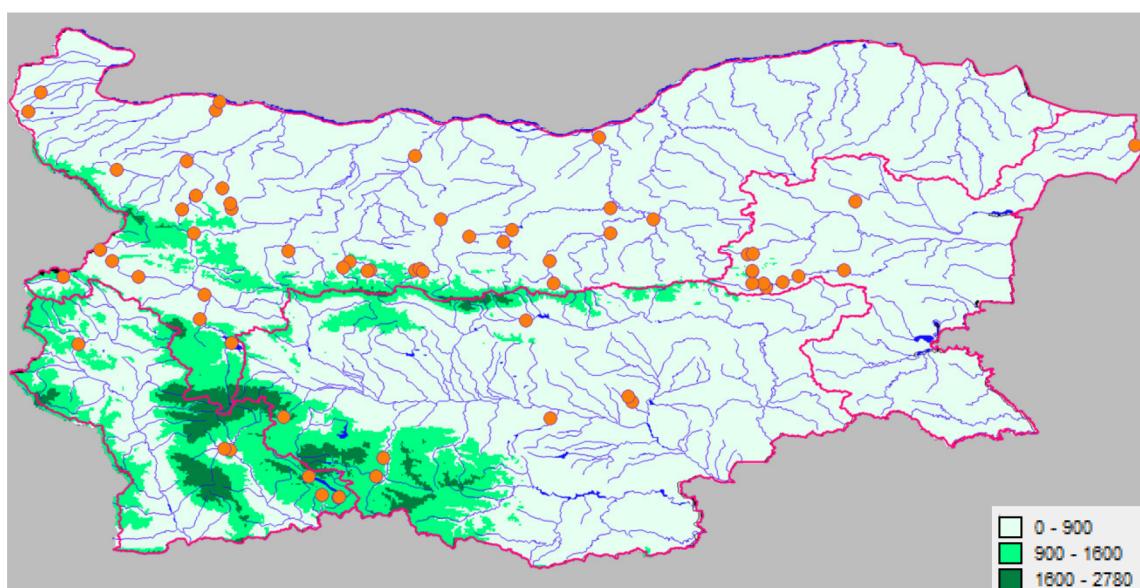


Fig. 2. Known localities of *Astacus astacus* in Bulgaria.

***Astacus leptodactylus* (Eschscholtz, 1823)**

Synonyms for Bulgaria: *Potamobius leptodactylus* (Eschscholtz, 1823): Chichkoff, 1912; Pesta, 1926; Valkanov, 1935, 1936; Bulgurkov, 1939.

Literature sources: Chichkoff (1912), Pesta (1926), Nechaev (1935), Valkanov (1935, 1936, 1942), Bulgurkov (1939, 1961), Russev (1978), Subchev & Stanimirova (1986, 1998), Russev *et al.* (1998), Kovachev *et al.* (1999), Hubenova *et al.* (2000, 2004), Zaykov *et al.* (2001), Uzunov *et al.* (2001), Georgiev (2004, 2006), Vasileva *et al.* (2006), Varadinova *et al.* (2011), Zaikov *et al.* (2011), Varadinova *et al.* (2012), Stoynov *et al.* (2013).

New localities: Yazovir Kardzhali Dam, 41.6271N 25.3271E, 20.06.2016, 2 males, leg. D. Arnaudova; A small dam near Stara Zagora, Georgiev (pers. comm.); Zlato Pole Village, Georgiev (pers. comm.); Yoakim Gruevo Village - Kurtovo Konare Village, Georgiev (pers. comm.); Koprinka Dam, Georgiev (pers. comm.); Golyama River, Radievo Village, an average slow river, Georgiev (pers. comm.).

Distribution in Bulgaria. In rivers, lakes and dams of the Danube River, Black Sea and Aegean Sea basins (Fig. 3). Registered between 0 and 858 m a.s.l., but most frequently up to 200 m (Trichkova *et al.* 2013), (Fig. 8).

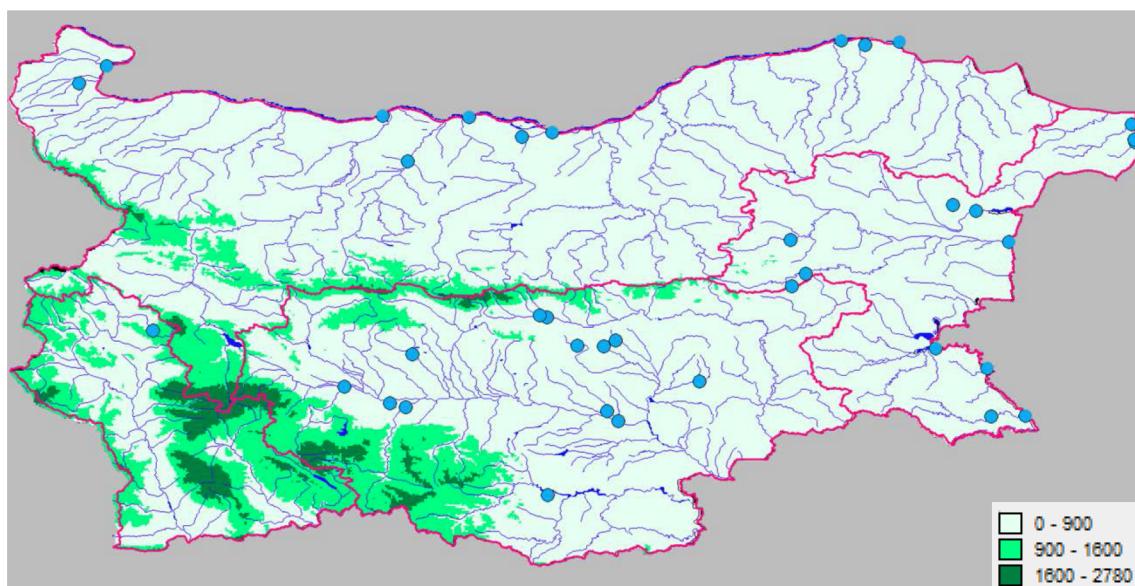


Fig. 3. Known localities of *Astacus leptodactylus* in Bulgaria.

***Austropotamobius torrentium* (Schrank, 1803)**

Synonyms for Bulgaria: *Potamobius torrentium*: Buresh, 1926; *Astacus torrentium* (Arndt, 1948): Bulgurkov, 1961.

Literature sources: Buresh (1926), Bulgurkov (1961), Subchev & Stanimirova (1986, 1998), Janeva & Russev (1997), Subchev (2001), Hubenova *et al.* (2010), Zaikov *et al.* (2010), Zaykov *et al.* (2011), Hubenova *et al.* (2012), Stoynov *et al.* (2013), Todorov *et al.* (2014).

New localities: Stream near Uzana Hut, 20.06. 2017, 1 male, leg. S. Kazandzhieva; Sandanska Bistritsa River, 23.3008E 41.6012N, 27.06.2017, 2 males, leg. D. Bechev; Kanina River above Kovachevitsa Village, 23.8438E 41.7112N, 27.08.2004, 1 male, leg. D. Bechev; Yadenitsa River near Yundula, 23.8869E 42.0881N, 16.06.2006, 3 males, leg. D. Bechev; Devinska River near the town of Devin, 24.3537E 41.7491N, 28.08.2004, 2 males, leg. D. Bechev; Bistritsa River near Pletena Village, 23.9891E 41.6520N, 25.08.2004, 1 male, leg. D. Bechev.

Note. Bulgurkov (1938) mentioned *A. astacus* for Kostenets and Ihtiman but in later paper (Bulgurkov 1961) mentioned *A. torrentium* at these localities.

Distribution in Bulgaria. In rivers and streams of the Danube River, Black Sea and Aegean Sea basins (Fig. 4). Registered between 100-200 and 1700 m a.s.l. (Subchev & Stanimirova 1998), but most frequently from 300 to 900 m (Todorov *et al.* 2014), (Fig. 8). Up to now was not established in the rivers of the Danube River Basin in Dobrudza (NE Bulgaria) and in Strandzha and Sakar Mountains (SE Bulgaria). In the Black Sea Basin is known only from upper reaches of the Luda Kamchiya and Golyama Kamchiya rivers.

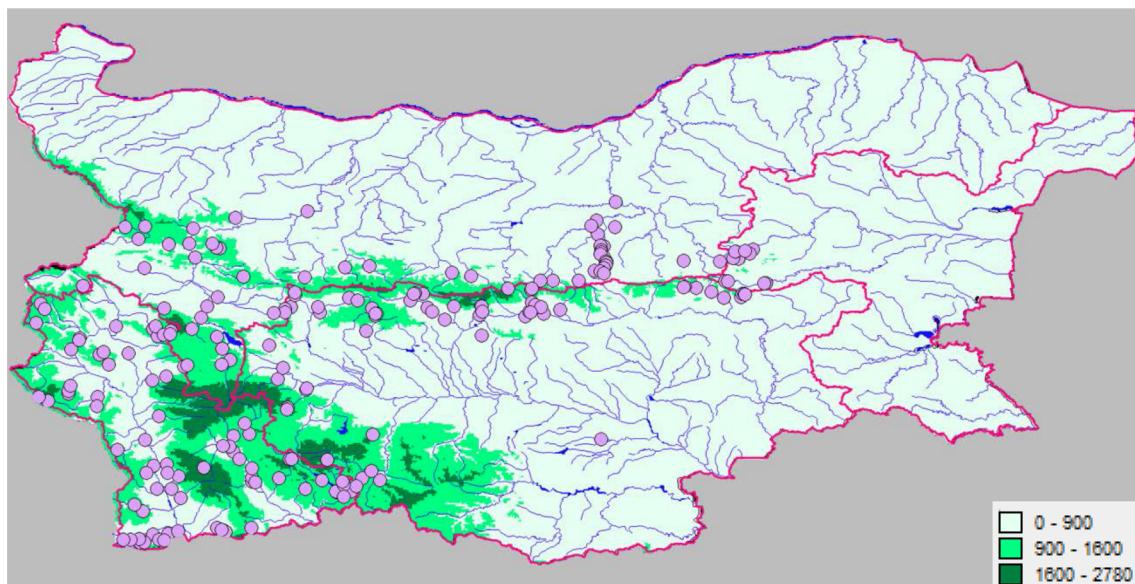


Fig. 4. Known localities of *Austropotamobius torrentium* in Bulgaria.

***Potamon ibericum* (Bieberstein, 1809)**

Synonyms for Bulgaria: *Potamon potamion*: Pesta, 1926; *Potamon potamios* (Oliver, 1804): Bulgurkov, 1939, 1961; Subchev & Stanimirova, 1988; *Potamon fluviatilis* (Herbst, 1785): Bechev, 2000.

According Brandis *et al.* (2000) and Bechev (2004) the species in Bulgarian is *P. ibericum*.

Literature sources: Pesta (1926), Bulgurkov (1939, 1961), Subchev (1963), Subchev (1981), Uzunov *et al.* (1981), Bechev (2000, 2004), Brandis *et al.* (2000), Georgiev & Stoycheva (2006), Jesse *et al.* (2011), Stoynov *et al.* (2013), Teofilova (2017).

New localities: Pirinska Bistritsa River at the bridge for Kalimantsi Village, 41.4573N 23.4416E, 28.06.2017, 2 males and 1 female, leg.D. Bechev, Satovchanska Bistritsa River near Bogolin Village, 41.5396N, 23.9521E, 5.06.2018, 560 m, 2 males, leg.D. Bechev; Small reservoir under Pyasachnik Dam, 42.3840N 24.5799E, 2.03.2017, 2 dead females, leg. D. Bechev; Maritsa River at Adata Island in Plovdiv, 42.1548N 24.7605E, 11.07. 2012, 1 female, leg. D. Bechev; Parvenetska Reka River south of Parvenets Village, 42.0660N 24.6554E, 14.08.2002, 1 male, leg. D. Bechev; Parvenetska Reka River SW of Hrabrino Village, 42.0428N 24.6364E, 3.06.2018, 1 male and 2 females, leg. D. Bechev; the river near Belashtitsa Village, 42.0621N 24.7462E, august 2002, 3 males, leg. D. Bechev; Lukovishka Reka River near Asenovgrad, 24.8649E 41.9775N, 28.06.2017, 1 male, leg. D. Bechev; Stream near Konche Village, 41.4394N 25.5653E, 20.06.2016, 1 male, leg. E. Yordanov; Arda River beneath Ivaylovgrad Dam wall, 41.5678N 26.1235E, 6.10.2017, 1 female, leg. D. Bechev; Zelenikovska Reka River, 42.2690N 27.6493E 29.07.1981, 6 males and 2 females, without collector; Right inflow of Veleka River down of Brodilovo Village, 42.0723N 27.8641E, 28.05.2018, 1 male, leg. D. Bechev; Marina Reka River 3 km NE of Balgari Village, 42.1115N 27.7642E, 13.07.2018, 1 male, leg. M. Antov & A. Stoyanova.

Note: Brandis *et al.* (2000) give a locality “Lovech province: 1 ♂ (NHMW 4811), 3 km S Kurschwetz (= Koslovets, 43°30'N 25°20'E), 1980, leg Malicky”. The indicated coordinates correspond to the Kozlovets Village surroundings, Svishtov Region. Taking into consideration that Kozlovets Village hasn't had another name since its establishment, we regard Krushevets Village in SE Bulgaria as the correct locality. It has been reported that way also by Jesse *et al.* (2011): “Bulgarien, SO, Krushevets, 1980, NHMW 4811”.

Distribution in Bulgaria. In rivers and some dams of the Black Sea and Aegean Sea basins (Fig. 5). Registered up to 600 m a.s.l. (Bulgurkov 1961), (Fig. 8).

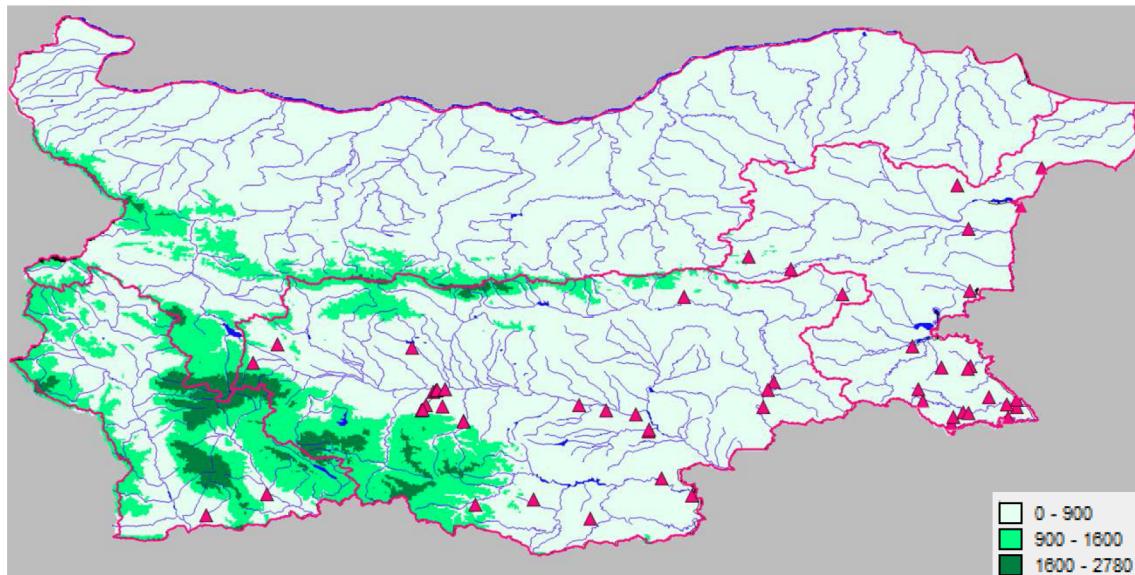


Fig. 5. Known localities of *Potamon ibericum* in Bulgaria.

ALIEN SPECIES

***Orconectes limosus* (Rafinesque, 1817)**

Literature sources: Todorov *et al.* (2017), Todorov *et al.* (in press).

Localities: Topolovets River near the town of Vidin, Topolovets River near Slana Bara Village, Topolovets River at the firth, Voynishka Reka River near Topolovtsi Village, Archar River near Archar Village (Todorov *et al.* 2017).

Distribution in Bulgaria. See Fig. 6.

***Eriocheir sinensis* H. Milne-Edwards, 1853**

Literature sources: Hubenov *et al.* (2017), Trichkova *et al.* (2017).

Localities: Radetski Island (436 rkm) upstream the town of Tutrakan; about one kilometre upstream of the village of Botevo (Vidin District) (775 rkm) (Trichkova *et al.*, 2017; Hubenov *et al.* 2017).

Distribution in Bulgaria. See Fig. 7.

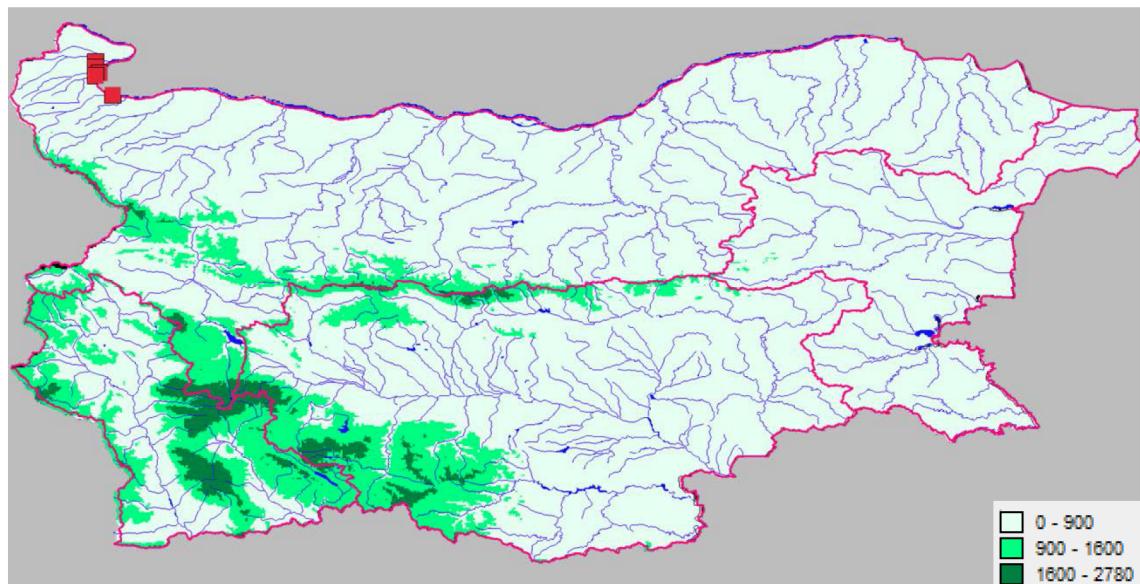


Fig. 6. Known localities of *Orconectes limosus* in Bulgaria.

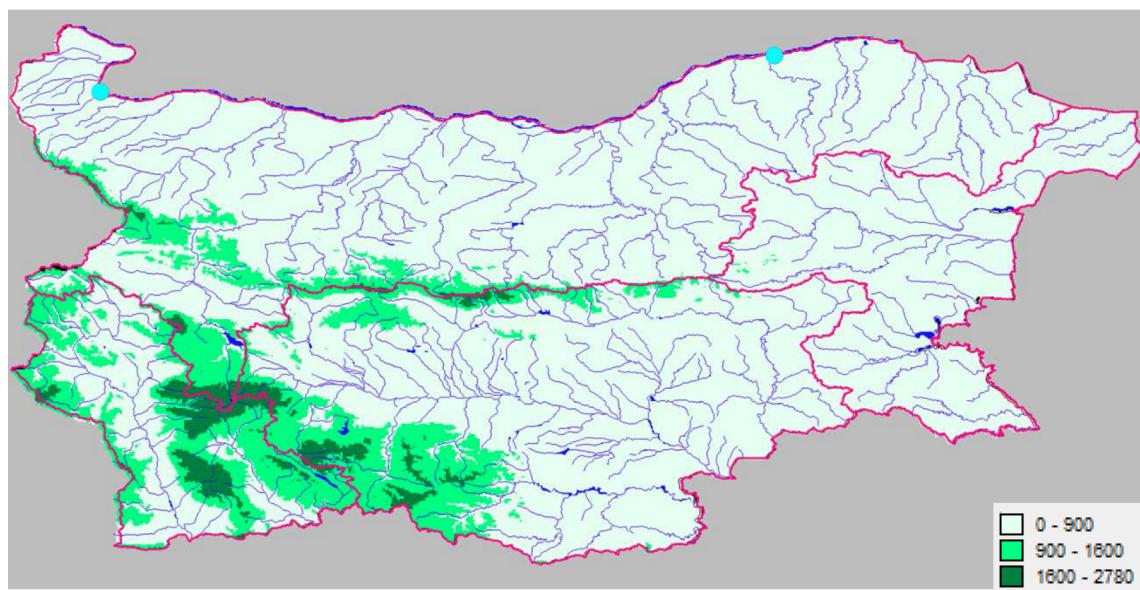
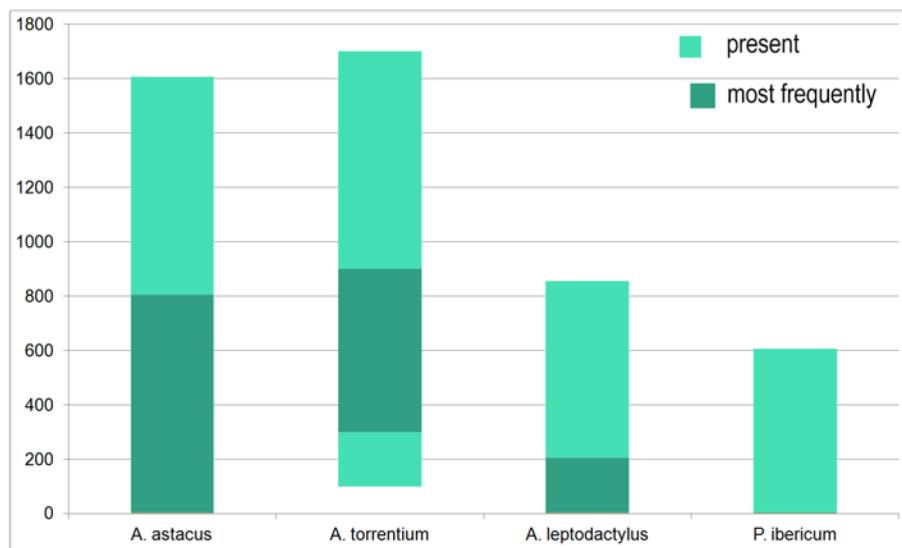


Fig. 7. Known localities of *Eriocheir sinensis* in Bulgaria.

**Fig. 8.** Vertical distribution of the native species in Bulgaria.

The presence of the native species by river systems is presented in Table 1.

Table 1. Presence of *Astacus astacus*, *Austropotamobius torrentium* and *Potamon ibericum* in the major river systems of Bulgaria.

River basins	River systems	Species		
		<i>A. astacus</i>	<i>A. torrentium</i>	<i>P. ibericum</i>
Danube River Basin	Ogosta River	+	+	-
	Iskar River	+	+	-
	Vit River	+	+	-
	Osam River	+	+	-
	Yantra River	+	+	-
	Rusenski Lom	-	-	-
Black Sea Basin	Kamchiya River	+	+	+
	Ropotamo River	-	-	+
	Veleka River	-	-	+
	Rezovska River	-	-	+
Aegean Sea Basin	Struma River	+	+	+
	Mesta River	+	+	+
	Maritsa River	+	+	+

DISCUSSION

So far, *Austropotamobius torrentium* has not been reported in Strandzha Mountains in Bulgaria but was found in the same mountain in Turkey (Trontelj *et al.*, 2005, Harlioglu & Güner 2007, Güner & Harlioglu 2010) and probably is also present in the Bulgarian part of the mountain.

Bulgurkov (1961) reports for *Astacus leptodactylus* the following distribution: the Danube River Basin from the surroundings of Vidin to Silistra along with the outfalls of the rivers flowing into it, lakes and floodplains; the coastal lakes and the estuaries of the rivers that flow into the Black Sea; the Devnya River. This may have been the natural distribution of the species. In the inner parts of the country it is mainly found in dams and probably was distributed artificially (see also Nechaev 1935, Nikolov 1967).

Acknowledgements. The trips in South Bulgaria were financed by the project of Plovdiv University “Evaluation of the anthropogenic stress on the wetlands of South Bulgaria”, No. FP17-BF-001.

Table 2

Table 2. Localities of *Astacus astacus*.

LOCALITY	SOURCES	LAT	LONG
Nishava River near Dragoman Village	Bulgurkov (1961)	42.9321	22.9195
Nishava River and its tributaries near Kalotino Village	Bulgurkov (1961)	42.9943	22.8550
Slivnitska River near the town of Slivnitsa	Bulgurkov (1961)	42.8449	23.0669
Osam River near the town of Lovech	Bulgurkov (1961)	43.1622	24.7353
Dabnika River in Kraishte Area near the town of Vratsa	Bulgurkov (1961)	43.2191	23.5816
Dabnika River at the foot of Veslets Reed	Bulgurkov (1961)	43.2484	23.5752
Vasilovska River near Ribaritsa Village	Bulgurkov (1961)	42.8806	24.3466
Vit River near the town of Teteven	Bulgurkov (1961)	42.9277	24.2335
Vit River and its tributaries near Bozhuritsa Village (near Pleven) Stream, tributary of Yantra River in Ksilofovor Area	Bulgurkov (1961)	43.5124	24.5943
Rositsa River near the town of Sevlievo	Bulgurkov (1961)	43.0842	25.6734
Stamboliyski Dam near the town of Sevlievo	Bulgurkov (1961)	43.0385	25.0826
Rakovitsa Village - Zla Reka River, Kula Town Region	Bulgurkov (1961)	43.1033	25.1295
Strashna River near the town of Shumen	Bulgurkov (1961)	43.7545	22.4576
Vranchev Chuchur Stream near the town of Kotel	Bulgurkov (1961)	43.2589	27.0271
Overflow of Petreska River near Lakatnik Village	Kozarov <i>et al.</i> (1972)	42.8742	26.4554
Dospatska River above Velingrad nerat Sarnitsa Village Reservoir near Razzdelna Village	Kozarov <i>et al.</i> (1972)	43.0837	23.3716
Chepintsi Village - pond	Kozarov <i>et al.</i> (1972)	41.7424	24.0078
Iskar Dam	Kozarov <i>et al.</i> (1972)	42.1542	25.7950
Devinska River near the town of Devin	Kozarov <i>et al.</i> (1972)	42.7468	23.4303
Dospat River under the town of Dospat	Kozarov <i>et al.</i> (1972)	42.4789	23.5817
Tributary of Dospat River	Russev & Janeva (1975)	41.7433	24.3784
Kayaliyska River near Filovo Village	Russev & Janeva (1975)	41.6278	24.1722
Stream above Osina Village	Russev & Janeva (1975)	42.0650	25.3403
Tundzha River near the town of Pavel Banya	Janeva & Russev (1985)	41.6413	24.0821
	Janeva & Russev (1985)	42.6046	25.2069

Table 2

LOCALITY	SOURCES	LAT	LONG
Struma River near the town of Zemen	Islam <i>et al.</i> (1986)	42.4717	22.7354
Mesta River above Iztok River's confluence	Kovachev & Uzunov (1986)	41.8891	23.5726
Glazne River's mouth by its confluence in Iztok River	Kovachev & Uzunov (1986)	41.8949	23.5398
Tsibritsa River near Razgrad Village	Russev & Janeva (1986)	43.7619	23.4948
Barata River above Lilyache Village	Subchev & Stanimirova (1986)	43.3333	23.5304
Cherni Vit River above Cherni Vit Village	Janeva (1987)	42.8945	24.1977
Beli Vit River above Ribaritsa Village	Janeva (1987)	42.8769	24.3308
Yantra River in its upper reaches	Janeva & Russev (1997)	42.9332	25.3372
Rositsa River before its confluence in Yantra River	Janeva & Russev (1997)	43.2235	25.6745
Erma River near the town of Tran	Subchev & Stanimirova (1998)	42.8424	22.6515
Yantra River near Etara Village	Subchev & Stanimirova (1998)	42.8093	25.3588
Prevalaska River near Mitrovtsi Village	Subchev & Stanimirova (1998)	43.4331	22.9480
Tsibritsa River, Dolni Tsibar Village	Subchev & Stanimirova (1998)	43.8110	23.5161
Stara Reka River near Dzhulyunitsa Village	Subchev & Stanimirova (1998)	43.1627	25.9102
Chepintsi Village, the lake	Subchev & Stanimirova (1998)	42.7458	23.4317
Loveshki Krapets Dam	Subchev & Stanimirova (1998)	43.0656	24.8936
Tributary of Malki Iskar River near Kalugerovo Village	Subchev & Stanimirova (1998)	42.9859	23.8959
Yadenitsa River near Yundola	Subchev & Stanimirova (1998)	42.0695	23.8690
River above Glavatsi Village	Subchev & Stanimirova (1998)	43.2933	23.3855
Vacha River near Mihalkovo Village	Subchev & Stanimirova (1998)	41.8464	24.4198
Chichilska River near Poledkovtsi Village	Subchev & Stanimirova (1998)	43.8626	22.5272
Iskar River above Pancharevo Village	Subchev & Stanimirova (1998)	42.6111	23.4055
Fish farm, Razdelna Village	Subchev & Stanimirova (1998)	42.1835	25.7719
Shablensko Ezero Lake	Kovachev <i>et al.</i> (1999)	43.5686	28.5697
Razhdavets River near Shipkovo Village	Zaikov <i>et al.</i> (2010)	42.8803	24.5941
Razhdavets River near Terziysko Village	Zaikov <i>et al.</i> (2010)	42.8861	24.6193
Razhdavets River near Gorno Trape Village	Zaikov <i>et al.</i> (2010)	42.8733	24.6369

Table 2

LOCALITY	SOURCES	LAT	LONG
Gorna Luda Kamchiya River before Gradets Village	Stoynov <i>et al.</i> (2013)	42.7865	26.5325
Neykovska River near Katushite Village	Stoynov <i>et al.</i> (2013)	42.8062	26.5189
Kotlenska River near the exit for Zheravna Village	Stoynov <i>et al.</i> (2013)	42.8059	26.4582
Kotlenska River under the town of Kotel	Stoynov <i>et al.</i> (2013)	42.8758	26.4557
Medvenska River before Dabovitsa Village	Stoynov <i>et al.</i> (2013)	42.8162	26.6236
Gorna Luda Kamchiya River under Vezenkov Village	Stoynov <i>et al.</i> (2013)	42.8486	26.7105
Dolna Luda Kamchiya River under Kamchiya Village	Stoynov <i>et al.</i> (2013)	42.8800	26.9618
Golyama Kamchiya River before Ticha Village	Stoynov <i>et al.</i> (2013)	42.9695	26.4317
Golyama Kamchiya River after Ticha Village	Stoynov <i>et al.</i> (2013)	42.9716	26.4595
Yantra River near Belyanovo Village	Trichkova <i>et al.</i> (2013)	43.6145	25.6114
Upper reaches of Botunya River above Varshtets Village	Trichkova <i>et al.</i> (2013)	43.2147	23.3092
Ogosta River's Basin	Trichkova <i>et al.</i> (2013)	43.4819	23.3340

Table 3

Table 3. Localities of *Astacus leptodactylus*.

LOCALITY	SOURCES	LAT	LONG
Mandra Lake	Chichkoff (1912), Bulgurkov (1961)	42.4367	27.4684
Beloslavsko Ezero Lake	Pesta (1926), Nechaev (1935), Valkarov (1936, 1942), Bulgurkov (1961)	43.1939	27.6917
Devnya River	Bulgurkov (1961)	43.2283	27.5655
Kamchiya River's mouth	Bulgurkov (1961)	43.0231	27.8734
Ropotamo River's mouth	Bulgurkov (1961)	42.3272	27.7561
Durankulak Lake	Bulgurkov (1961), Subchev & Stanimirova (1998), Trichkova <i>et al.</i> (2013)	43.6704	28.5530
Shablensko Ezero Lake	Bulgurkov (1961), Kovachev <i>et al.</i> (1999), Trichkova <i>et al.</i> (2013)	43.5727	28.5700
Danube River near the town of Silistra	Bulgurkov (1961)	44.1284	27.2683
Danube River near the town of Svishtov	Bulgurkov (1961)	43.6264	25.3515
Srebarna Lake	Bulgurkov (1961), Uzunov <i>et al.</i> (2001), Varadinova <i>et al.</i> (2011), Varadinova <i>et al.</i> (2012)	44.1084	27.0796
Former Svishtovsko Blato Pond	Bulgurkov (1961)	43.6025	25.1847
Danube River near Nikopol, 597 RKM	Russev (1978)	43.7108	24.8946
Veleka River above Sinemorets Village	Subchev & Stanimirova (1986)	42.0623	27.9673
Danube River near the town of Vidin	Subchev & Stanimirova (1998)	43.9913	22.8904
Danube River near Baykal Village	Subchev & Stanimirova (1998)	43.7192	24.4148
Danube River near Popina Village	Subchev & Stanimirova (1998)	44.1327	26.9494
Veleka River near Kostil Village	Subchev & Stanimirova (1998)	42.0604	27.7762
Vit River	Russev <i>et al.</i> (1998)	43.4678	24.5538
Ezertsko Ezero Lake	Kovachev <i>et al.</i> (1999)	43.5884	28.5666
Pyasachnik Dam	Hubenova <i>et al.</i> (2000), Zaykov <i>et al.</i> (2001), Hubenova <i>et al.</i> (2004), Vasileva <i>et al.</i> (2006)	42.4042	24.5782
Carp farm near Trivoditsi Village	Hubenova <i>et al.</i> (2004), Vasileva <i>et al.</i> (2006)	42.1336	24.4564
Ovcharitsa (Ovchi kladenets) Dam	Georgiev (2004)	42.2528	26.1654
A small dam, Starozagorski Bani Village	Georgiev (2004, 2006)	42.4498	25.4921

Table 3

LOCALITY	SOURCES	LAT	LONG
A small dam, Kolena Village	Georgiev (2004, 2006)	42.4811	25.7005
Quarries near Boshulya Village	Zaikov <i>et al.</i> (2011)	42.2254	24.2028
Ticha Dam	Stoynov <i>et al.</i> (2013)	43.0341	26.6683
Skalensko Ezero Lake near Skala Village	Stoynov <i>et al.</i> (2013)	42.7784	26.6763
Bozhuritsa Dam, the beach by the spillway	Trichkova <i>et al.</i> (2013)	43.8959	22.7385
Studena Dam (Reservoir)	Trichkova <i>et al.</i> (2013)	42.5351	23.1463
Small dam on Tundzha River under Koprinka Dam	Trichkova <i>et al.</i> (2013)	42.6054	25.3241
Gorna Luda Kamchiya River before Esen Village	Trichkova <i>et al.</i> (2013)	42.8486	26.7526
A small dam, Stara Zagora	Georgiev (pers. comm.)	42.4450	25.6383
Zlato Pole Village	Georgiev (pers. comm.)	42.0339	25.7159
Yoakim Gruево Village - Kurtovo Konare Village	Georgiev (pers. comm.)	42.1097	24.5441
Koprinka Dam	Georgiev (pers. comm.)	42.6163	25.2816
Golyama River, Radievo Village, an average slow river	Georgiev (pers. comm.)	42.0913	25.6564
Yazovir Kardzhali Dam	new data	41.6271	25.3271

Table 4

Table 4. Localities of *Austropotamobius torrentium*.

LOCALITY	SOURCES	LAT	LONG
The stream from the cave above Tserovo Village	Buresh (1926)	43.0061	23.3493
Blato River near Opitsvet Village	Bulgurkov (1961)	42.8702	23.0986
Overflows and branches of Maritsa River near Kostenets (Railway) Station	Bulgurkov (1961)	42.2581	23.8366
Mesta River near Belitsa Village	Bulgurkov (1961)	41.9428	23.5927
Samokovsko pole Plain	Bulgurkov (1961)	42.3639	23.5754
Beglika Area near the town of Batak	Bulgurkov (1961)	41.8114	24.1086
Overflows near Kazichene Village	Bulgurkov (1961)	42.6584	23.4459
Studena Dam	Bulgurkov (1961)	42.5351	23.1463
Glazne River near Banderitsa Hut	Bulgurkov (1961)	41.7683	23.4274
Streams, west of the town of Samokov	Bulgurkov (1961)	42.3373	23.5265
Babeshka River around Babyak Village	Bulgurkov (1961)	41.9529	23.6800
Mesta River near the town of Yakoruda	Bulgurkov (1961)	42.0146	23.6550
Star Iskar River near Bogrov Village	Bulgurkov (1961)	42.7090	23.5058
Struma River under Chuypetlovo Village	Bulgurkov (1961), Subchev & Stanimirova (1986, 1998)	42.5221	23.2454
Struma River near Bosnek Village	Bulgurkov (1961)	42.4950	23.1714
Kladnitsa River's Mouth near Studena Dam	Bulgurkov (1961)	42.5471	23.1612
Struma River near the town of Radomir	Bulgurkov (1961)	42.5483	22.9424
Struma River near Skakavitsa Railway Waystation	Bulgurkov (1961)	42.4205	22.6937
Struma River near Zemen Railway Waystation	Bulgurkov (1961)	42.4828	22.7423
Bistritsa River near the town of Stanke Dimitrov (Dupnitsa)	Bulgurkov (1961)	42.2501	23.1418
Strumeshnitsa River near the town of Petrich	Bulgurkov (1961)	41.4030	23.2301
Mesta River near the town of Bansko	Bulgurkov (1961)	41.8565	23.5923
Mesta River Breznitsa Village	Bulgurkov (1961)	41.6909	23.6944
Petrovska River	Bulgurkov (1961)	41.4356	23.5012

Table 4

LOCALITY	SOURCES	LAT	LONG
Dospat River near the town of Dospat	Bulgurkov (1961)	41.6347	24.1622
Zhelezniitsa River near Zhelezniitsa Village	Bulgurkov (1961)	41.9221	23.1045
Vladayska River above Knyazhevо Village	Bulgurkov (1961)	42.6470	23.2086
Malki Iskar River near the town of Etropole	Bulgurkov (1961)	42.8188	23.9867
Tresavna (Bakyovska Reka) River southwest of Murgash Peak	Bulgurkov (1961)	42.8226	23.6482
Mativir-Viriyadere River near the town of Ihtiman	Bulgurkov (1961)	42.4418	23.7898
The surroundings of the town of Koprivshtitsa	Bulgurkov (1961)	42.6484	24.3568
The surroundings of the town of Karlovo	Bulgurkov (1961)	42.6567	24.8096
The surroundings of the town of Kazanlak	Bulgurkov (1961)	42.6404	25.3972
Maritsa River near the town of Haskovo	Bulgurkov (1961)	41.9254	25.6233
Overflows and branches of Maritsa River near Kostenets (Railway) Station	Bulgurkov (1961)	42.3174	23.8635
Rositsa River before its confluence in Yantra River	Janeva & Russev (1997)	43.2333	25.7011
Stream near Pavolche Village	Subchev & Stanimirova (1986, 1998)	43.1478	23.6028
Lebnitsa River, a tributary of Struma River	Subchev & Stanimirova (1998)	41.5275	23.0933
A tributary of Dospat River near the town of Dospat	Subchev & Stanimirova (1998)	41.6390	24.1553
Rakovets (Rakovitsa) River near Samovodene Village	Subchev (1987), Subchev & Stanimirova (1998)	43.1311	25.5964
Petreska River near Lakanik Village	Subchev & Stanimirova (1998)	43.0899	23.3704
Koprinka Dam (Reservoir) by the town of Kazanlak	Subchev & Stanimirova (1998), Trichkova <i>et al.</i> (2013)	42.6165	25.3037
A tributary of Vacha River near Orfey (Orpheus) Hut	Subchev & Stanimirova (1998)	41.7095	24.3019
Mesta River near General Kovachevo Village	Subchev & Stanimirova (1998)	41.8871	23.5718
Glazne River near Banya Village	Subchev & Stanimirova (1998)	41.8880	23.5325
Eleshnitsa River near Vaksevo Village	Subchev & Stanimirova (1998)	42.1597	22.8427
Eleshnitsa River 15 km from its source	Subchev & Stanimirova (1998)	42.1367	22.5675
Lyalinska River near Lyalintsi Village	Subchev & Stanimirova (1998)	42.7703	22.7613
Struma River near Zemen Village	Subchev & Stanimirova (1998)	42.4740	22.7393
Pancharevsko Ezero Lake	Subchev & Stanimirova (1998)	42.5976	23.4116

Table 4

LOCALITY	SOURCES	LAT	LONG
Mariyka River near Ovchartsi Village	Subchev & Stanimirova (1998)	42.2721	23.2194
Divilska River, Kresnensko Hanche	Subchev & Stanimirova (1998)	41.7790	23.1524
Uzan dere Gully near Uzana Hut (Chalet)	Subchev & Stanimirova (1998)	42.7495	25.2366
A tributary of Gabrovitsa River, Mazalat Hut (Chalet)	Subchev & Stanimirova (1998)	42.7576	25.1088
Zagazhka River between Breze Village and Iskrets Village	Subchev & Stanimirova (1998)	43.0021	23.2333
Sini vir Pool near Kunino Village	Subchev & Stanimirova (1998)	43.1832	23.9994
Ravnogorsa River near Ravnogor Village	Subchev & Stanimirova (1998)	41.9500	24.3618
Treklyanska River	Subchev & Stanimirova (1998)	42.6442	22.5502
Gradechnitsa River, Thompson (Railway) Station	Subchev & Stanimirova (1986, 1998)	42.9265	23.3807
Kara Dere (Kuru Dere) River near the town of Pavel Banya	Subchev & Stanimirova (1986, 1998)	42.6037	25.2021
Kazanite River, a tributary of Topolnitsa River	Subchev & Stanimirova (1998)	42.6256	24.0695
Kazanite River near Chavdar Village	Subchev & Stanimirova (1998)	42.6551	24.0571
Leshnitsa River near Dunavtsi Village	Subchev & Stanimirova (1986, 1998)	42.6540	25.2700
Gabrovnitsa River near Dolno Sahrane Village	Subchev & Stanimirova (1986, 1998)	42.6301	25.2240
Karst stream between Petrovo Village and Goleshevo Village	Subchev & Stanimirova (1998)	41.4220	23.5373
Strumeshnitza River near Parvomay Village	Subchev & Stanimirova (1986, 1998)	41.4021	23.1484
Cherni Osam River near Cherni Osam Village	Subchev & Stanimirova (1998)	42.8422	24.7985
Polkoritsa River near Dolni Okol Village	Subchev & Stanimirova (1998)	42.4895	23.5003
Yadenitsa River near Golyamo Belovo Village	Subchev & Stanimirova (1998)	42.1975	23.9916
Treklyanska River near Dolna melna Village	Subchev & Stanimirova (1998)	42.6709	22.5287
Belitsa River near Vaglevtsi Village	Subchev & Stanimirova (1998)	42.9057	25.6495
Blagoevgradska Bisritska River near Bistritsa Village	Subchev & Stanimirova (1998)	42.0532	23.1789
Vidima River near Apriltsi Village	Subchev & Stanimirova (1998)	42.8244	24.9059
Divilska River, Kresnensko Hanche	Subchev (2001)	41.7790	23.1524
Sarnena reka River in the vicinity of Zmeitsa Village	Zaikov <i>et al.</i> (2010)	41.6388	24.2405
Dospat Dam (Reservoir)	Hubenova <i>et al.</i> (2010), Zaykov <i>et al.</i> (2011), Hubenova <i>et al.</i> (2012)	41.7013	24.0809
Mrachenik River	Hubenova <i>et al.</i> (2010)	42.4979	24.9621

Table 4

LOCALITY	SOURCES	LAT	LONG
Golyama Kamchiya River after Ticha Village	Stoynov <i>et al.</i> (2013)	42.9716	26.4595
Gorna Luda Kamchiya River before Gradets Village	Stoynov <i>et al.</i> (2013)	42.7865	26.5325
Stara River, a tributary of Golyama Kamchiya River	Stoynov <i>et al.</i> (2013)	42.9513	26.4433
Belitsa River near the town of Kilibarevo	Trichkova <i>et al.</i> (2013)	42.9890	25.6368
Begliskha River	Trichkova <i>et al.</i> (2013)	42.7369	26.2314
Nishava River	Trichkova <i>et al.</i> (2013)	43.0968	22.9958
Tarnovski Visochini Nature Park	Trichkova <i>et al.</i> (2013)	43.0970	25.6970
Belitsa River	Trichkova <i>et al.</i> (2013)	43.0536	25.6050
Balgarka Nature Park	Trichkova <i>et al.</i> (2013)	42.867	25.3330
Palakariya River	Trichkova <i>et al.</i> (2013)	42.4265	23.5300
Konyavska Planina Mts.	Trichkova <i>et al.</i> (2013)	42.4006	23.0108
Kresna-Jlindentsi	Trichkova <i>et al.</i> (2013)	41.6521	23.1675
Osogovska planina Mts.	Trichkova <i>et al.</i> (2013)	42.1583	22.5166
Strumeshnitsa River near Rupite Village	Trichkova <i>et al.</i> (2013)	41.4194	23.2867
Belasitsa Mts.	Trichkova <i>et al.</i> (2013)	41.3701	23.1793
Yadenitsa River	Trichkova <i>et al.</i> (2013)	42.2056	23.9983
Gorna Luda Kamchiya River	Trichkova <i>et al.</i> (2013)	42.7980	26.3083
Byalata Voda River – a right tributary of the Struma River above the village of Bosnek	Todorov <i>et al.</i> (2014)	42.5003	23.2042
Struma River at the inflow of the stream coming from the Maroshki Koshari site	Todorov <i>et al.</i> (2014)	42.5058	23.2411
Zhelezniška River above the village of Zhelezničtsa River No 55626 below the peak Bobe	Todorov <i>et al.</i> (2014)	42.5339	23.3619
River No 13151780.5 at the crossroad to the village of Streltsi	Todorov <i>et al.</i> (2014)	42.9214	26.3808
Kjuchjukdere River near the village of Kipilovo	Todorov <i>et al.</i> (2014)	42.9236	26.3506
Chiflikdere River at the inflow in the Golyama Kamchiya River	Todorov <i>et al.</i> (2014)	42.9067	26.2794
Golyama Kamchiya River above the inflow of the Chiflikdere River	Todorov <i>et al.</i> (2014)	42.9600	26.3661
Golyama Kamchiya River above the village of Ticha	Todorov <i>et al.</i> (2014)	42.9617	26.3636
		42.9642	26.4172

Table 4

LOCALITY	SOURCES	LAT	LONG
Gorna Luda Kamchiya River at the village of Rakovo	Todorov <i>et al.</i> (2014)	42.7969	26.3206
Gorna Luda Kamchiya River at the village of Gradets	Todorov <i>et al.</i> (2014)	42.7844	26.5236
Ablanovska River on the road to the village of Rakovo	Todorov <i>et al.</i> (2014)	42.7064	26.3014
River No 11981 downstream the crossroad to the village of Sotirya	Todorov <i>et al.</i> (2014)	42.7100	26.3942
Dzhendem Dere River below the Orlovi Dupki site	Todorov <i>et al.</i> (2014)	42.7258	26.4014
River No 11972 on the road to Karandila	Todorov <i>et al.</i> (2014)	42.7264	26.4144
Ovcharitsa River below the peak Gavanite (above the village of Sotirya)	Todorov <i>et al.</i> (2014)	42.7244	26.4158
The river at the village of Kijuch	Todorov <i>et al.</i> (2014)	41.3586	23.0164
The river at the village of Kijuch	Todorov <i>et al.</i> (2014)	41.3586	23.0164
Kameshnitsa River at the village of Kamena	Todorov <i>et al.</i> (2014)	41.3569	23.0744
Kolarevska River at the village of Kolarovo	Todorov <i>et al.</i> (2014)	41.3581	23.1014
Luda Mara River above the town of Petrich	Todorov <i>et al.</i> (2014)	41.3669	23.2108
Sharaliiskha River downstream the Varbita site	Todorov <i>et al.</i> (2014)	41.7219	23.2892
Tineva River at the village of Boikovtsi	Todorov <i>et al.</i> (2014)	42.9078	26.0781
Novachevska River at the village of Novachevo	Todorov <i>et al.</i> (2014)	42.7597	26.1475
Malkata River at the village of Byala Palanka	Todorov <i>et al.</i> (2014)	42.7678	26.0861
Golyamata River at the village of Byala Palanka	Todorov <i>et al.</i> (2014)	42.7631	26.0769
Rakovitsa River below the small reservoir at the village of Belyakovets	Todorov <i>et al.</i> (2014)	43.1017	25.5667
Lebnitsa River at the village of Nikudin	Todorov <i>et al.</i> (2014)	41.5658	23.0444
Leshnitsa River at the village of Golyamo Dryanovo	Todorov <i>et al.</i> (2014)	42.6656	25.2572
Leshnitsa River at the village of Yasenovo	Todorov <i>et al.</i> (2014)	42.6814	25.2389
Leshnitsa River at the village of Golyamo Dryanovo	Todorov <i>et al.</i> (2014)	42.6667	25.2558
River No 70245 at the village of Dunavtsi	Todorov <i>et al.</i> (2014)	42.6556	25.2897
Akdere River at the village of Dolno Sahrane	Todorov <i>et al.</i> (2014)	42.6269	25.2325
Belitsa River in the park of the town of Kilifarevo	Todorov <i>et al.</i> (2014)	42.9922	25.6175
Belitsa River at the village of Natsovtsi	Todorov <i>et al.</i> (2014)	42.9692	25.6206

Table 4

LOCALITY	SOURCES	LAT	LONG
Belitsa River at Kilitarevski Monastery	Todorov <i>et al.</i> (2014)	42.9556	25.6236
Belitsa River at the village of Boyanovtsi	Todorov <i>et al.</i> (2014)	42.9317	25.6353
Belitsa River at the bridge against the village of Pozhernik	Todorov <i>et al.</i> (2014)	42.9475	25.6200
Belitsa River at the village of Vaglevtsi	Todorov <i>et al.</i> (2014)	42.9056	25.6492
Belitsa River at the mill downstream the village of Vaglevtsi	Todorov <i>et al.</i> (2014)	42.8986	25.6508
Belitsa River at the village of Voinezha	Todorov <i>et al.</i> (2014)	42.8842	25.6494
Belitsa River at the village of Voneshita Voda	Todorov <i>et al.</i> (2014)	42.8703	25.6367
Belitsa River at the village of Belitsa	Todorov <i>et al.</i> (2014)	42.8547	25.5869
Belitsa River at the village of Kisjovtsi	Todorov <i>et al.</i> (2014)	42.8528	25.6183
Raikovska River at the village of Raikovo	Todorov <i>et al.</i> (2014)	42.8400	25.6358
Lyava River above the village of Gorna Koznitsa	Todorov <i>et al.</i> (2014)	42.3361	22.9019
Madzharitsa River at the village of Dragomirovo	Todorov <i>et al.</i> (2014)	42.3906	22.8536
Orlachka River at the village of Uglyartsi	Todorov <i>et al.</i> (2014)	42.4067	22.8742
Dzhubrena River at the beginning of the area	Todorov <i>et al.</i> (2014)	42.3253	23.3175
Dzhubrena River at the village of Klisura	Todorov <i>et al.</i> (2014)	42.3328	23.3381
Dyavolska River at the village of Oshtava	Todorov <i>et al.</i> (2014)	41.7883	23.2244
Stara River below the village of Gorna Breznitsa	Todorov <i>et al.</i> (2014)	41.7392	23.1119
Vlahinska River at the village of Vlahi	Todorov <i>et al.</i> (2014)	41.7378	23.2269
Shashka River upstream the village of Vlahi	Todorov <i>et al.</i> (2014)	41.6506	23.2483
Siviyak River upstream the Etara district (town of Gabrovo)	Todorov <i>et al.</i> (2014)	42.7989	25.3572
Beliiska River at the village of Stomanetsite	Todorov <i>et al.</i> (2014)	42.7994	25.2872
Plachkovska River upstream the village of Radevtsi	Todorov <i>et al.</i> (2014)	42.7986	25.4989
Stryama River at the village of Slatina	Todorov <i>et al.</i> (2014)	42.6906	24.5689
Stryama River at the village of Bogdan	Todorov <i>et al.</i> (2014)	42.6500	24.6644
Stryama River at the village of Karavelovo	Todorov <i>et al.</i> (2014)	42.6292	24.6883
Stryama River at the village of Voinyagovo	Todorov <i>et al.</i> (2014)	42.5853	24.7586
Dzhafar Dere River upstream the village of Karnare	Todorov <i>et al.</i> (2014)	42.7272	24.6375

Table 4

LOCALITY	SOURCES	LAT	LONG
Byala River in the middle of the ecotrail upstream the town of Kalofer	Todorov <i>et al.</i> (2014)	42.6614	24.9581
Byala River at the beginning of the ecotrail upstream the town of Kalofer	Todorov <i>et al.</i> (2014)	42.6581	24.9617
Manastirska River at the village of Novo Selo	Todorov <i>et al.</i> (2014)	42.1769	22.6814
Novoselska River at the village of Novo Selo	Todorov <i>et al.</i> (2014)	42.1914	22.6792
Novoselska River upstream the village of Slokoshtitsa	Todorov <i>et al.</i> (2014)	42.2192	22.6911
Rechitsa Rivet at the bridge to the village of Tishanovo	Todorov <i>et al.</i> (2014)	42.1072	22.8375
Metohiiska River at the village of Metohiya	Todorov <i>et al.</i> (2014)	42.5653	22.5036
Prosiya (Treklyanska) River at the village of Dalga Lukia	Todorov <i>et al.</i> (2014)	42.6442	22.5486
Kamenitsa River upstream its confluence with the Mesta River	Todorov <i>et al.</i> (2014)	41.7147	23.6922
Kostenska River upstream its confluence with the Mesta River	Todorov <i>et al.</i> (2014)	41.6875	23.7106
Gradinishka River upstream the village of Filipovo	Todorov <i>et al.</i> (2014)	41.7650	23.6947
Osikovitsa River upstream its confluence with the Mesta River	Todorov <i>et al.</i> (2014)	41.8147	23.6233
Debochishka River at the village of Debochitsa	Todorov <i>et al.</i> (2014)	41.8661	22.9511
Kameshnitsa River at the village of Kamena	Todorov <i>et al.</i> (2014)	41.3758	23.0700
The river at the village of Kijuch	Todorov <i>et al.</i> (2014)	41.3714	23.0233
Svijgovitsa River at the village of Gabrene	Todorov <i>et al.</i> (2014)	41.3700	22.9847
The spring of the Petrovska River	Todorov <i>et al.</i> (2014)	41.4161	23.5500
Burovitsa River at the village of Paril	Todorov <i>et al.</i> (2014)	41.4369	23.6911
Petrovska River in the Sveta Troitsa locality upstream the village of Petrovo	Todorov <i>et al.</i> (2014)	41.4275	23.5256
Vacha River downstream the village of Grohotno	Todorov <i>et al.</i> (2014)	41.7011	24.4006
Eshekchidere River upstream the village of Borino	Todorov <i>et al.</i> (2014)	41.6681	24.2683
Sarnena River upstream the the village of Zmeitsa	Todorov <i>et al.</i> (2014)	41.6744	24.2022
Kochooludere River, a left tributary of the Sarnena River	Todorov <i>et al.</i> (2014)	41.6911	24.1942
A left tributary of the Sarnena River between the villages of Barutin and Chavdar	Todorov <i>et al.</i> (2014)	41.6067	24.1989
Dospat River at the village of Pobit Kamak	Todorov <i>et al.</i> (2014)	41.8164	23.9017

Table 4

LOCALITY	SOURCES	LAT	LONG
A left tributary of the Dospat River to the village of Pobit Kamak	Todorov <i>et al.</i> (2014)	41.8169	23.9133
Nishava River upstream the village of Gintsi	Todorov <i>et al.</i> (2014)	43.0986	23.1028
Nishava River upstream the town of Godech	Todorov <i>et al.</i> (2014)	43.0294	23.0681
Gabrovnitsa River down- stream the village of Osenov Lag	Todorov <i>et al.</i> (2014)	42.9792	23.5150
Gabrovnitsa River at the crossroad to the village of Brezov Dol	Todorov <i>et al.</i> (2014)	42.9833	23.4975
Gabrovnitsa River against the Pehchena Liska	Todorov <i>et al.</i> (2014)	43.0044	23.4739
Kalugeritsa River at the career downstream the village of Smolsko	Todorov <i>et al.</i> (2014)	42.6547	23.9103
Kalugeritsa River upstream the crossroad to the village of Kamenitsa	Todorov <i>et al.</i> (2014)	42.6419	23.8769
Kalugeritsa River on the road to the village of Kamenitsa	Todorov <i>et al.</i> (2014)	42.6242	23.8758
Ravna River upstream the village of Golyama Rakovitsa	Todorov <i>et al.</i> (2014)	42.6231	23.8136
Bunovska River upstream the village of Bunovo	Todorov <i>et al.</i> (2014)	42.7200	23.9300
Bunovska River upstream the falls	Todorov <i>et al.</i> (2014)	42.7336	23.9297
Yadenitsa River upstream the inflow of the Yundolska River	Todorov <i>et al.</i> (2014)	42.1008	23.8906
Elenska River upstream the village of Dushantsi	Todorov <i>et al.</i> (2014)	42.7056	24.2294
Topolnitsa River downstream the dam of Dushantsi Reservoir	Todorov <i>et al.</i> (2014)	42.6922	24.2789
Strelchanska Luda Yana River upstream the town of Strelcha	Todorov <i>et al.</i> (2014)	42.5239	24.3253
Topolnitsa River upstream the town of Kopriivshtitsa	Todorov <i>et al.</i> (2014)	42.6081	24.3753
Kriva River upstream the town of Kopriivshtitsa	Todorov <i>et al.</i> (2014)	42.6167	24.3836
Topolnitsa River at the confluence with the Kriva River	Todorov <i>et al.</i> (2014)	42.6197	24.3739
River No 49283 at the village of Chemi Vit	Todorov <i>et al.</i> (2014)	42.8742	24.2069
Vasilijovska River upstream the village of Vasiljovo	Todorov <i>et al.</i> (2014)	42.8811	24.3414
Kavakla Dere River at the village of Hristo Danovo	Todorov <i>et al.</i> (2014)	42.7322	24.5942
Damla Dere River down- stream the village of Hristo Danovo	Todorov <i>et al.</i> (2014)	42.7256	24.5856
Byalata River upstream the town of Kalofer	Todorov <i>et al.</i> (2014)	42.6097	24.9511
Tundzha River upstream the town of Kalofer	Todorov <i>et al.</i> (2014)	42.6275	24.9661
Sandanska Bistritsa River	new data	41.6012	23.3008

Table 4

SOURCES	LOCALITY	LAT	LONG
new data	Bistritsa River near Pletena Village	41.6520	23.9891
new data	Yademitsa River, near Yundula	42.0881	23.8869
new data	Devinska River near the town of Devin	41.7491	24.3537
new data	Kanina River, above Kovachevitsa Village	41.7112	23.8438
new data	A stream near Uzana Hut	42.7572	25.2387

Table 5

Table 5. Localities of *Potamon ibericum*.

LOCALITY	SOURCES	LAT	LONG
Overflows and tributaries of Maritsa River around Plovdiv	Bulgurkov (1939)	42.1422	24.6952
Devnya River	Bulgurkov (1961)	43.2829	27.5897
Kamchiya River and its tributaries	Bulgurkov (1961)	43.0393	27.6506
Near the town of Kotel	Bulgurkov (1961)	42.8878	26.4385
Mandrensko ezero Lake	Bulgurkov (1961)	42.3918	27.3440
Veleka River	Bulgurkov (1961)	42.0575	27.9185
Rezovska River	Bulgurkov (1961)	41.9989	27.8723
In the vicinity of the town of Malko Tarnovo	Bulgurkov (1961)	41.9658	27.5563
Mesta River (Toplishtata) near the town of Gotse Delchev	Bulgurkov (1961)	41.5747	23.7765
Mativir River near the town of Ihtiman	Bulgurkov (1961)	42.4047	23.8371
Azmakdere River in the vicinity of the town of Karnobat	Bulgurkov (1961)	42.6802	26.9567
Belidere River, Binkos Village	Bulgurkov (1961)	42.6671	26.0824
Ouldere River, in the vicinity of the town of Harmanli	Bulgurkov (1961)	41.9224	25.8861
Tributaries of Maritsa River near the town of Haskovo	Bulgurkov (1961)	42.0386	25.6528
Madanska River	Subchev (1963)	41.5155	24.9314
Veleka River near Zvezdets Village	Subchev (1963)	42.0904	27.4025
Maritsa River above the town of Dimitrovgrad	Uzunov <i>et al.</i> (1981)	42.0689	25.5019
Maritsa River above Maritsa Village	Uzunov <i>et al.</i> (1981)	42.2997	23.6995
Maritsa River above the town of Svilengrad	Uzunov <i>et al.</i> (1981)	42.0154	25.8159
Tundzha River, Srem Village	Subchev (1981)	42.0569	26.5205
The town of Ahtopol	Subchev (1981)	42.0976	27.92
Veleka River, Kachul area, next to a hunting hut	Subchev (1984)	42.0273	27.624
A river near Mladezhko Village	Subchev (1984)	42.1536	27.3757
Veleka River, Gramatikovo Village	Subchev (1985)	42.0223	27.6526
Ivaylovgrad Dam near Arda Hut	Bechев (2000, 2004)	41.6627	25.9585

Table 5

LOCALITY	SOURCES	LAT	LONG
Lukovitsa River, 3 km south of the town of Asenovgrad	Bechev (2000)	41.9785	24.8630
Maritza River, 2 km west of Plovdiv, at Grebna Baza (Regatta venue)	Bechev (2000)	42.1496	24.7106
Lilkovska River above Hrabrino Village	Bechev (2000)	42.0368	24.6293
Harmaniyska reka River near the town of Harmanli	Brandis <i>et al.</i> (2000)	41.9321	25.8882
In the vicinity of Modren Village	Brandis <i>et al.</i> (2000)	41.5475	25.2507
Galata	Brandis <i>et al.</i> (2000)	43.1645	27.9456
The town of Balchik	Brandis <i>et al.</i> (2000)	43.3761	28.0563
Yasna Polyana Village, in the vicinity of Burgas	Brandis <i>et al.</i> (2000)	42.2829	27.6629
The town of Nesebar	Brandis <i>et al.</i> (2000)	42.6983	27.6590
Maritsa River, Plovdiv	Bulgurkov (1961), Georgiev & Stoycheva (2006)	42.1529	24.7189
Malko Tarnovo	Jesse <i>et al.</i> (2011)	42.0026	27.5692
Krushevets	Jesse <i>et al.</i> (2011)	42.2739	27.5038
Mladezhko	Jesse <i>et al.</i> (2011)	42.1536	27.3757
Medvenska River	Stoynov <i>et al.</i> (2013)	42.8190	26.6722
Managed Nature Reserve Dolna Topchiya	Teofilova (2017)	42.1970	26.5761
Managed Nature Reserve Balabana	Teofilova (2017)	42.1526	26.5432
Stream near Konche Village	new data	41.4394	25.5653
Lukovishka Reka River	new data	41.9775	24.8649
Pirinska Bistritsa River	new data	41.4573	23.4416
Maritsa River at Adata Island	new data	42.1548	24.7605
Parvenetska Reka River, south of Parvenets Village	new data	42.0660	24.6554
The river near Belashitsa Village	new data	42.0621	24.7462
Pirinska Bistritsa River, at the bridge for Kalimantsi Village	new data	41.4573	23.4416
Small reservoir under Pyasachnik Dam	new data	42.3840	24.5799
Arda River under the wall of Ivaylovgrad Dam	new data	41.5678	26.1235
Right inflow of Veleka Rive down of Brodilovo Village	new data	42.0723	27.8641
Parvenetska Reka River SW of Hrabrino Village	new data	42.0428	24.6364

Table 5

LOCALITY	SOURCES	LAT	LONG
Satovchanska Bistritsa River near Bogolin Village	new data	41.5396	23.9521
Marina Reka River, 3 km NE of Balgari Village	new data	42.1115	27.7642
Zelenikovska Reka River	new data	42.269	27.6493

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