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Short communication

Two new invasive Ponto-Caspian amphipods reached the Pripyat River, Belarus

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Abstract

During a survey of the Pripyat River (part of the European central invasive corridor, within Republic of Belarus) in June 2008, we for the first time found two alien amphipod species of Ponto-Caspian origin: *Obesogammarus obesus* (Sars, 1896) and *Obesogammarus crassus* (Sars, 1894). The maximum number of specimens was found at sites close to river ports. The data on distribution of species along the Pripyat River show that during the last 10-15 years, the fauna of invasive Ponto-Caspian amphipods in the Belarusian part of the European central invasion corridor has become enriched with new species.

Key words: alien species, Amphipoda, *Obesogammarus crassus*, *O. obesus*, first records, distribution

The Pripyat River, one of the largest rivers in the Republic of Belarus, is a crucial part of the so called European central invasion corridor (Dnieper > Pripyat > Bug > Vistula > Oder > Elbe> Rhine) (Bij de Vaate et al. 2002). Until now, however, the fauna of alien amphipods and other invaders in Belarusian part of the corridor has been poorly studied. In fact, there are only two communications concerning invasive amphipods in Belarus. The list of identified species includes *Chaetogammarus ischnus* (Stebbing, 1899), *Chelicorophium curvispinum* (Sars, 1895), *Dikerogammarus haemobaphes* (Eichwald, 1841), *Dikerogammarus villosus* (Sowinsky, 1894) and *Pontogammarus robustoides* G.O. Sars, 1894 for the Dnieper River (Mastitsky 2007) and *Dikerogammarus bispinosus* Martynov, 1925 for the Bug River (Tischikov and Tischikov 2005). But the find of the last species requires confirmation.

During our study in August 2007 on the Pripyat River, the following Ponto-Caspian amphipods were found: *Chelicorophium curvispinum*, *Chaetogammarus ischnus*, *Dikerogammarus haemobaphes*, *Dikerogammarus villosus* (see Arbačiauskas et al. 2008).

In June 2008, we conducted a supplemental benthic survey along the Belarusian part of the Pripyat River (Figure 1, Annex 1). The samples were taken with a hand-net (mesh size 1 mm) from the depths of 0.3 to 0.5 m in biotopes with different bottom substrates (muddy bottom with aquatic vegetation, silty sand, etc.). The oxygen content and pH of the water there varied between 6.8 and 7.2 mg l^{-1} and from 7.4 to 7.7, respectively. The conductivity did not exceed 205 µS/cm. Aquatic vegetation was dominated by *Ceratophyllum* spp., *Potamogeton* spp. and, in some cases, by *Elodea canadensis* Michx. Macroinvertebrate samples were preserved in 4% formaldehyde for subsequent taxonomical identification in the laboratory conditions. The identification was executed according to Carausu (1943) and Mordukhaj-Boltovskoy (1969). The two new invasive amphipods, i.e., *Obesogammarus obesus* (Sars, 1896) and *Obesogammarus crassus* (Sars, 1894) were found during this survey.

Obesogammarus crassus (Figure 2) was common in samples from the middle and lower parts of the Pripyat River and had a high abundance especially in the Mykashevichy river port (Figure 1). In these sites *O. crassus* co-inhabits with the other Ponto-Caspian amphipods: *Dikerogammarus haemobaphes*, *Chaetogammarus ischnus* and *D. villosus*, but the

Figure 1. Location of records of *Obesogammarus crassus* and *O. obesus* in the Pripyat River (Belarus).

Figure 2. *Obesogammarus crassus* (female) from the Pripyat River (photo by V. Vezhnovetz).

Figure 3. *Obesogammarus obesus* (female) from the Pripyat River (photo by V. Vezhnovetz).

abundance of *O. crassus* is more higher and equal 80% from total abundance of other amphipods.

This species originates from the brackish lagoons of the Black Sea and is more euryhaline than *O. obesus* (Mordukhaj-Boltovskoy 1969).

O. crassus is known to have invaded the Baltic Sea shores, Curonian and Vistula lagoons but has not been recorded in the Vistula River itself (Grabowski et al. 2007).

Obesogammarus obesus (Figure 3) was found on two sites in the lower part of the river with low abundance. This species has entered the Prypiat River from the Kiev Reservoir (Ukraine), where it was acclimatized in 1965 (Alexandrov et al. 2007). *O. obesus* has extended its distribution upstream to the Volga River (Mordukhaj-Boltovskoy 1969) and has successively established itself in all sections of the Danube River and entered to the Rhine River via the Main-Danube Canal (Ketelaars 2004; Nehring 2006).

The results of the present study show that during recent years the fauna of invasive Ponto-Caspian amphipods in the Belarusian part of the European central invasion corridor has become enriched with new species. The new species reported in this paper were not previously found in the Belarusian part of the Dnieper River and in the Vistula River. Only *O. crassus* was recorded in the Vistula Lagoon; this species is suspected to have invaded there from the Curonian Lagoon (Lithuania), where it was introduced in the 1960s (Jazdzewski et al. 2002). Currently six Ponto-Caspian amphipods inhabit the Pripyat River and three of them (*D. haemobaphes*, *D. villosus*, *Ch.curvispinum*) are distributed in all parts of this basin.

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Annex 1. Records of the new Ponto-Caspian amphipods in the Pripyat River in 2008 (collector - V. Vezhnovetz).

Species	Site no (Map Ref.)	Location	Record coordinates		Date of record	Number ind.
			Latitude,°N	Longitude,°E		
Obesogammarus crassus	1	Pripyat River, Mykashevichy	52°09.48'	27°20.32'	June 2008	119
	2	Pripyat River, Kostiukovichy	52°07.03'	29°01.84'	June 2008	9
	3	Pripyat River, Mozyr	52°08.76'	29°18.51'	June 2008	42
	4	Pripyat River, Narovlia	51°52.01'	29°29.21'	June 2008	40
Obesogammarus obesus	3	Pripyat River, Mozyr	52°08.76'	29°18.51'	June 2008	4
	4	Pripyat River, Narovlia	51°52.01'	29°29.21'	June 2008	7