



### New findings of *Eurycerus* Baird, 1843 (Cladocera: Anomopoda) in the Eastern Palaearctic

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#### Abstract

Information on the cladocerans of Eastern Palaearctic is limited, and remote islands of Arctic and Subarctic in this region are among inadequately studied territories, i.e. due to a very limited access to them. “Nearctic” *Eurycerus longirostris* is reported here for the first time from Bering Island and Wrangel Island. Also *E. macracanthus* is found to be common in Kamchatka Peninsula, while previously only a single population was known. We concluded that the Beringian land bridge played, together with glaciation in North America, important role in the evolutionary history of *Eurycerus* (*Eurycerus*), as it was earlier demonstrated for other cladocerans and other animals.

**Key words:** Crustacea, Branchiopoda, Cladocera, biogeography, distribution

#### Introduction

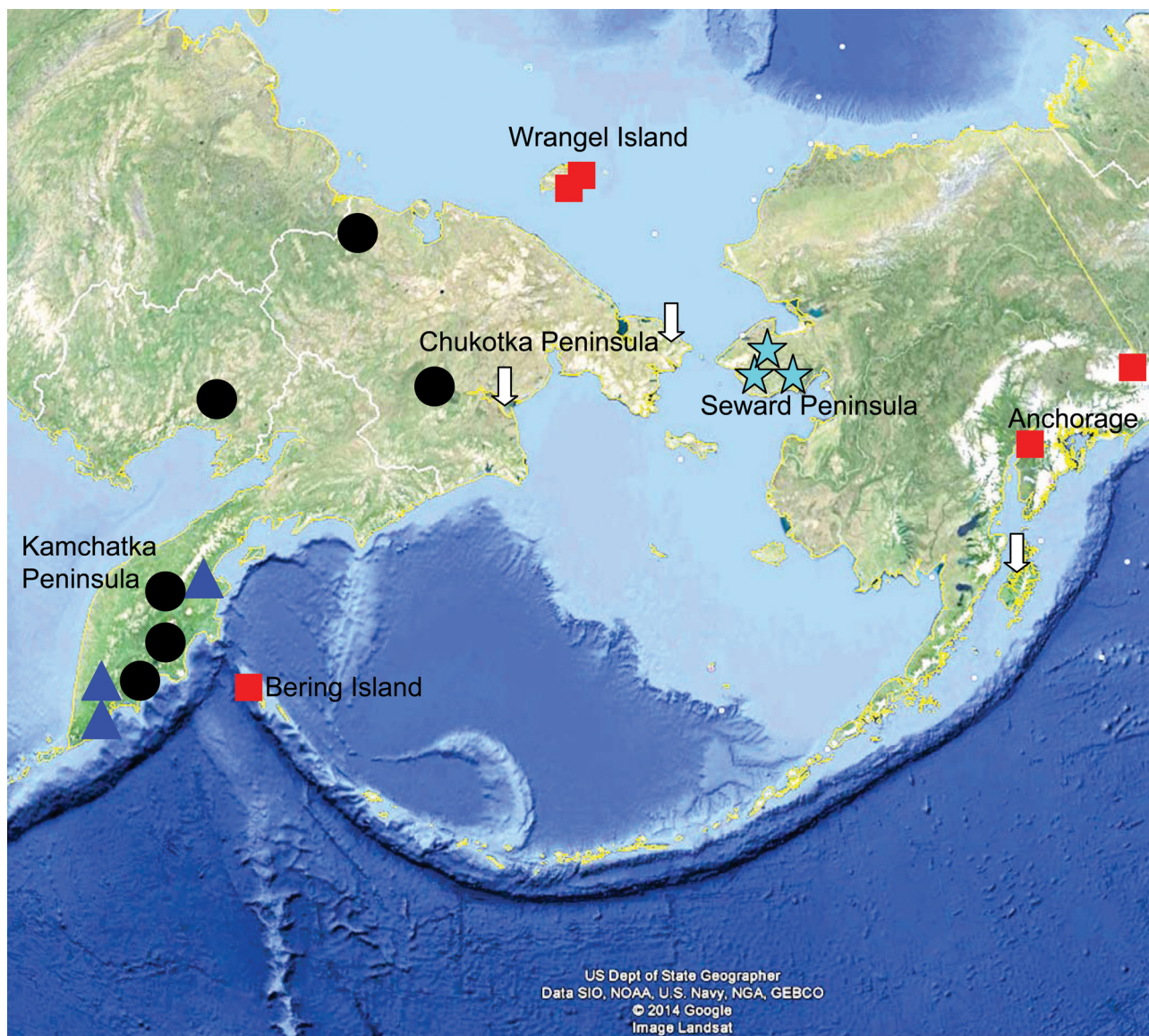
Species of *Eurycerus* Baird, 1843 (Crustacea: Cladocera) are among largest cladocerans. They are widely distributed in Holarctic. After a series of publications by Frey (1975, 1978) and Hann (1982, 1990), the interest to this genus was lost. Recently Bekker *et al.* (2012) have suggested a new understanding of the subgenera earlier proposed by Frey (1975) and revised the Holarctic representatives of the subgenus *Eurycerus* (*Eurycerus*) Baird, 1843. But the revision of this genus is not finished yet, i.e. because (1) several undescribed species exist in Arctic and Subarctic (Jeffrey *et al.*, 2011; Bekker *et al.*, 2012), and (2) some territories were not studied during the aforementioned last revision.

Information on the cladocerans of Eastern Palaearctic is limited, and remote islands of Arctic and Subarctic in this region are among inadequately studied territories, i.e. due to a very limited access to them. The aim of this communication is to make a report on new findings of *Eurycerus* (*Eurycerus*) in Eastern Palaearctic (Beringian zone) and discuss zoogeographic consequences of such findings. Our work is the next step in the investigations of the Asian part of Palaearctic.

#### Material and methods

Original samples were taken using small-sized (about 20–30 cm in diameter) plankton nets which were hauled through macrophytes and over near-shore substrates in different types of water bodies. Then majority of samples were fixed in formol, therefore a molecular genetic study was not possible. For determination, specimens were selected from preserved samples under a binocular stereoscopic microscope, and studied under an optical microscope in a drop of a glycerol-formaldehyde mixture. At least two parthenogenetic females from each locality (if possible) were dissected under a stereoscopic microscope for the study of appendages and postabdomen following discrimination of species according to Bekker *et al.* (2012).

Taylor, 2003) and other animals (Samchyshina *et al.*, 2008). But only future molecular genetic studies could resolve zoogeographic questions concerning these taxa, so that new collections in alcohol are necessary for that in such remote territories.



**FIGURE 1.** Distribution of *Eurycerus* (*Eurycerus*) species in the Beringian zone. *E. macracanthus*—black circles; *E. nipponica*—blue triangles; *E. beringi*—aquamarine stars; *E. longirostris*—red quadrates; regions from where some series of samples were examined, but no *E. (Eurycerus)* was found—white arrows.

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