

Genetic variety of Baikal endemic amphipods (Crustacea: Amphipoda) *Eulimnogammarus verrucosus* (Gerstf., 1858) in the Angara river

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Lake Baikal is a speciation biodiversity hotspot for several taxa including amphipods. Over 350 amphipod species and subspecies have been described to this moment, and this number keeps growing. *Eulimnogammarus verrucosus* is widespread along the Baikal shoreline and a popular model object. However, the separation of the species into three lineages (western, southern, and eastern) was only discovered 150 years after the species description. This diversity was determined based on the fragment of the cytochrome C oxidase (COI) gene [1].

Angara is the single outflow of Baikal and the apparent border between the western and southern *E. verrucosus*. They inhabit the head of the river at about 1-km distance. Further along Angara, there are two bridges (can promote migration) and one dam (a barrier for expansion). Study of *E. verrucosus* genetic origin in this area will uncover if there is hybridization between the lineages.

Four animals similar to *E. verrucosus* were sampled from each of four spots: on both coasts before the dam and after the second bridge (the most distant bridge from the river head). The COI sequences from these animals were sequenced and aligned with the UGENE [2] program. Then, a genetic network, was constructed in the SplitsTree [3].

All the samples from both coasts after the second bridge and two samples from the left coast before the dam belonged to the southern haplogroup. Two animals from the left coast and tree animals from the right coast before the dam constituted a separate group. No animals of the western haplogroup were found (Fig. 1).

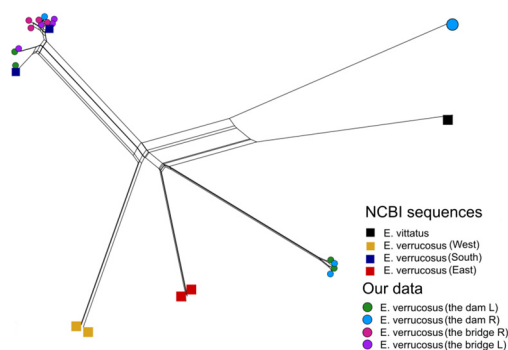


Fig. 1. Phylogenetic network based on DNA sequence comparisons of COI fragment from *E. verrucosus*

These data allow us to conclude that the southern lineage of *E. verrucosus* inhabits both coasts of the Angara river and that there is yet another lineage of this species separated from Baikal ones.

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References

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