



[www.sefs2013.de](http://www.sefs2013.de)

# Symposium for European Freshwater Sciences

JULY 1-5, 2013 | MÜNSTER, GERMANY | ABSTRACT BOOK





R13

**DISTRIBUTION, THREATS AND CONSERVATION OF *A. PALLIPES* COMPLEX IN TRENTO (ITALIAN ALPS)**

Endrizzi S., Bruno M. C., Maiolini B.

*Fondazione E. Mach Sustainable Agro-Ecosystems and Bioresources Department, Via E. Mach 1, I-38010 S. Michele all'Adige (Tn), Italy*

To fill the gaps existing in the knowledge of the distribution of crayfish species in Trentino (Italy), in 2010-2012 we surveyed fourteen lakes, six ponds and sixty-nine creeks and streams. We recorded twenty populations of the native *Austropotamobius pallipes* complex from four lakes, three ponds and thirteen creeks; three of these populations went extinct during the three years of our survey. Of the twenty-one extinct populations, four were replaced by the invasive alien species *Orconectes limosus*. Some populations of *A. pallipes* complex were infested with the parasite *Thelohania* sp. The recorded extinction of the native populations of *A. pallipes* complex occurred in the last century was probably due to habitat loss or modifications, in particular to the degradation of riparian habitats, to the spread of the alien species and the related transmission of the parasite *Aphanomyces astaci* which is lethal for *A. pallipes* and, in few cases, to overfishing. The environmental survey indicates that small creeks with well developed riparian vegetation and good hydro-morphological conditions flowing through mountain slopes can represent potential refuge and recruitment areas which can be reasonably expected to sustain populations of *A. pallipes* in favourable conditions for the foreseeable future, without significant management intervention. Nonetheless, a sustainable management of piedmont water bodies would allow preserving or increasing the number and density of the relict populations. The ongoing project LIFE-TEN (2013-2016) will promote the reintroduction of *A. pallipes* in appropriately-restored areas of the Adige River floodplain, and in lakes where this population went recently extinct. Haplotype characterization of the COI mitochondrial gene was conducted in 16 populations of *A. pallipes*, resulting in 240 sequences which allowed identifying two haplotypes (one for two populations, the other one for the remaining 14). They are present respectively east and west of the Adige watershed, which represents their area of contact. The two populations with different haplotype are present in two different watersheds on the slopes of the same mountain, one of the two was probably relocated there by man in historical time. The haplotype characterization of the 16S mitochondrial gene is currently in progress to further analyze the biogeographical setting and identify available source populations for translocation and rearing aimed to the reintroduction program.