

# International Association of Astacology Symposium 24



## BOOK OF ABSTRACTS

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## Updated distribution and characterization of crayfish plague and microsporidiosis affecting *Austropotamobius pallipes* complex in Trentino (Northeast Italy)

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One of the causes of the decline in distribution and abundance of the endangered white-clawed crayfish *Austropotamobius pallipes* complex throughout Europe is the widespread invasion of alien crayfish and the associated spread of infectious diseases, primarily crayfish plague caused by *Aphanomyces astaci*. Although this disease usually causes mass mortality in *A. pallipes*, some wild populations appear tolerant towards *A. astaci*. Another relevant disease is microsporidiosis (porcelain disease), caused by the parasites *Astathelohania contejeani* and/or *Nosema austropotambii*. In 2021-2024, we conducted a monitoring survey, aimed at mapping the distribution of *A. astaci*, *A. contejeani* and *N. austropotambii* in wild populations of *A. pallipes* in Trentino (Northeast Italy). We applied non-invasive sampling methods to collect cuticular swabs from 31 of the 46 known populations, investigate the presence of *A. astaci* and if possible, identify its genotype through molecular analyses. *Aphanomyces astaci* was detected in 8 populations, and the presence of a low pathogenic genotype (genotype A) was confirmed in one of them. Thirty-three specimens from 10 populations showed macroscopic signs of porcelain disease, abdominal muscle tissues were collected and subjected to molecular evaluation. The presence of *A. contejeani* was identified in 23 individuals from 9 populations and *N. austropotambii* was detected in 3 individuals, from 3 populations. Eight specimens collected from 6 populations were co-infected by the two microsporidians.