

IX Colloquium *Crustacea decapoda* Mediterranea, 2008, Torino
Book of Abstract.

Microfungal colonization of *Procambarus clarkii* in Italy: a preliminary investigation

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Fungi and Oomycetes have been reported to be responsible of cutaneous and systemic infections in aquatic organisms. The ecological success of the invasive *Procambarus clarkii* is also due to its resistance to the crayfish plague, caused by the Oomycete *Aphanomyces astaci* to which native European crayfish are susceptible to. As little is known about the sanitary condition of the Italian *P. clarkii* population, preliminary results of an outstanding mycological investigation on red-swamp crayfish captured in Northern and Central Italy are presented. Samples were collected from 2005-2007 in the Natural Reserve Bosco S. Negri, Zerbolò, Pv (N. 36) and in Lake Trasimeno, Pg (N. 47). Furthermore, a sample of juvenile specimens (N. 34; 11-36 mm total carapace length), born in aquarium from three fertilized females collected in Bosco S. Negri, was analysed, in order to compare microfungi richness on adults and juveniles.

The study was performed according to the Alderman and Polglase (1986) protocol, specific for culture diagnosis of *Aphanomyces astaci* but also favourable to the growth of both pathogens and saprophytes fungi which feed on crayfish.

The causal agent of the crayfish plague was never detected. However, an unexpected richness of microfungi (more than 25 genera) was observed on specimens collected from both sampling sites. Different ubiquitous and polyphagous taxa, mainly represented by *Alternaria alternata*, *Aureobasidium pullulans*, *Cladosporium cladosporioides*, *Epicoccum nigrum*, *Fusarium* spp., *Gliocladium* spp. and *Rhizopus stolonifer*, superficially colonized the majority of all specimens. Some less common species, as *Alternaria cheiranthi*, *Aspergillus candidus*, *Cladosporium chlorocephalum*, *Paecilomyces lilacinus*, *Phoma lingam*, *P. eupyrena*, *Pithomyces chartarum* and *Volutella ciliata*, resulted only on a minority of specimens. The dominant presence of *Phoma glomerata* (f = 70,2%) and of an unidentified Ascomycete taxon - still under investigation - (juvenile specimens: f = 38,2%; adults: f = 41,6%) respectively in Umbria and Lombardy samples, deserve to be mentioned.

There is evidence that the microbial colonization in these animals is probably complex and varied, therefore further mycological investigations need to be carried on. In the meantime, the detected fungi will be examined *in vitro*, in order to evaluate their specific keratinolytic activity.

Our preliminary results point out the importance of better understanding the role and the implications of epibiotic microfungi on invasive crayfish species either for ecological or sanitary purposes.