

— Salinity effects on anguillicolosis in Atlantic eels: a natural tool for disease control —

Anguillicolosis, the disease caused by the invasive nematode *Anguillicoloides crassus*, is one of the many threats facing the already endangered Atlantic eel species. We conducted a systematic review of literature data linking water salinity and prevalence of the infection during the continental phase of *Anguilla anguilla* and *A. rostrata*. Overall, we showed a significant negative relationship across all sites ($rS = -0.42$, $n = 77$). In order to limit the effect of confounding factors (e.g. variable latitudes and parasite introduction dates), we performed a meta-analysis on the correlation coefficients calculated from data within studies (restricted period and area) and revealed a stronger negative relationship ($-r = -0.75$, $n = 13$). Finally, using our long-term monitoring in a French Mediterranean lagoon, we documented a step decrease in both parasite prevalence and induced swimbladder pathologies in response to increased salinity values. Salinity effects manifested with an apparent threshold value around 15‰ and are readily appreciable in young-of-the-year eels. To date, managing around water salinity parameters remains one of the best options to control the ever-expanding infection (both in aquaculture and in the wild) and to improve the quality of future spawners en route to the Sargasso Sea.

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