

THE OTOLITH AS STRESS INDICATOR OF PARASITISM ON EUROPEAN EEL

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EUROPEAN EEL
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ABSTRACT. – The parasite *Anguillicola crassus* threatening European eel since the eighties is regarded as a factor of stress. It is a very successful colonizer, and can severely impair swim bladder function. Glass eels were collected from the coastal lagoon Salses-Leucate of the Languedoc-Roussillon Region and were reared in experimental basins in which they were contaminated by several parasites. Otolith shape was examined to investigate to what extent parasitism affects otolith shape. Univariate and multivariate analyses of variance conducted on the otolith parameters of eels were realized in order to test the hypothesis that the parasite has an effect on these parameters and can generate a change in the shape of the otoliths. In this experimental approach, the otolith parameters varied according to the abundance of the parasite. The mean values of the size parameters and the Fourier coefficients displayed significant differences between right and left otolith. The values of the coefficient of shape, the circularity and the ellipticity of the otoliths were sensitive to the abundance of the adult parasite.