





Abstract

Meso- and Micro-Habitat Preferences of European River and Brook Lamprey in a Mediterranean River Basin [†]

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Abstract: The European river (*Lampetra fluviatilis* Linnaeus, 1758) and brook (*Lampetra planeri* Bloch, 1784) lampreys are considered ‘paired species’, i.e., they are closely related and morphologically very similar but have distinct modes of adult life (anadromous vs. resident). In the Iberian Peninsula, the southern limit of both species’ distribution, they face different pressures (e.g., barriers, pollution, hydrological stress) that reduce the available habitat, which is exacerbated by the actual climate change context. The main objective of the present study was to evaluate meso- and microhabitat preferences of *Lampetra* sp. On the mesohabitat scale, the environmental variables that influence these species’ distributions on the watershed scale were identified. On the microhabitat level, besides identifying the fine-scale variables that influence the presence and abundance of *Lampetra* sp., possible changes in habitat preferences throughout the larval stage (i.e., distinct size/age classes) were also assessed. Mesohabitat results suggest that the relative abundance of *Lampetra* sp. is related to variables such as pH and riparian vegetation. Regarding the microhabitat, the relative abundance of the size classes’ distribution seems to be associated with variables such as substrate granulometry. The results in terms of habitat preferences on a Mediterranean basin are discussed in the context of a climate change scenario (e.g., decrease in habitat quality and availability) and management and conservation perspective.

Keywords: *Lampetra fluviatilis*; *Lampetra planeri*; lamprey ecology; environmental variables; habitat selection; size structure



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