

# Habitat preferences of *Unio mancus* and *U. ravoisieri* in northeast of Catalonia.

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## AREA OF STUDY

In north-eastern Catalonia, several isolated populations of *Unio mancus* and *U. ravoisieri* remains, despite the wide and big decline that these species have suffered during the second half of the XX century. Main known populations occur in the rivers Ter and Fluvià basins, where they occupy certain rivers stretches, diverting or draining channels, and Banyoles Lake.

These water masses are quite different systems. Rivers have a typical mediterranean hydrographic regime - high flow variations-, quite hard riverbeds with boulders and gravels, and usually presence of well constituted riparian forest. However, Banyoles Lake and irrigation channels have stable water or flow level, usually -but not ever- soft bottoms, and often absence of riparian forest.



## METHODOLOGY

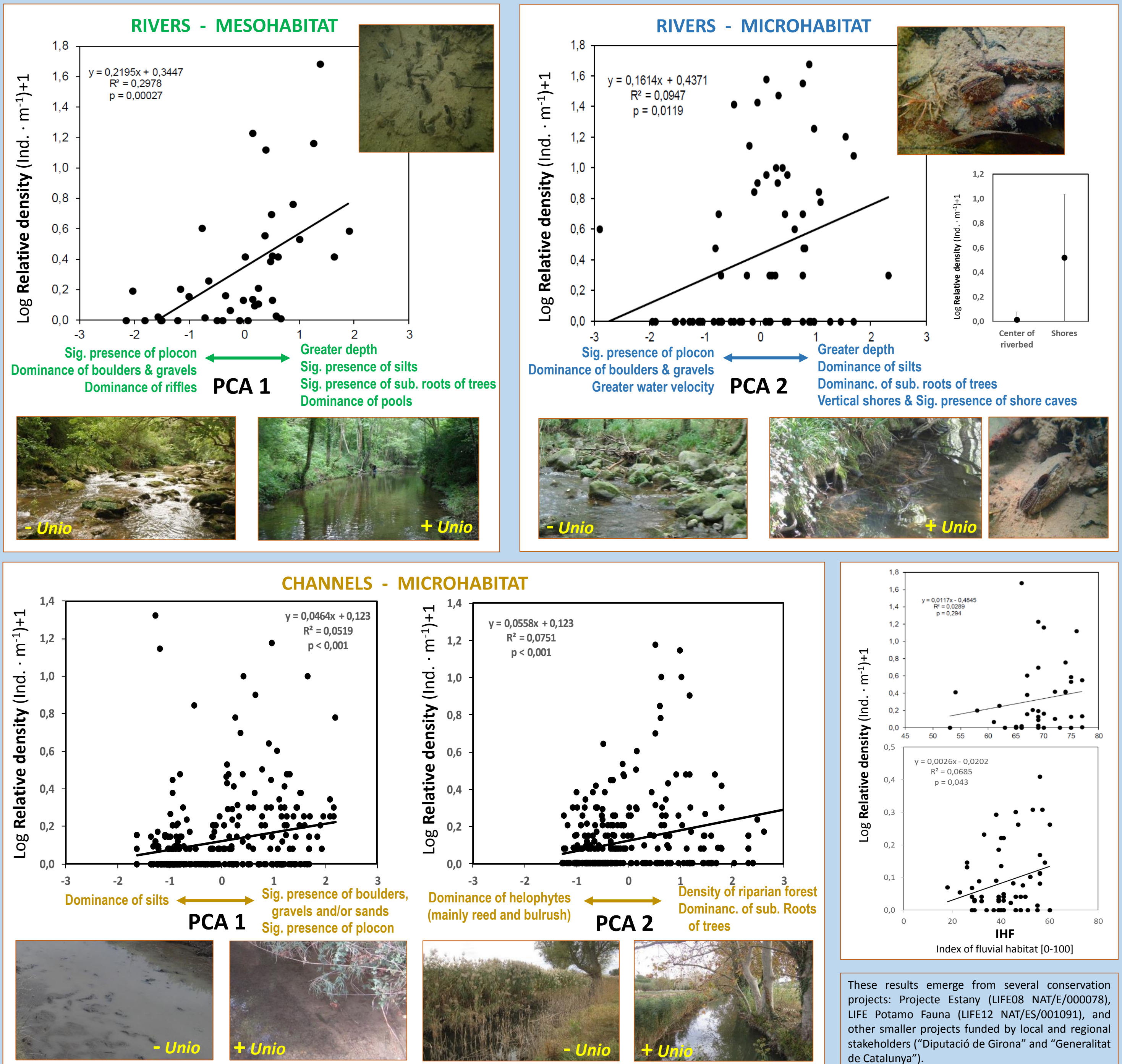
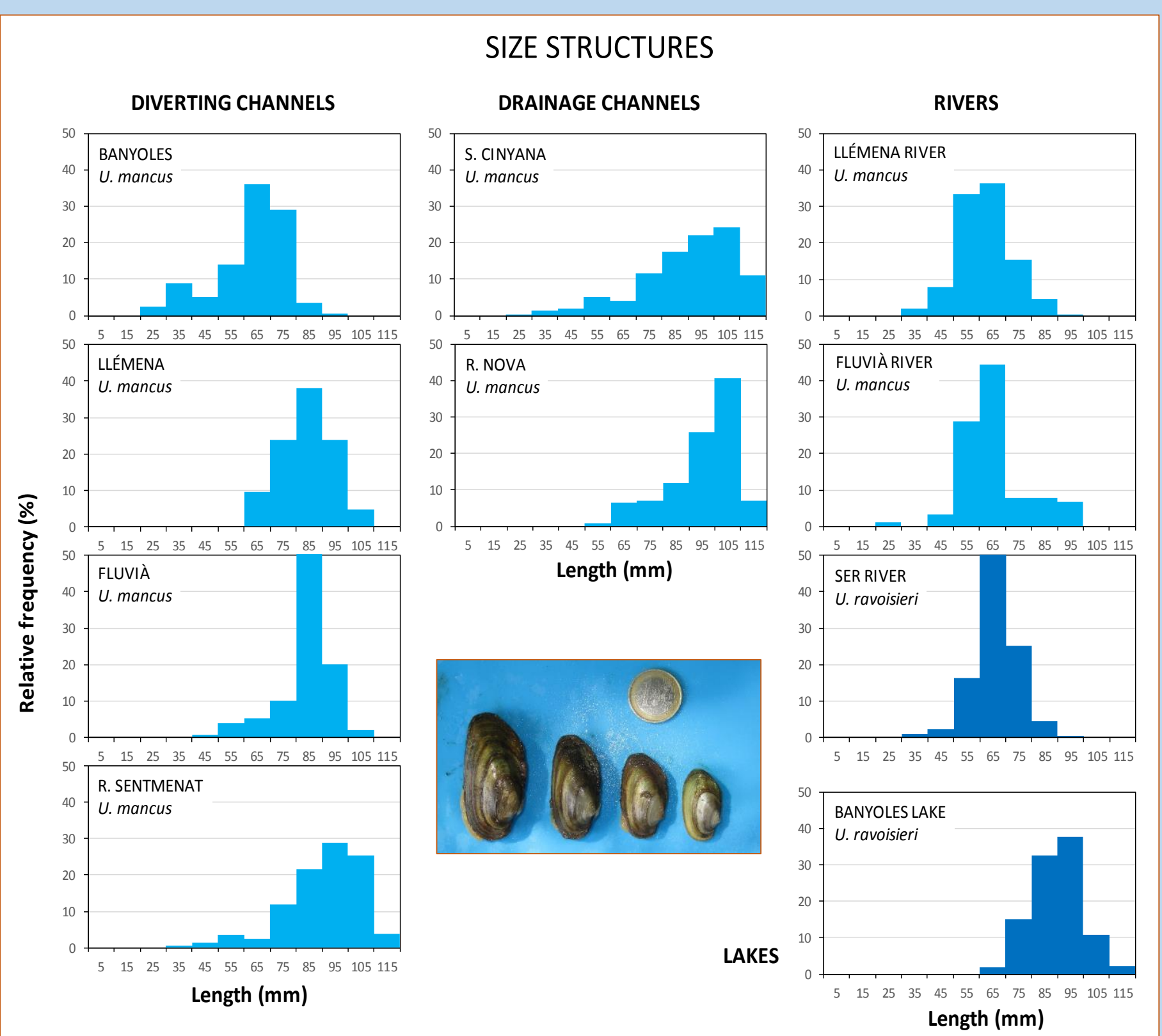
Along last five years, we have sampled eight of these populations. Only known populations with medium or high densities have been selected. Samplings consist in exhaustive prospections of riverbeds and bottoms. Due to water turbidity, visual prospections were only possible in few places. Joint to mussel surveys we did a general habitat characterization on the basis of nearby thirty environmental variables, mainly related with structure of habitat at two scales (micro vs mesohabitat). We perform a Principal Components Analysis (PCA) at each scale and separately by type of habitat; after that we relate *Unio* density with extracted components.



## RESULTS

In rivers, both species have a very similar pattern of habitat selection, they occupy preferably shores on best preserved fluvial stretches with a stable structure, excellent riparian forest and a good hydromorphological status. The preferred microhabitat are silty shores with abundant roots of trees, deeper than the average, and often vertical.

In channels, in contrast, *U. mancus* occupy all the riverbed, including the central part, probably due to lack of flow disturbances. There, they tend to avoid bottoms dominated by stilts or with dense helophytes. *U. ravoisieri* is present lake Banyoles, a very singular habitat.



These results emerge from several conservation projects: Project Estany (LIFE08 NAT/ES/000078), LIFE Potamo Fauna (LIFE12 NAT/ES/001091), and other smaller projects funded by local and regional stakeholders ("Diputació de Girona" and "Generalitat de Catalunya").