



23rd FISHBASE/SEALIFEBASE SYMPOSIUM

BOOK OF ABSTRACTS

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Diversity of fish ectoparasites in a South Carolina estuary, and the role of such data in online databases

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‘BioBlitz’ is a term used for projects in which a certain area is intensely researched in a narrow time frame, with the aim of recording all living species present in said area. In 2023, a group of parasitologists conducted a similar project focused on parasites, named ‘ParasiteBlitz’. The aim of the project was to describe the diversity of parasites in the Stono Preserve, a protected area in the Stono River estuary, in South Carolina, USA. As a part of this study, estuarine fishes were sampled and screened for the presence of direct-life-cycle ectoparasites. Among 125 fishes of 17 species that were caught and inspected for parasites, nine species were infected: *Anchoa mitchilli*, *Fundulus confluentus*, *Fundulus heteroclitus*, *Fundulus majalis*, *Gambusia holbrooki*, *Gobiosoma bosc*, *Menidia* sp., *Mugil cephalus*, and *Mugil curema*. From these fishes, 130 parasites were collected; based on their morphology and genetic data (sequences of 28S, 18S and ITS rDNA), we identified the parasites as belonging to 15 species, of the following taxa: monopisthocotylan flatworms (*Fundulotrema*, *Gyrodactylus*, *Ligophorus*, *Salsuginus*), polyopisthocotylan flatworms (*Metamicrocotyla*), and copepods (*Bomolochus*, *Caligus*, *Ergasilus*, Lerneapodidae). Results of this project show that among estuarine fishes sampled from the Stono Preserve, *M. cephalus* harbors the highest ectoparasite species richness, with seven species of parasitic flatworms and copepods found. For both flatworms and copepods, we noticed patterns of host-specificity, we recorded new species, and expanded the area of distribution for some previously described species of parasitic flatworms. For *G. bosc*, we recorded an infection with a monopisthocotylan flatworm for the first time. The results of this study help fill the knowledge gap of the diversity of fish ectoparasites in the estuaries of temperate climate zones, and particularly on the Atlantic coast of North America. The research on such diversity on this side of the Atlantic has been ‘patchy’ so far, with publications focusing on ectoparasitic fauna in specific locations or on particular hosts. For the Stono River estuary, the acquired data about ectoparasites is completely new. Ecological data about fish ectoparasites in estuaries is valuable for different types of research on both parasites and their hosts – from evolutionary studies to ones focused on anthropogenic pressures in estuaries. Incorporating this data in online databases such as FishBase and SeaLifeBase would make this type of data more widely accessible and potentially give a push to new research on aquatic organisms in estuaries.