



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

FLASH TALK by

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2.9.2025., Brussels



Parasite BioBlitz

- BioBlitz - intense research of biodiversity
- 'ParasiteBlitz' - diversity of parasites
- Stono River estuary (Stono Preserve), South Carolina, USA
- Microhabitats - pond, impoundment, creek, wetland
- Ectoparasites of estuarine fishes



Parasite Blitz fishes

- 125 specimens of 12 genera (17 species) caught and screened for parasites
- Six genera (nine species) infected: *Anchoa* (*A. mitchilli*), *Fundulus* (*F. confluentus*, *F. heteroclitus*, *F. majalis*), *Gambusia* (*G. holbrooki*), *Gobiosoma* (*G. bosc*), *Menidia* (*Menidia* sp.) and *Mugil* (*M. cephalus*, *M. curema*)



Mugil cephalus
Linnaeus, 1758



Fundulus heteroclitus
(Linnaeus, 1766)



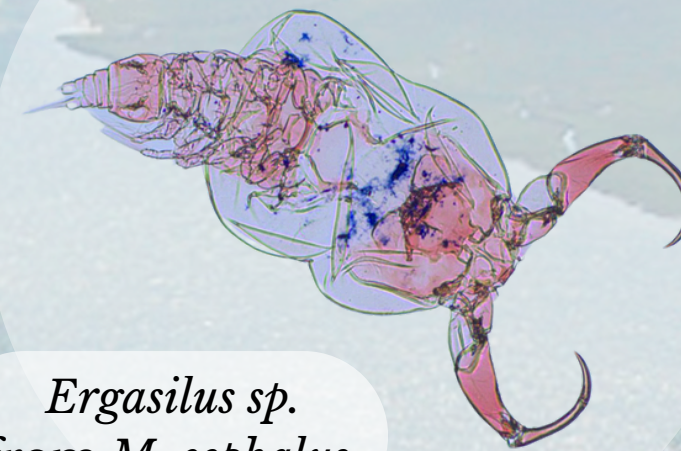
Gambusia holbrooki
Girard, 1859



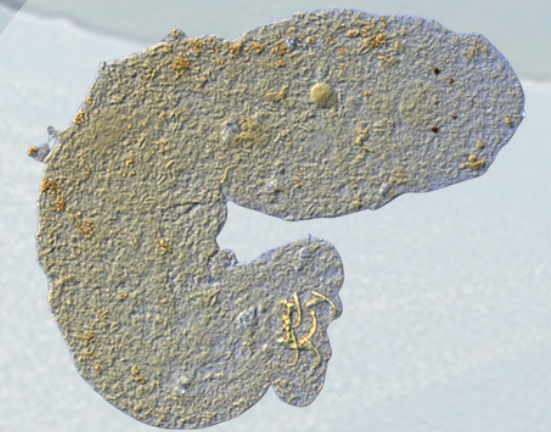
Gobiosoma bosc
(Lacepède, 1800)

ParasiteBlitz ectoparasites

- 130 parasites collected; identified based on morphology and genetic markers (28S, 18S and ITS rDNA)
- 15 species observed - monopisthocotylan flatworms (*Fundulotrema*, *Gyrodactylus*, *Ligophorus*, *Salsuginus*), polyopisthocotylan flatworms (*Metamicrocotyla*) and copepods (*Bomolochus*, *Caligus*, *Ergasilus*, *Lerneapodidae*)



Ergasilus sp.
from *M. cephalus*



Ligophorus mugilinus
from *M. cephalus*



Salsuginus angularis
from *F. heteroclitus*

ParasiteBlitz results

- Parasite species richness - *M. cephalus* (seven species of parasitic flatworms and copepods)
- Strong patterns of host-specificity
- New species and new records for the Atlantic coast of the USA; new data for Stono River estuary
- Knowledge gap - diversity of fish ectoparasites in estuaries of subtropical climate zones



ParasiteBlitz & online databases

- Value of publicly available data in different types of (ichthyo)parasitological research
- Research on habitats impacted by anthropogenic pressures
- Missing information in already available data



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Diseases & Parasites
Toxicity (LC50s)
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Genetics
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Taxonomy
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Synonyms
Morphology
Morphometri
Pictures
References

Mugil cephalus Diseases

MainRef:	Paperna, I., 1996			
Disease name:	Ergasilus Disease 8 Parasitic infestations (protozoa, worms, etc.)Ergasilus Disease 8 Parasitic infestations (protozoa, worms, etc.)			
Territory:	Tunisia	Year:		
Locality:	Lake Ischkeul			
Diseases occurred in:	☐ eggs	☐ fry	☐ females	☐ in the wild
	☐ larvae	☐ juveniles	☐ males	☐ in culture
Prevalence:	epizootic			
Intensity:	high	Mortality:		
Type of culture:		Water temp.:	21	
Remarks:	Recorded peak infestation of this parasite occurred in spring where water temperature is modeartely elevated to 21°C and salinity is 4 ppt. Prevalence of infestation in this time is 100% with parasites reaching up to 2000 copepods per fish.			

More information about the disease

Glossary

Search

Mugil cephalus Diseases

MainRef:	Lin, C.-L. and J.-s. Ho, 2002			
Disease name:	Caligus Infestation 2 Parasitic infestations (protozoa, worms, etc.)			
Territory:	USA	Year:	1936	
Locality:	Florida (Gulf coast)			
Diseases occurred in:	☐ eggs	☐ fry	☐ females	☒ in the wild
	☐ larvae	☐ juveniles	☐ males	☐ in culture
Prevalence:				
Intensity:		Mortality:		
Type of culture:		Water temp.:		
Remarks:				

More information about the disease

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Thank you for your attention!

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Grant number: NA22OAR4170114



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