

Parasite biodiversity and trophic dynamics of mangrove fishes in a Senegalese MPA

Armando J Cruz-Laufer

L Van Passel, O Sadio, Farid Dahdouh-Guebas, CL Wood, MPM Vanhove

*FishBase-SeaLifeBase Symposium,
02/09/2025*





Mangroves are in many places



... and are important for people

Income generation
for coastal
communities

Diverse habitat for many life
forms including economically
important species

Buffer against coastal
erosion and protection
from storms

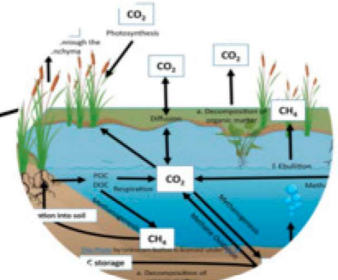
Blue carbon storage

A source of timber
for buildings and
other uses

Fodder for animals

Preserve water quality
by pollutant filtration

Part of the
ecosystem linked
with coral reefs and
seagrasses



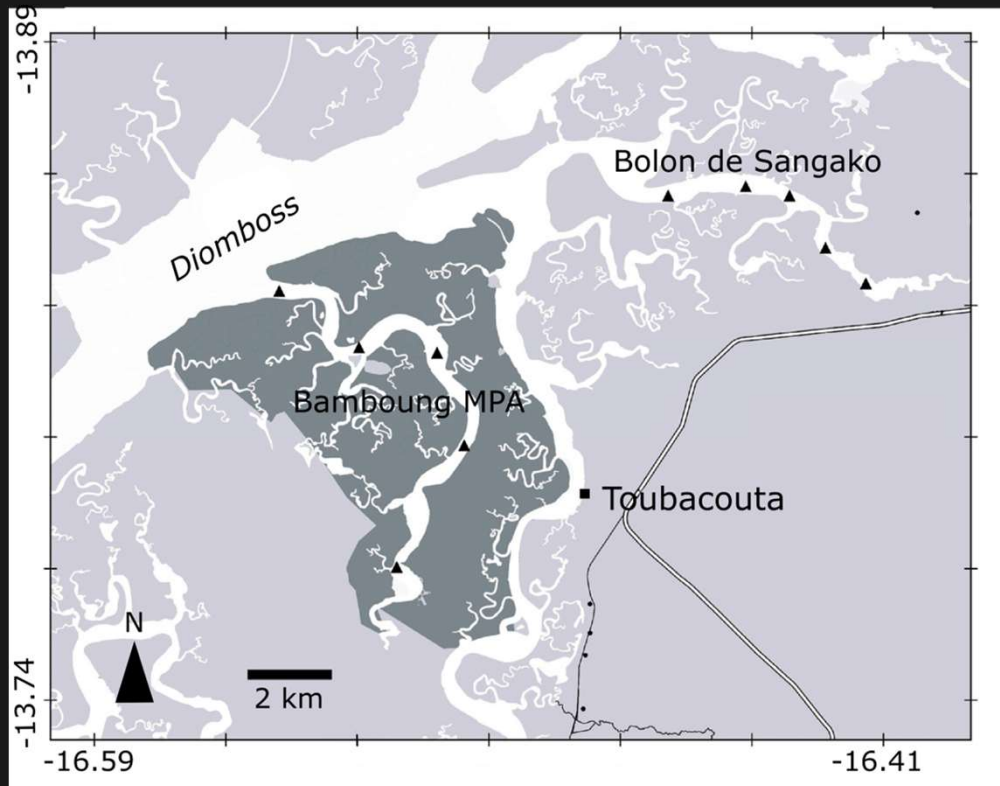
**What happens to host-parasite
communities in mangrove ecosystems
under fisheries pressure?**

Our study system: the Saloum Delta

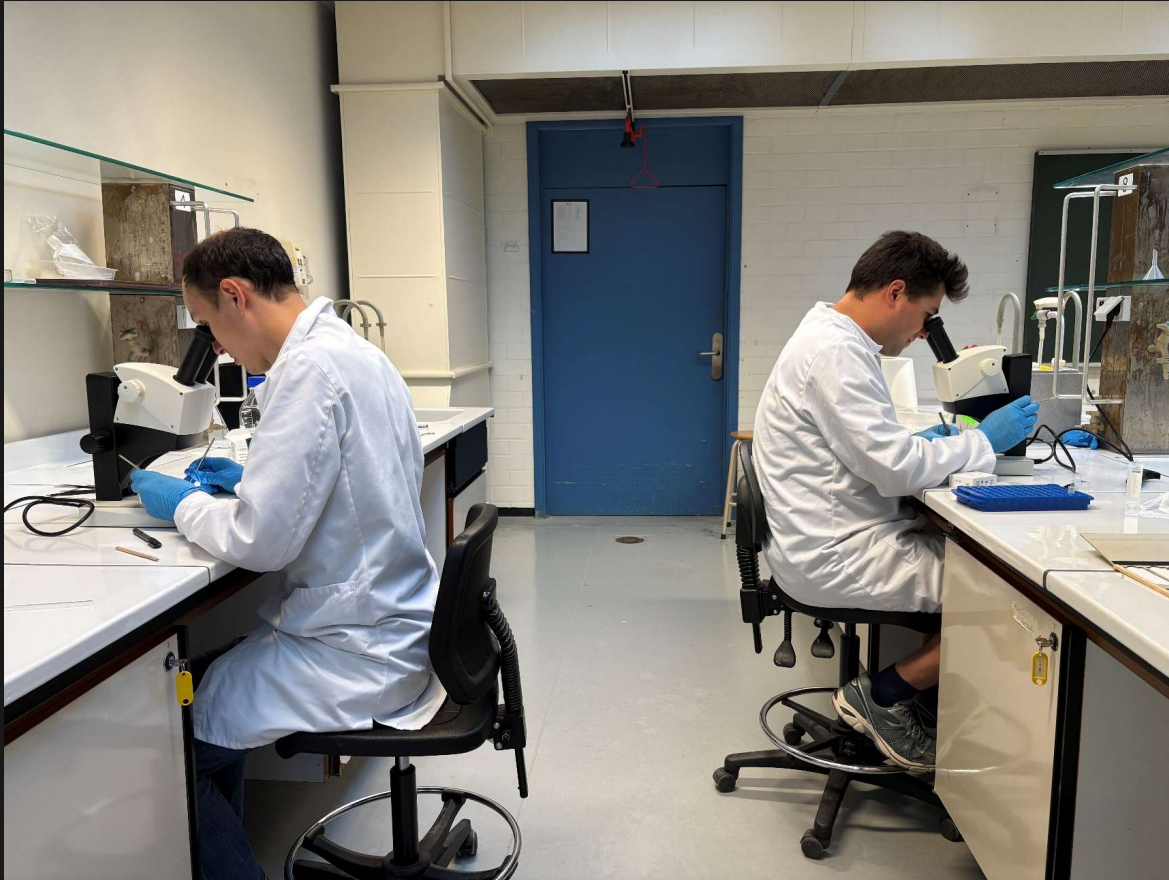
Fishing ban vs. fishing area



Sampling and parasite screening



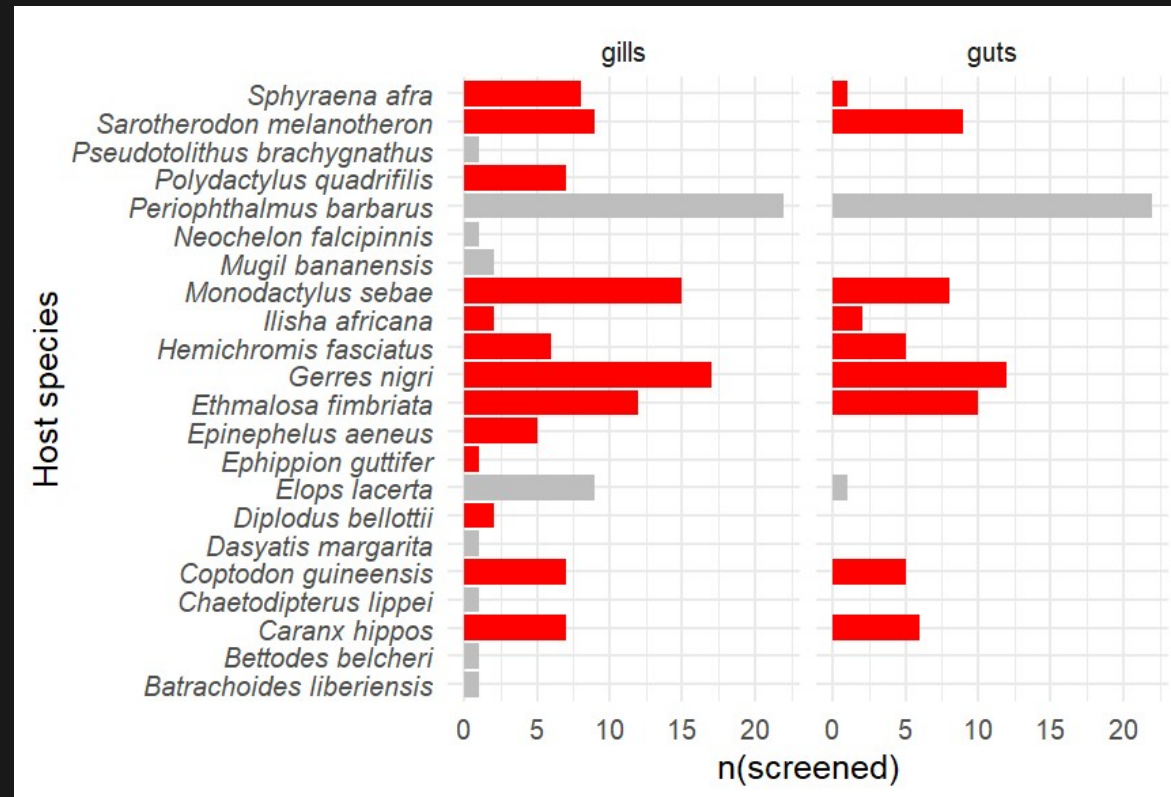
Sampling and parasite screening



Early results

**105 gills and 72 guts
screened of 22 fish species**

7 target species

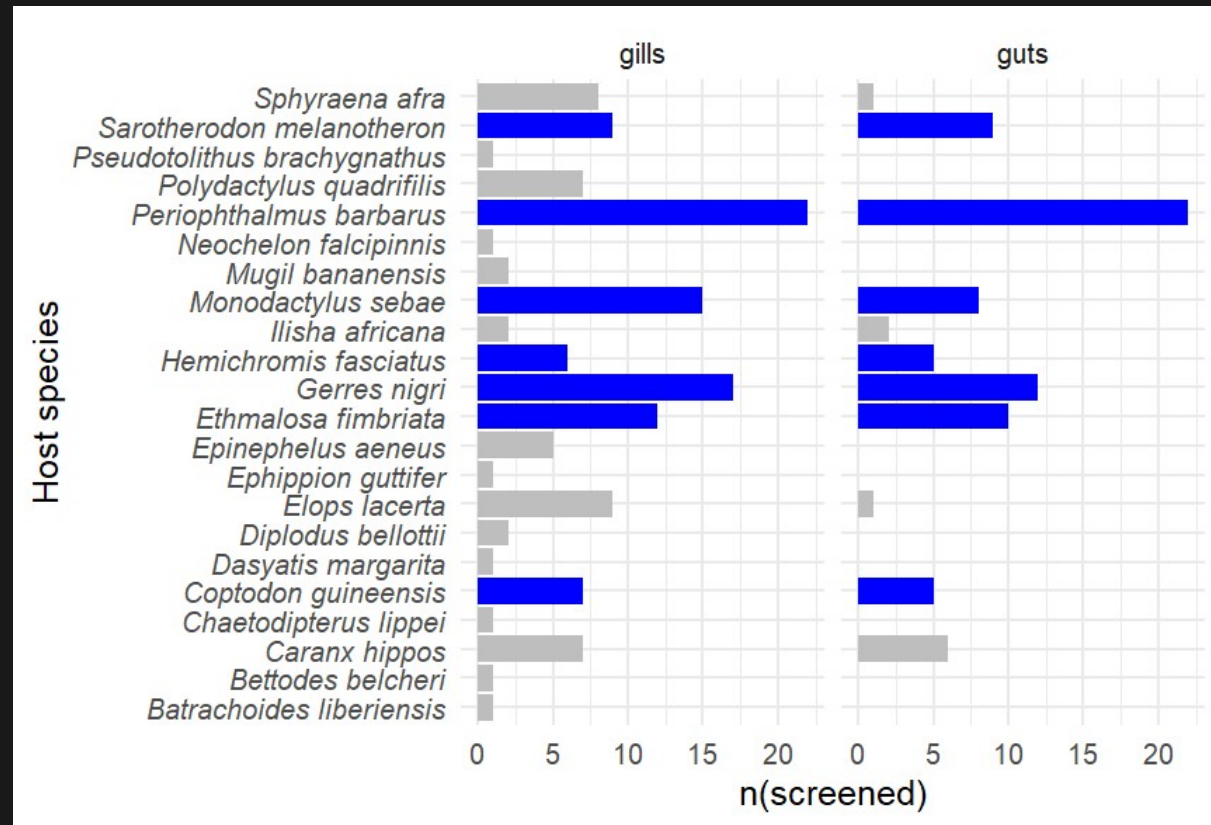


Early results

**105 gills and 72 guts
screened of 22 fish species**

**7 target species
(omnivores &
arthropodivores)**

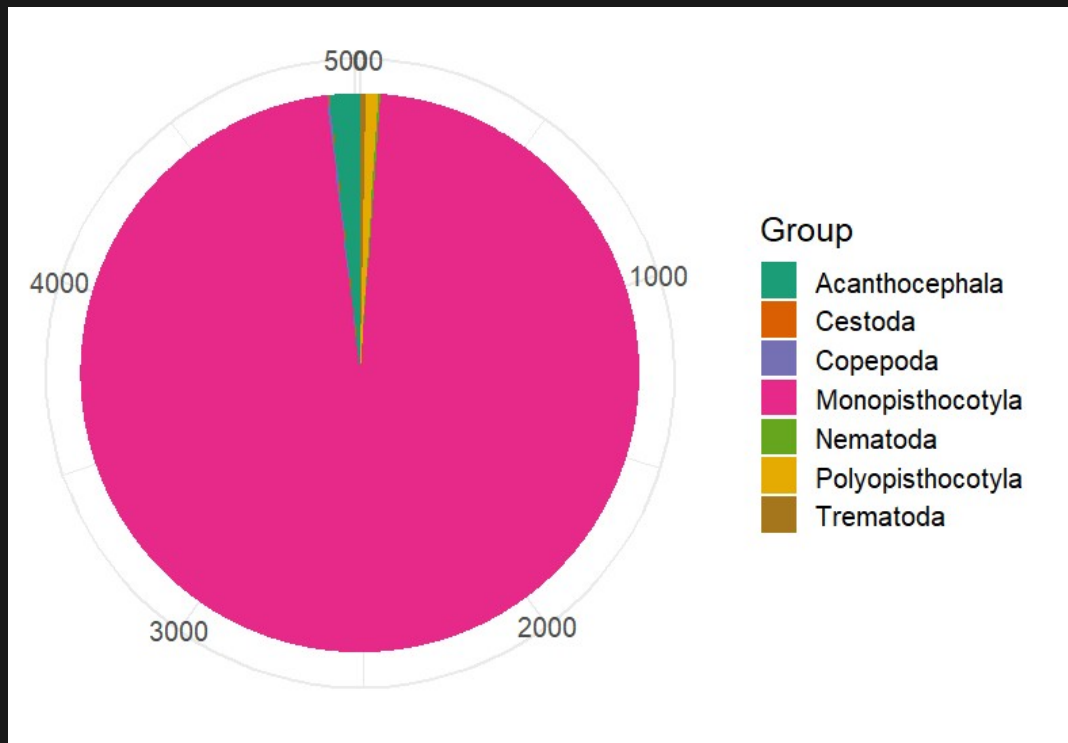
5,000+ parasites



The parasites



The parasites



Cichlidogyrus digitatus

Reference library

Barcoding markers:

18S + 28S rDNA

ITS1 + ITS2

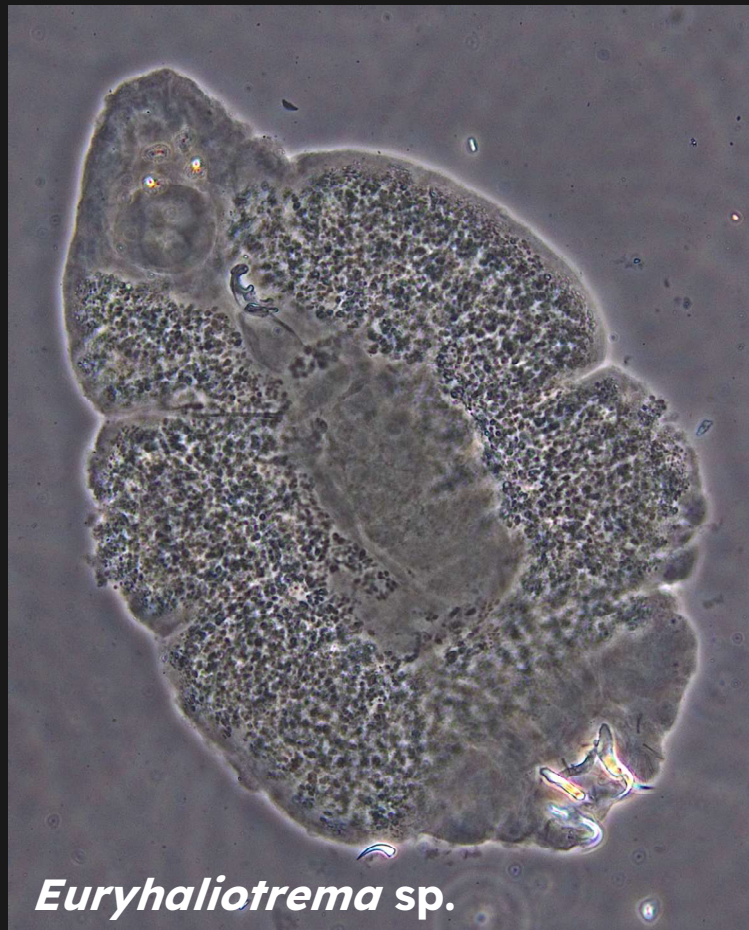
COI mtDNA

**~100 for 24 parasite
species**



Echinocephalus sp.

Work in progress



First survey of host-parasite communities in mangrove forests

Additional sampling in 2024 and 2025

How are parasites linked to host health?

→ health indices

→ metabarcoding of gut content

Thank you!



Oumar Sadio



Lucas Van Passel

Maarten Vanhove

**Farid Dahdouh-
Guebas**

Chelsea Wood

***Ansou Mané
Aboubacar Gueye
Miriam Shigoley
Ralph Appy
Arfang Diamanka***



Funders

