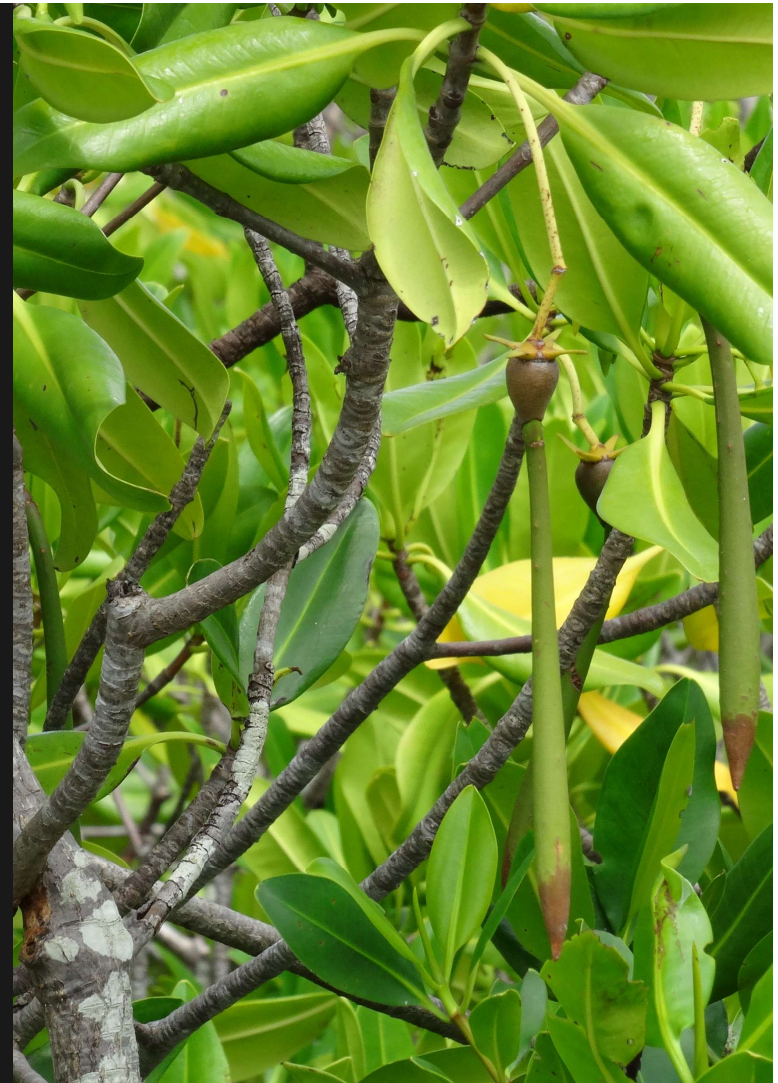


# Impact of mangrove fisheries on fish-parasite communities: a first species survey

Armando J Cruz-Laufer

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

*Ichthyoparasitological Symposium,*  
14/15/2025





# Mangroves are in many places



# ... and are important for people



Income generation  
for coastal  
communities

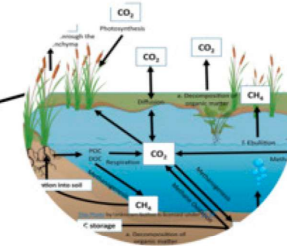


Diverse habitat for many life  
forms including economically  
important species



Buffer against coastal  
erosion and protection  
from storms

Blue carbon storage



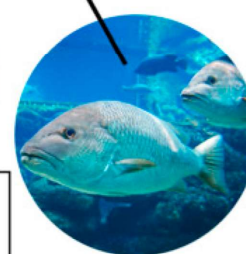
A source of timber for  
buildings and  
other uses



Fodder for animals



Preserve water quality  
by pollutant filtration



Part of the  
ecosystem linked  
with coral reefs and  
seagrasses



# The global perspective:

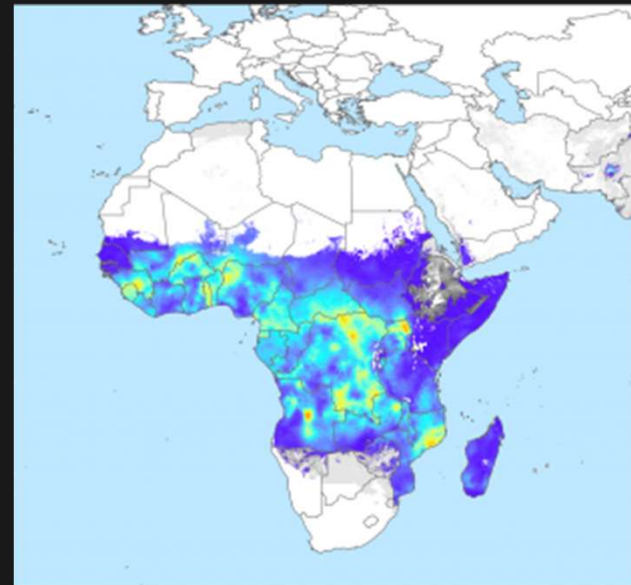
**Do mangrove forests  
increase malaria  
prevalence in  
humans?**



## The global perspective:



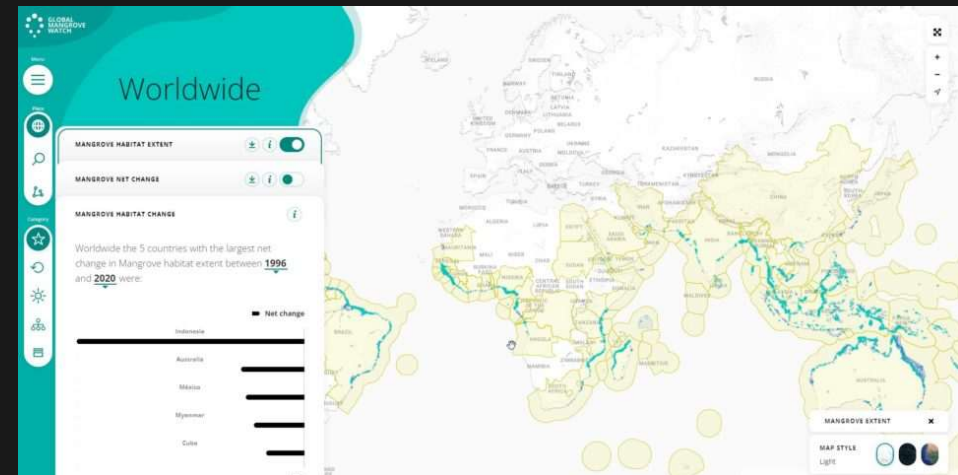
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# The global perspective:



**Do mangrove forests increase malaria prevalence in humans?**



## The global perspective:

**Do mangrove forests  
increase malaria  
prevalence in  
humans?**



Chelsea Wood

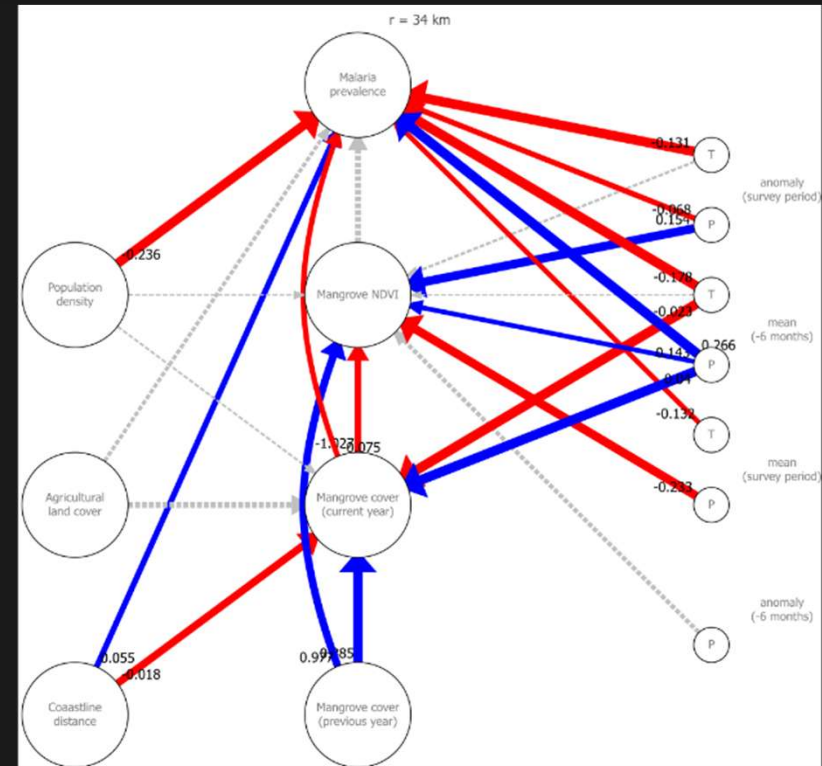




## The global perspective:

# Mangrove-malaria relationship is depends on spatial resolution:

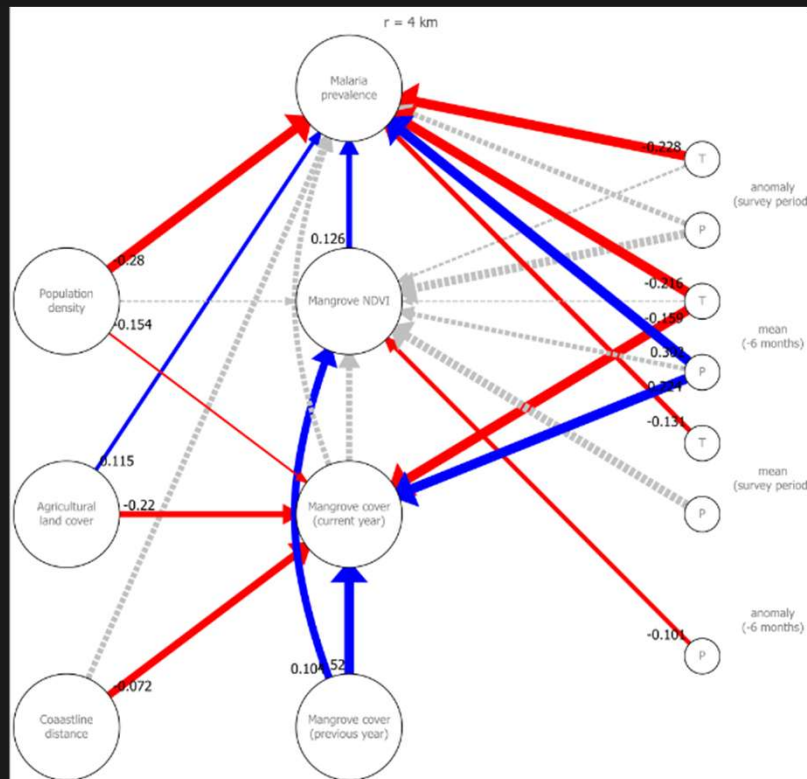
- At coarse resolution:  
More mangrove cover → less malaria
- At fine resolution:  
Healthier mangrove → more malaria



## The global perspective:

**Mangrove-malaria relationship is depends on spatial resolution:**

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- At fine resolution: Healthier mangrove → more malaria



**Let's zoom in ...**

Income generation  
for coastal  
communities

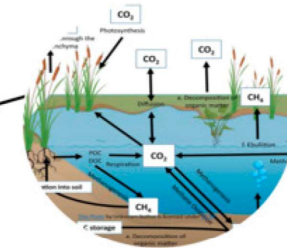


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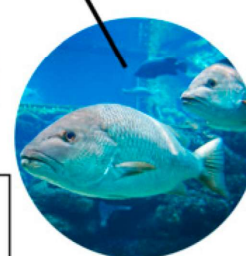
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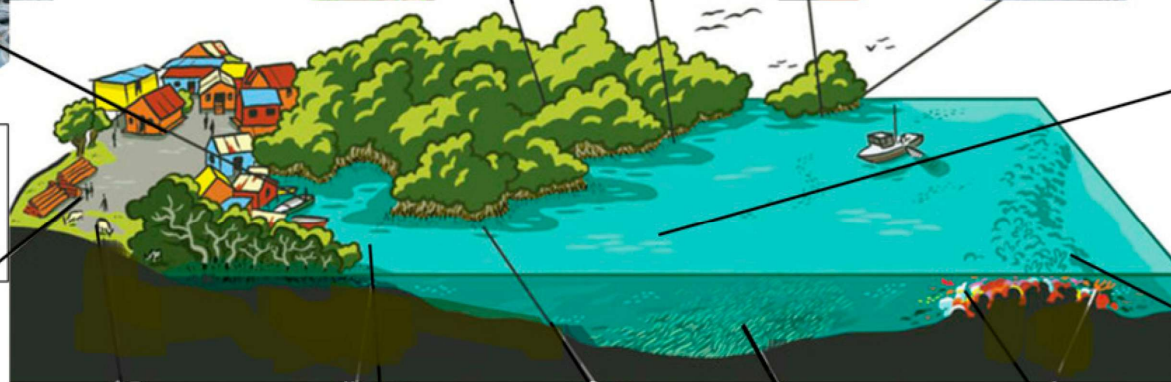
Fodder for animals



Preserve water quality  
by pollutant filtration



Part of the  
ecosystem linked  
with coral reefs and  
seagrasses





**Let's zoom in ...**

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

# Our study system: the Saloum Delta

**Fishing ban vs. fishing area**



# Why the Saloum Delta?

Fisheries impact well  
established

Some history of parasite  
taxonomy



# Why the Saloum Delta?

**Fisheries impact well  
established**

**Some history of parasite  
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<http://folia.paru.cas.cz/>

## **Two new species of *Protyrodactylus* (Monogenoidea: Dactylogyridae) from the gills of *Gerres nigri* (Teleostei: Gerreidae) from Senegal**

**Walter A. Boeger<sup>1</sup>, Arfang Diamanka<sup>2</sup>, Antoine Pariselle<sup>3</sup> and Luciana Patella<sup>1</sup>**

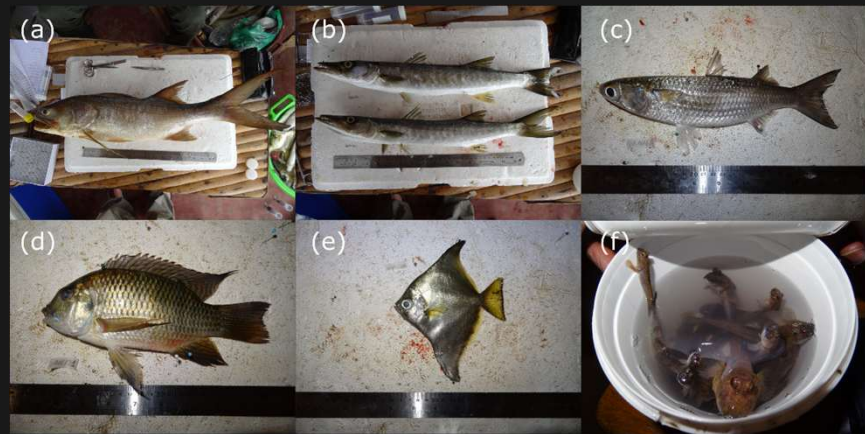
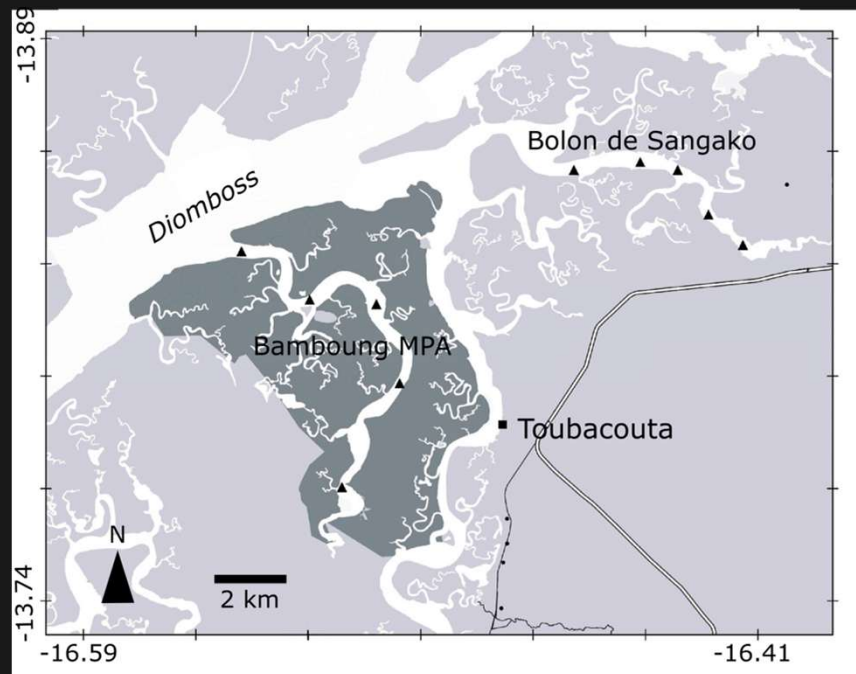
<sup>1</sup> Molecular Ecology, Evolutionary Parasitology Laboratory, Departamento de Zoologia and Grupo Integrado de Aquicultura e Estudos Ambientais, Caixa Postal 19073, Universidade Federal do Paraná, Brazil;

<sup>2</sup> Laboratory of Parasitology and Laboratory of Aquatic Animals Pathologies – Khaled Bin Sultan Living Oceans Foundation, Department of Animal Biology, Faculty of Sciences and Technologies, University Cheikh Anta Diop, Dakar, Senegal;

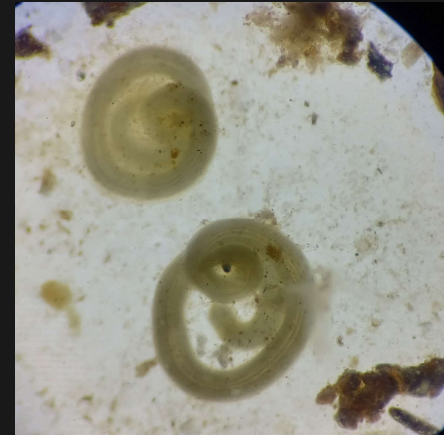
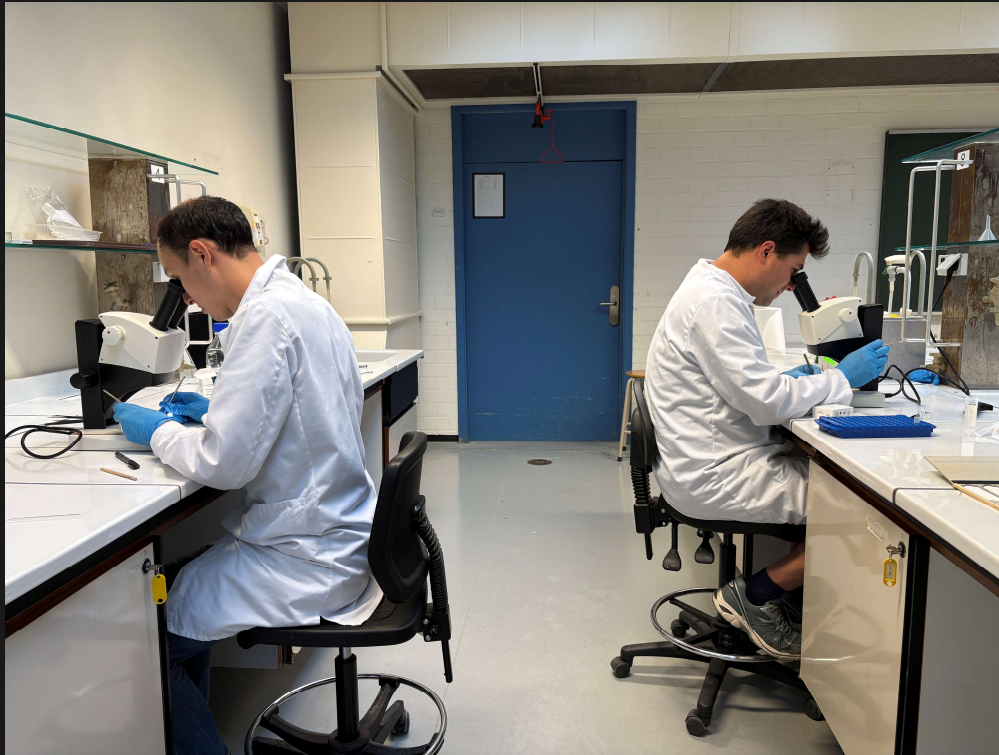
<sup>3</sup> UR 203 / UMR 5554, IRD/ISE-M, Université Montpellier II – CC 063, 34095 Montpellier Cedex 5, France



# Sampling and parasite screening



# Sampling and parasite screening

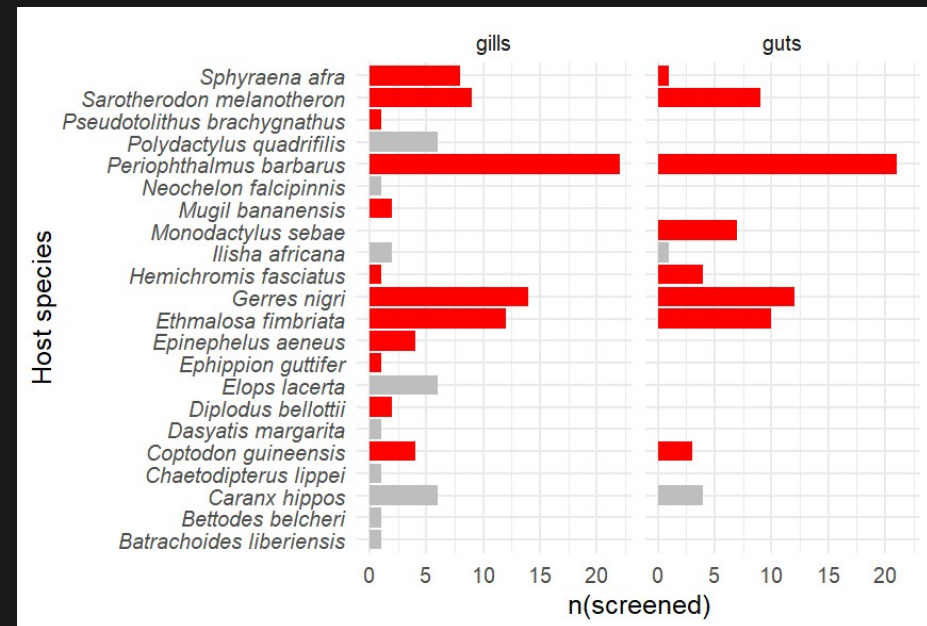


# Early results

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

**7 target species**

**Sample sizes per host  
species are small**



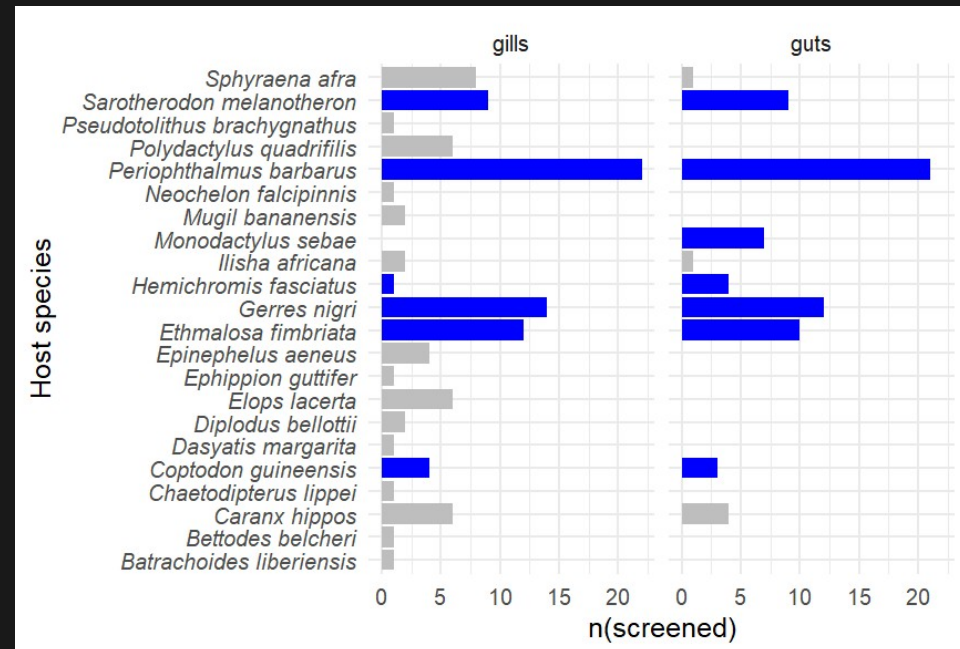
# Early results

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

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

**~1100 parasites**

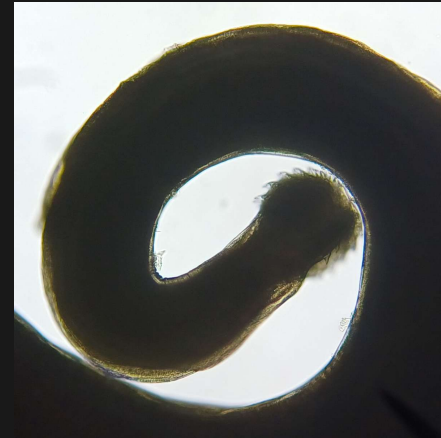
**Sample sizes per host  
species are small**





# Early results

**Monopisthocotyla**  
(~ 12 species/prob. 5 new,  
~ 950 individuals)



**Acanthocephala**  
(3 species/1-2 new,  
~ 70 individuals)



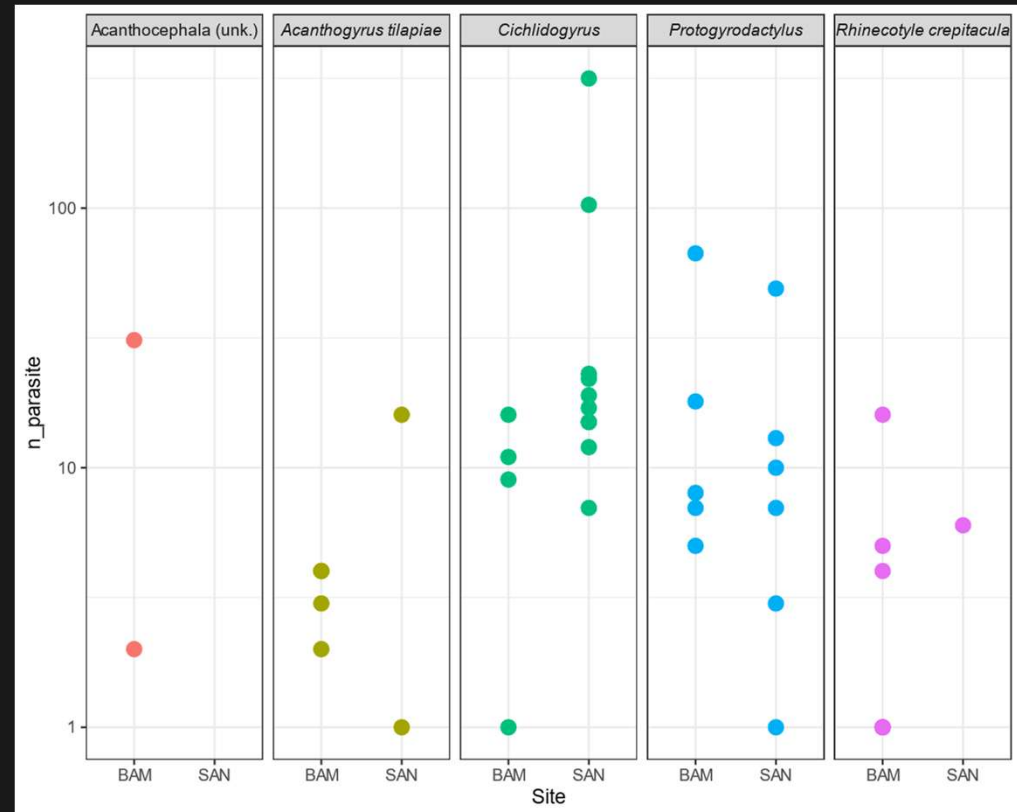
**Few nematodes,  
trematodes, copepods,  
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# Early results

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~ 70 individuals)

**Few nematodes,  
trematodes, copepods**



# **Work in progress**

**First survey of host-parasite communities in mangrove forests**

**→ baseline knowledge/reference library**

**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**

***Dakeishla Díaz-  
Morales  
Olexiy Kyrychenko  
Ansou Mané  
Aboubacar Gueye  
Dakeishla Díaz-  
Morales  
Arfang Diamanka***



## Funders





# Thank you!



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