

# 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



**fwo**



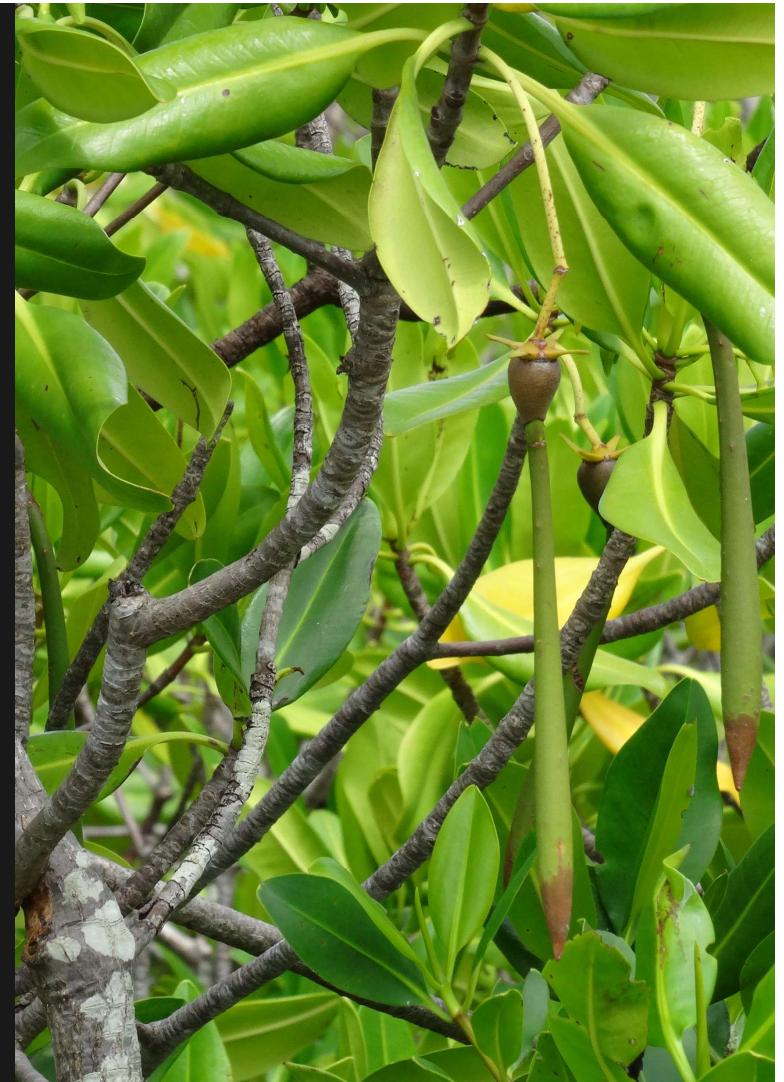
**LEMAR**



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# Mangroves are in many places



... and are important for people

Income generation  
for coastal  
communities

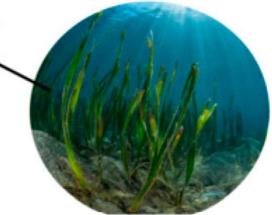
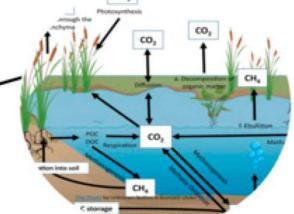


Diverse habitat for many life  
forms including economically  
important species



Buffer against coastal  
erosion and protection  
from storms

Blue carbon storage



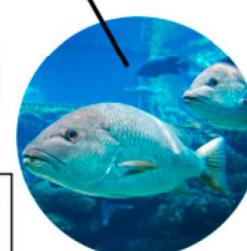
A source of timber  
for buildings and  
other uses



Fodder for animals



Preserve water quality  
by pollutant filtration



Part of the  
ecosystem linked  
with coral reefs and  
seagrasses

# Do mangrove forests increase malaria prevalence in humans?

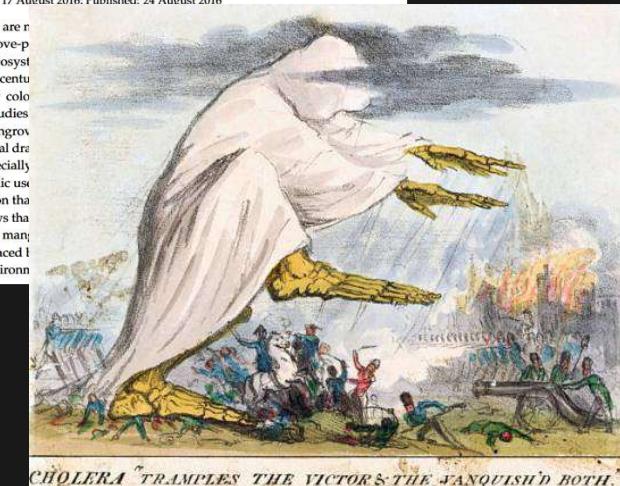
## The global perspective:

 *forests* 

*Review*  
**Ecosystem Services and Disservices of Mangrove Forests: Insights from Historical Colonial Observations**

Daniel A. Friess  
Department of Geography, National University of Singapore, 1 Arts Link, Singapore 117570, Singapore; dan.friess@nus.edu.sg; Tel.: +65-6516-1419  
Academic Editors: Bradley B. Walters and Eric J. Jokela  
Received: 4 July 2016; Accepted: 17 August 2016; Published: 24 August 2016

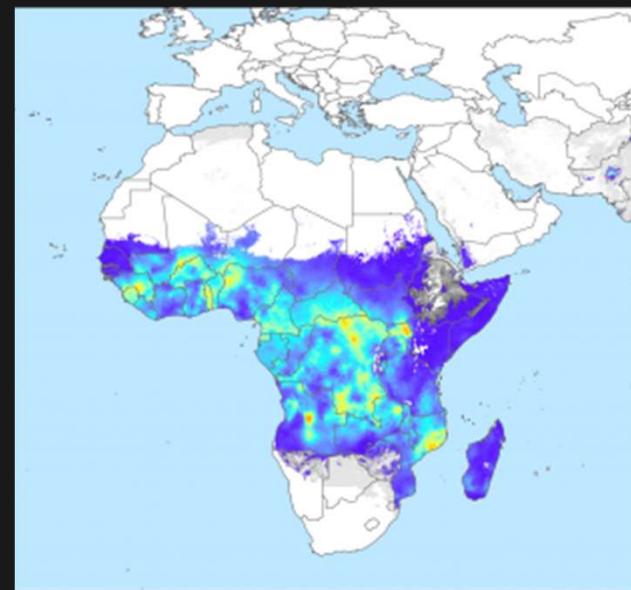
**Abstract:** Ecosystem services are a new way of viewing mangrove–person interactions. The negative interactions (ecosystem perceptions of mangroves for centuries) of mangroves as written by colonial expeditions and studies with settlers considering mangrove implications, such as the global distribution of new lands as ripe for economic use control and sediment accretion that early as 1865. This study shows that we should not underestimate mangroves as a resource to study human–environment interactions.



## The global perspective:

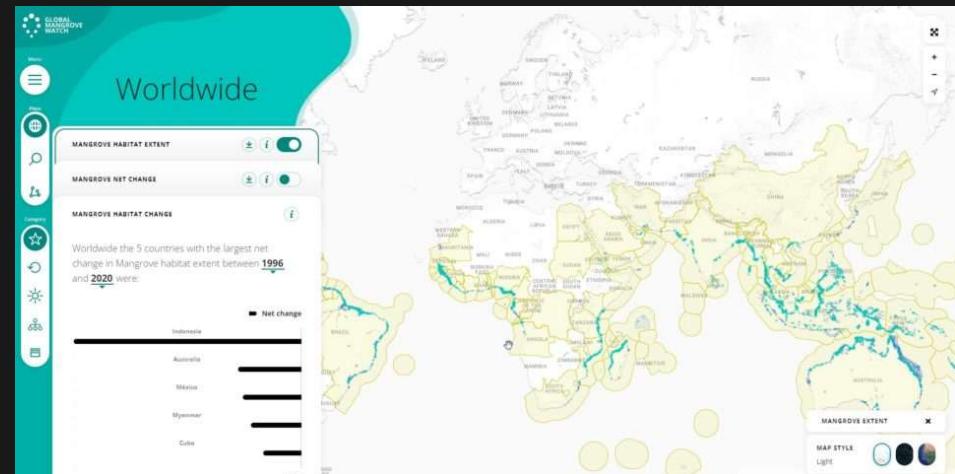


**Do mangrove forests  
increase malaria  
prevalence in  
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# The global perspective:

**Do mangrove forests  
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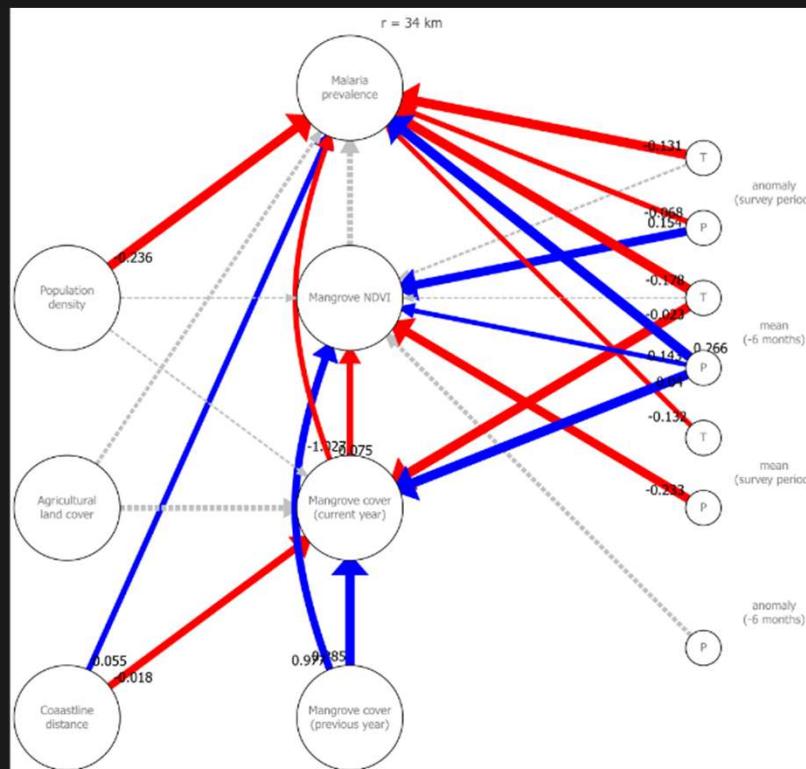
**Chelsea Wood**



# The global perspective:

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

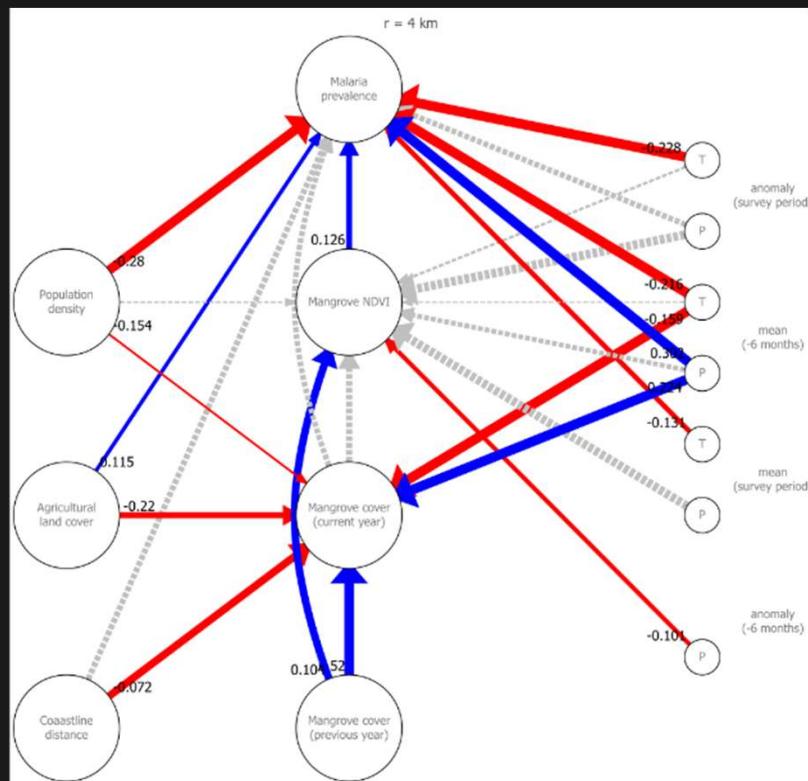
- **At coarse resolution:**  
**More mangrove cover → less malaria**
- **At fine resolution:**  
**Healthier mangrove → more malaria**



# The global perspective:

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

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

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for coastal  
communities

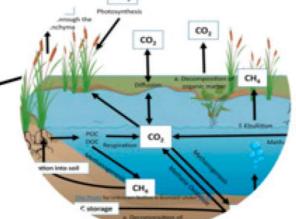


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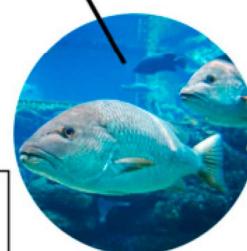
A source of timber  
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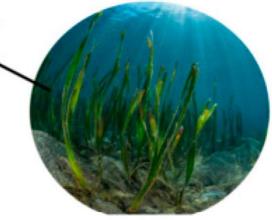
Fodder for animals



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**

Ocean and Coastal Management 210 (2021) 105655

Contents lists available at ScienceDirect

**Ocean and Coastal Management**

journal homepage: [www.elsevier.com/locate/ocecoaman](http://www.elsevier.com/locate/ocecoaman)

Efficiency of two contrasted marine protected areas (MPA) in West Africa over a decade of fishing closure

Modou Thiaw <sup>a,\*</sup>, Didier Gascuel <sup>b</sup>, Oumar Sadio <sup>c</sup>, Ismaila Ndour <sup>a</sup>, Hamet Diaw Diadhou <sup>a</sup>, Justin Kantoussan <sup>d</sup>, Saliou Faye <sup>a</sup>, Modou Thiam <sup>a</sup>, Beyah Meissa <sup>e</sup>, Patrice Brehmer <sup>c,f</sup>

<sup>a</sup> Institut Sénégalais de Recherches Agricoles (ISRA), Centre de Recherches Océanographiques de Dakar-Thiaroye (CRODT), BP 2241, Dakar, Sénégal

<sup>b</sup> Université Bretagne Loire (UBL), Agrocampus Ouest, UMR 985 Ecology and Ecosystems Health, 65 Rue de Saint Brieuc, CS 84215, 35 042, Rennes Cedex, France

<sup>c</sup> IRD, Univ Brest, CNRS, Ifremer, UMR LEMAR 195, C/O ISRA-CRODT, Ham, Dakar, Sénégal

<sup>d</sup> Université Gaston Berger (UGB), UFR Sciences Agronomiques, de l'Aquaculture et des Technologies Alimentaires (S2ATA), BP 234, Saint-Louis, Sénégal

<sup>e</sup> Institut Mauritanien de Recherches Océanographiques et des Pêches (IMROP), Nouadhibou, Mauritanie

<sup>f</sup> IRD, Univ Brest, CNRS, Ifremer LEMAR UMR 195, DR Ouest, 29280, Plouzane, France

Check for updates

# Why the Saloum Delta?

**Fisheries impact well established**

**Some history of parasite taxonomy**

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ISSN 0015-5683 (print), ISSN 1803-6465 (online)

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<http://folia.paru.cas.cz/>

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

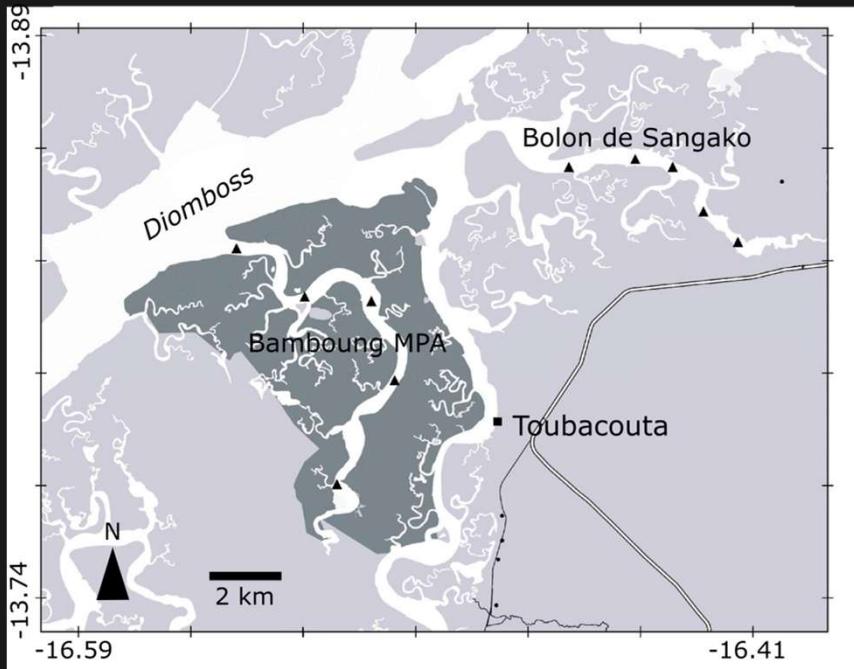
Walter A. Boeger<sup>1</sup>, Arfang Diamanka<sup>2</sup>, Antoine Pariselle<sup>3</sup> and Luciana Patella<sup>1</sup>

<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

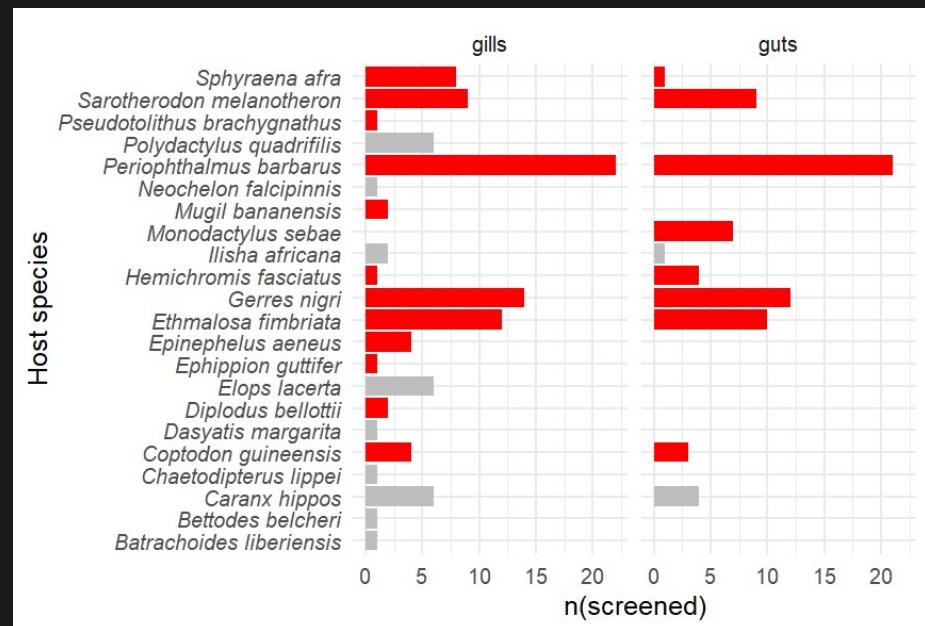


# Early results

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

**7 target species**

**Sample sizes per host  
species are small**



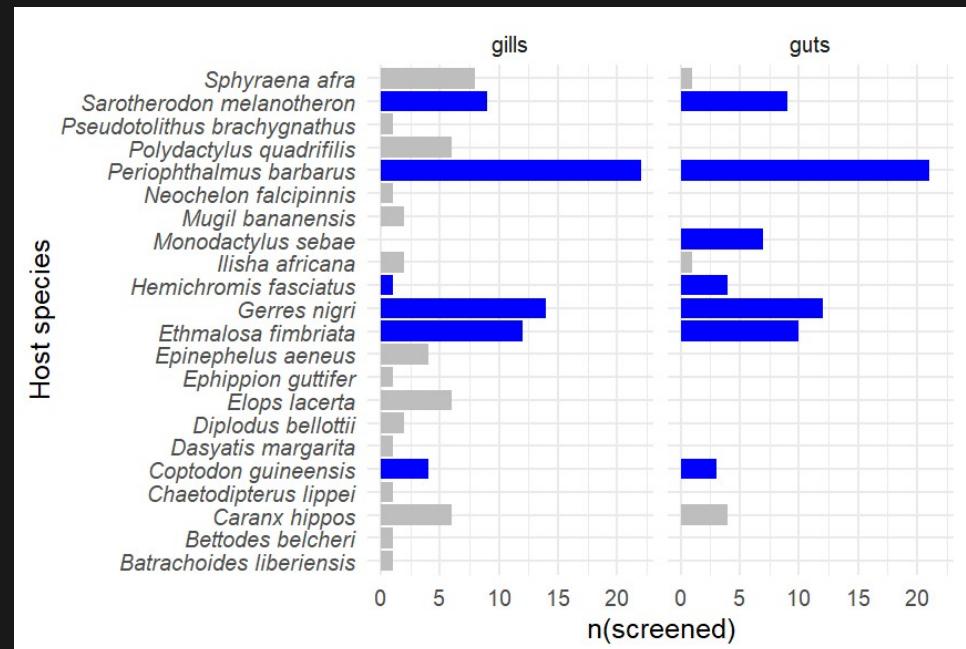
# Early results

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

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

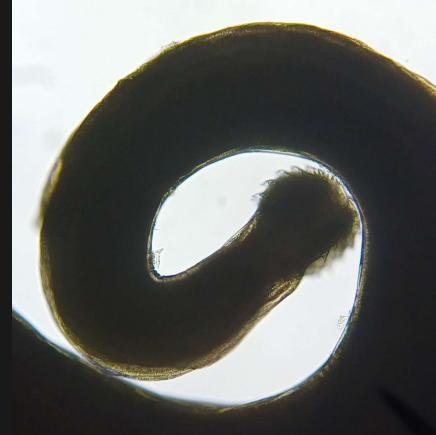
**~1100 parasites**

**Sample sizes per host  
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# Early results

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



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



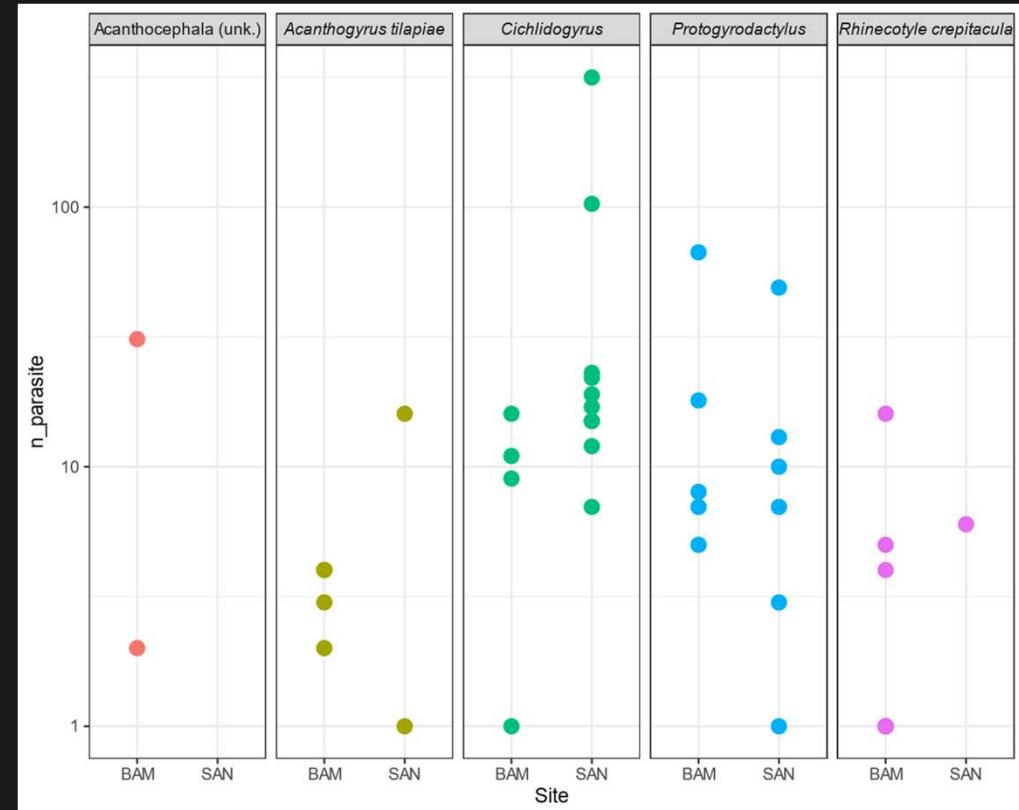
**Few nematodes,  
trematodes, copepods,  
cestodes**

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**Few nematodes,  
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# 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



**Leopold III-Fonds**  
voor Natuuronderzoek en Natuurbewoud vzw

# Thank you!



**Contact me**

[armando.cruzlaufer@uhasselt.be](mailto:armando.cruzlaufer@uhasselt.be)

**Website**

[armando.cruzlaufer.weebly.com](http://armando.cruzlaufer.weebly.com)

**Twitter**

[@AJCruzLaufer](https://twitter.com/AJCruzLaufer)

**BlueSky**

[@ajcruzlaufer.bsky.social](https://bsky.social/@ajcruzlaufer)

**LinkedIn**

[Armando Cruz Laufer](https://www.linkedin.com/in/armando-cruz-laufer-133070184)

