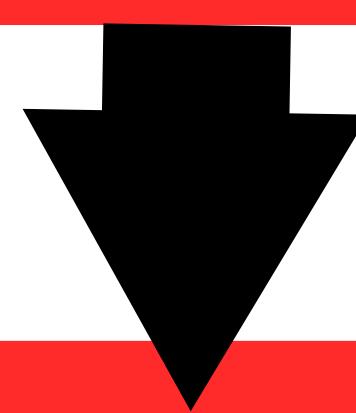


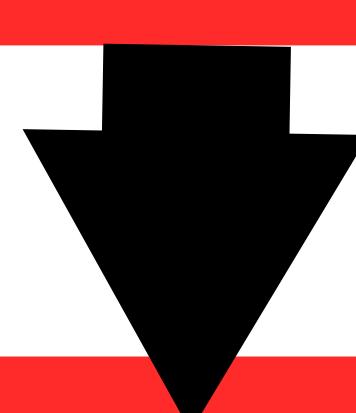
# Parasite community composition of fishes reflects protection status of mangrove forests in a West African estuary

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## Mangrove conservation



## Fish populations



## Parasite communities



## Fisheries effects on parasites

- Does parasite biodiversity differ inside vs. outside the MPA?
- Are these differences linked to host size or host species?
- Does diversity of host-parasite interactions differ inside vs. outside the MPA?

### What we found (Fig. 1):

Gill parasites: biodiversity is higher under fisheries pressure  
Gut + gill parasites: biodiversity is similar or lower under fisheries pressure  
→ **Gut parasites have often more complex life cycles (reliant on >1 host species)**

BUT: only limited sample sizes and only 1 year and season tested

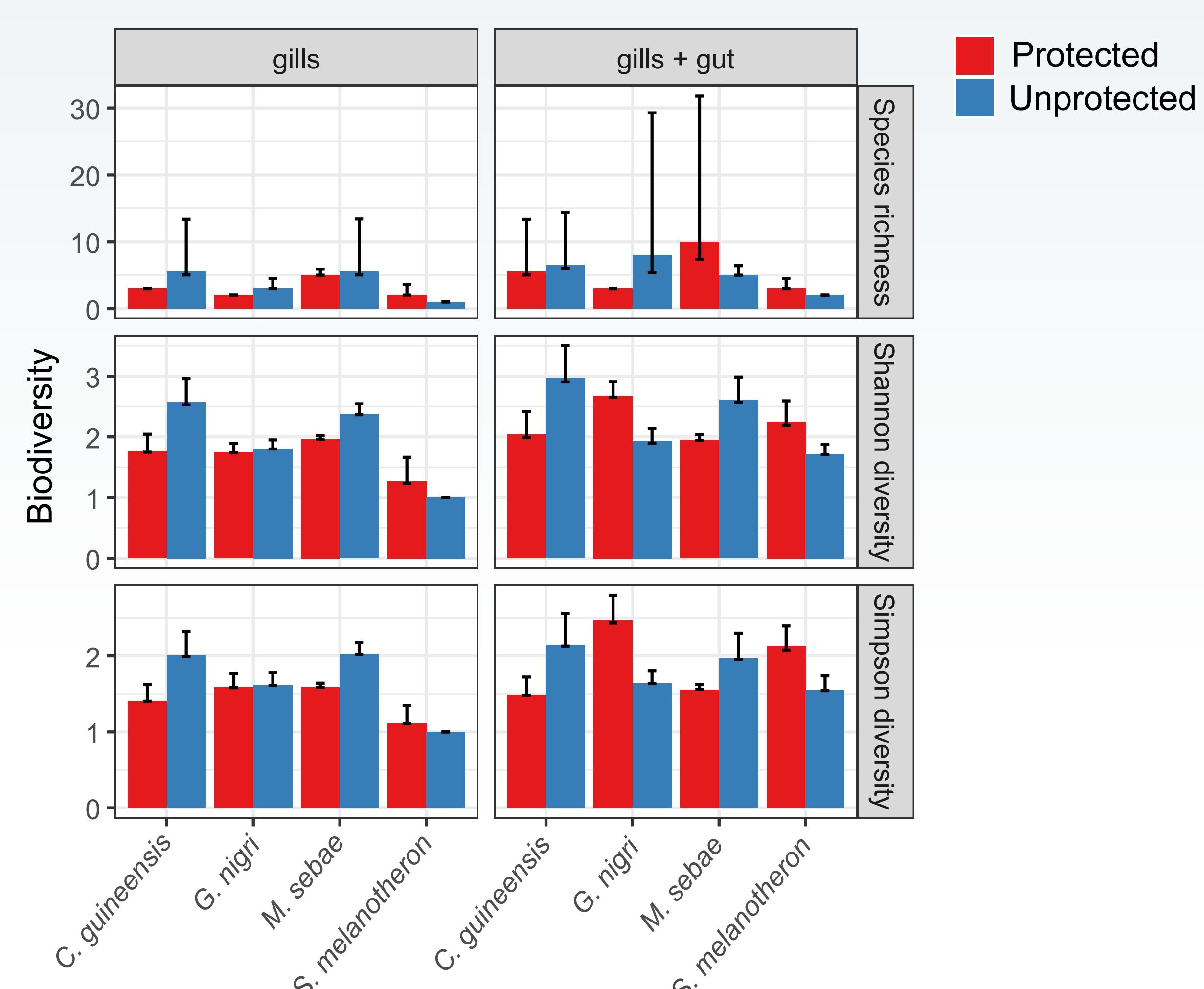


Figure 1. Biodiversity of parasite communities inside vs. outside the Marine Protected area

Fisheries are an important ecosystem service of mangrove forests, but also exert a pressure on aquatic communities. Fisheries not only affect population sizes of fishes, but also their health and behaviour. **Parasite communities** might be a key indicator of **fisheries pressure**. However, wildlife parasite communities in tropical landscapes, like mangroves, are poorly characterised.

We need baseline data for ecological studies for parasites:

→ Species records + Molecular reference data



## Baseline data

### Methodology

- Parasitological screening of > 120 mangrove fishes  
Inside vs. outside marine protected area
- Morphological identification of parasites
- DNA barcoding (reference database)

### Our data

- > 5,000 parasite specimens
- 30 species, many new geographical and/or host records
- 3 undescribed parasite species
- DNA sequences of all parasite species



## In progress ...

### Comparison across multiple years

- additional sampling campaigns (Sep 2024 & 2025)

### Increase throughput of parasite community analysis

- metabarcoding of parasites

### Link parasitic infection with fish feeding behaviour

- how do parasites affect fish diet?  
→ metabarcoding of fish gut contents
- impact of parasites on fish feeding rates in experimental set-up

### Contact me!



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