



NILE TILAPIA STOCKING IN AFRICA

Their origin and parasitic impact

Mare Geraerts

Supervisor: Prof. Dr. Tom Artois

Co-supervisor: Prof. Dr. Maarten P.M.

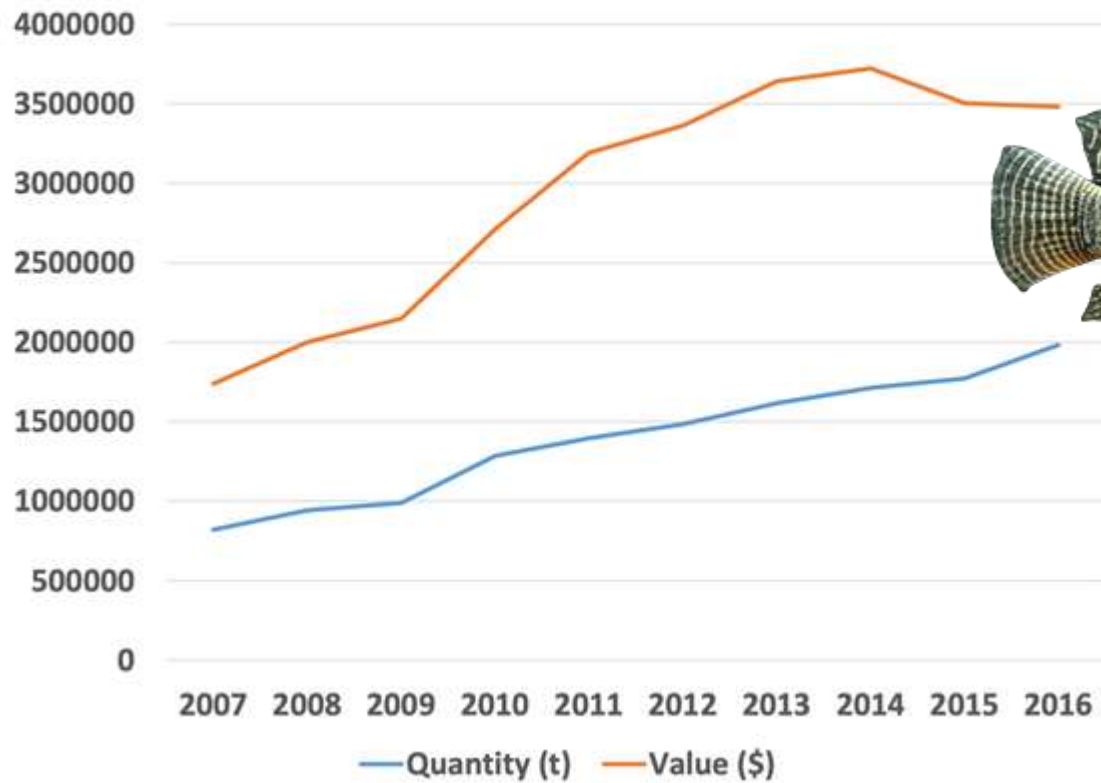
Vanhove & Prof. Dr. Tine Huyse



AQUACULTURE

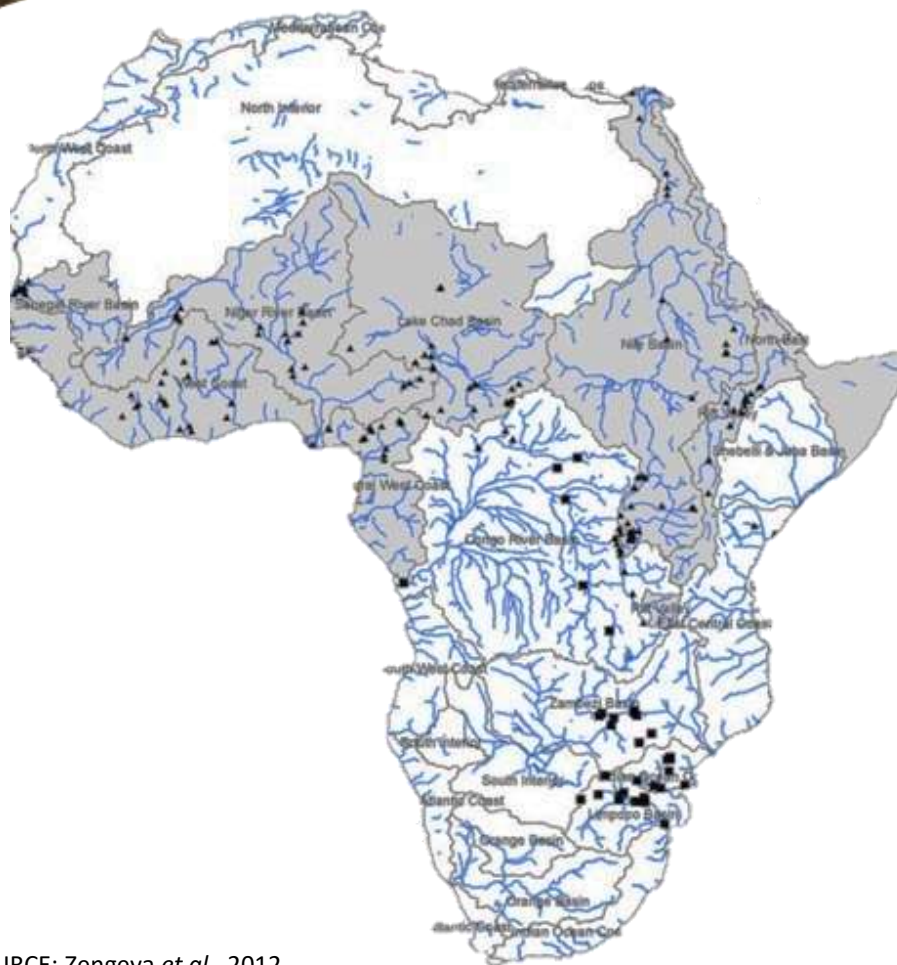
- Fast-growing sector
- Food and income
- Source of protein and essential nutrients

TILAPIA PRODUCTION IN AFRICA



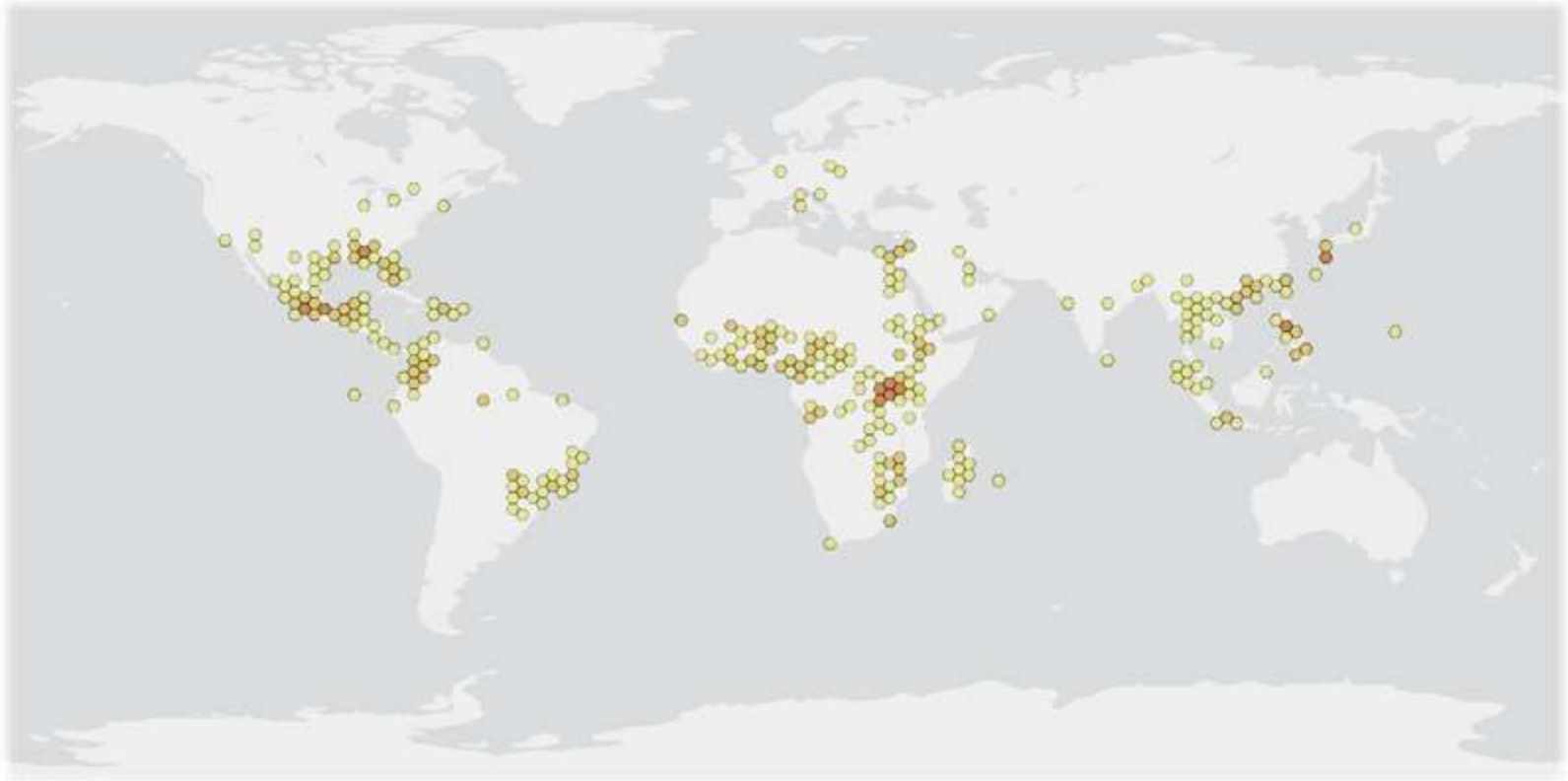


NATIVE RANGE



SOURCE: Zengeya *et al.*, 2012

CURRENT DISTRIBUTION



SOURCE: www.gbif.org

Fast-growing



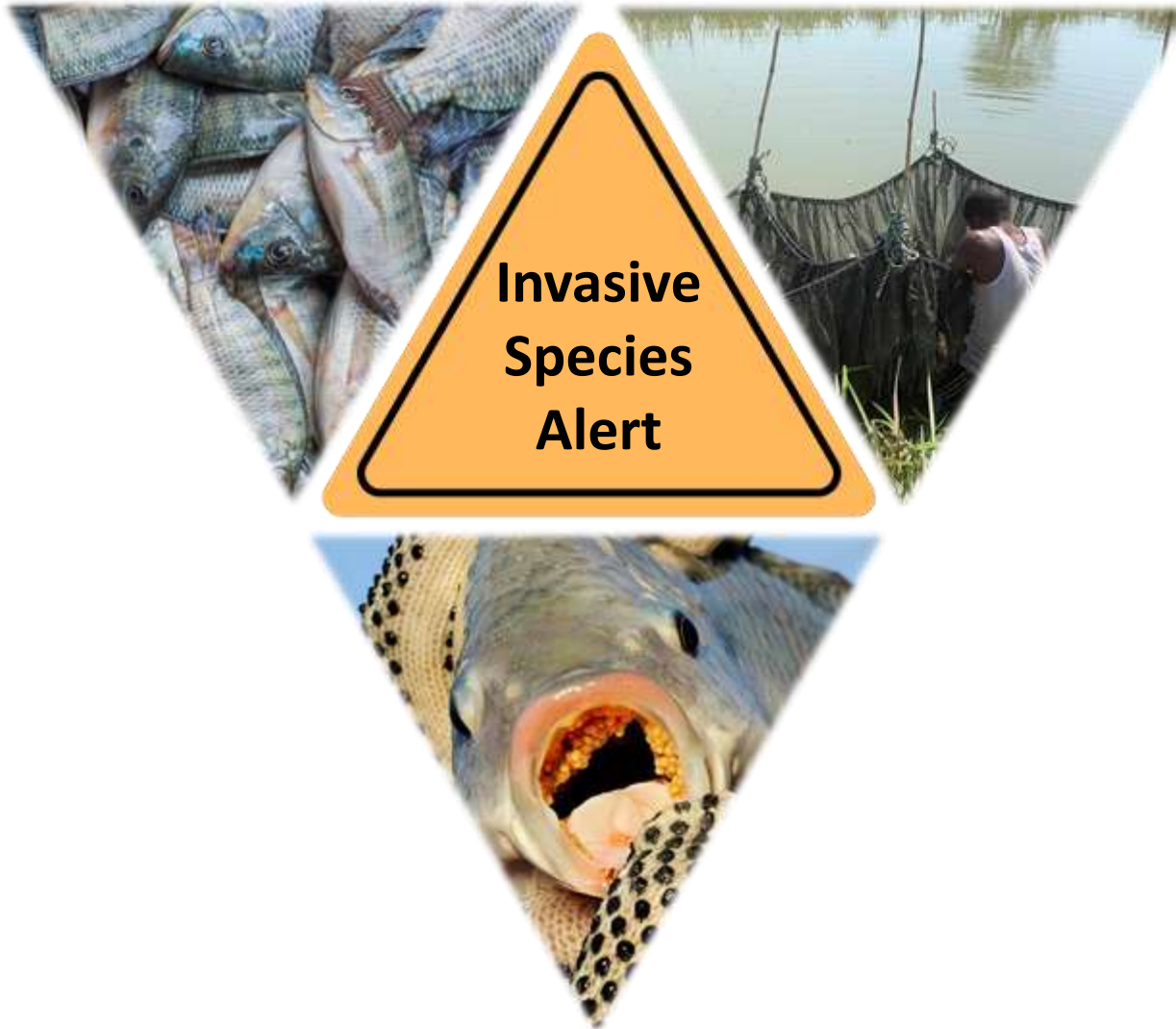
Low maintenance



High reproductive rate

Fast-growing

Low maintenance



**Invasive
Species
Alert**

High reproductive rate

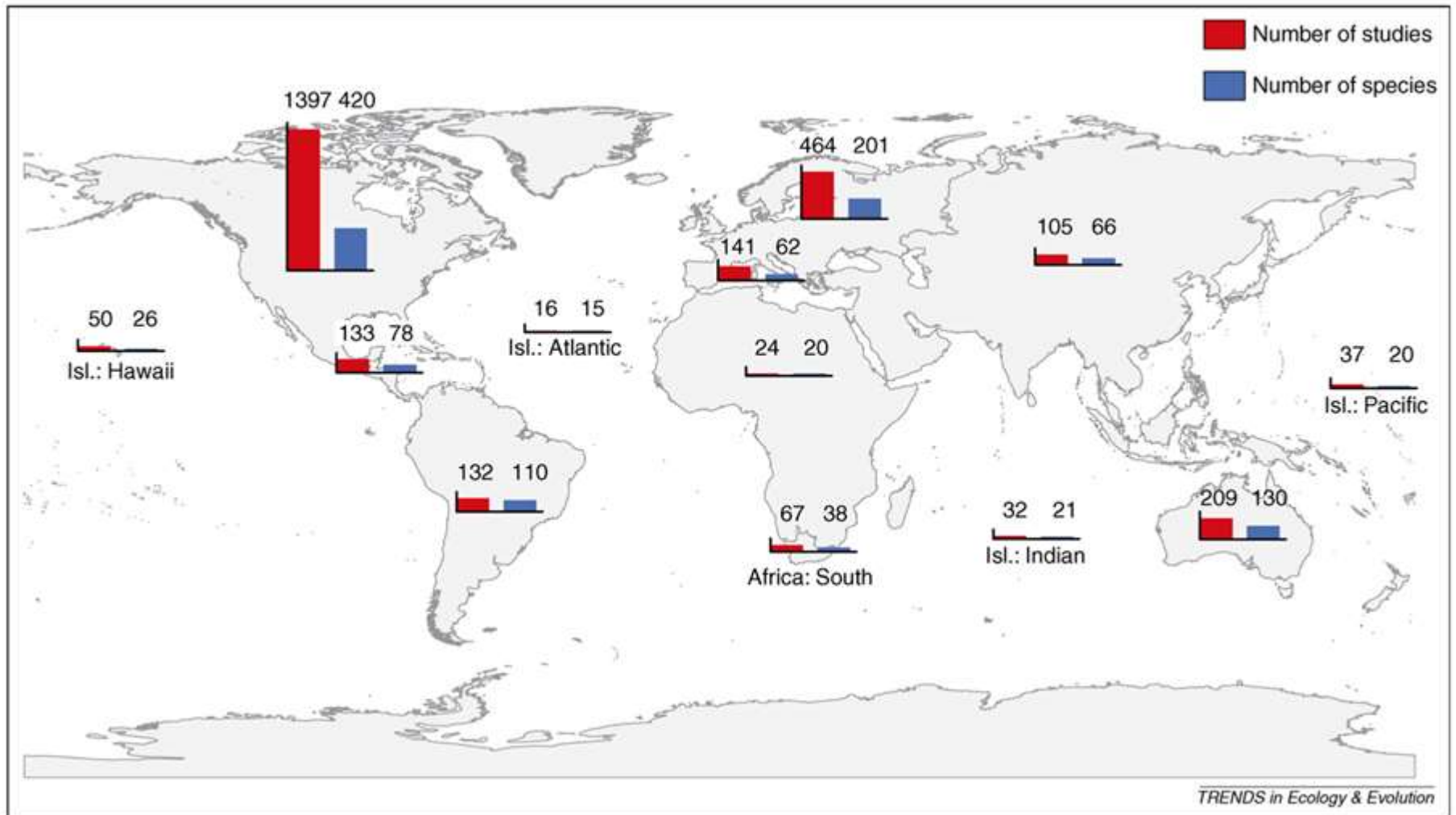


INVASIVE SPECIES

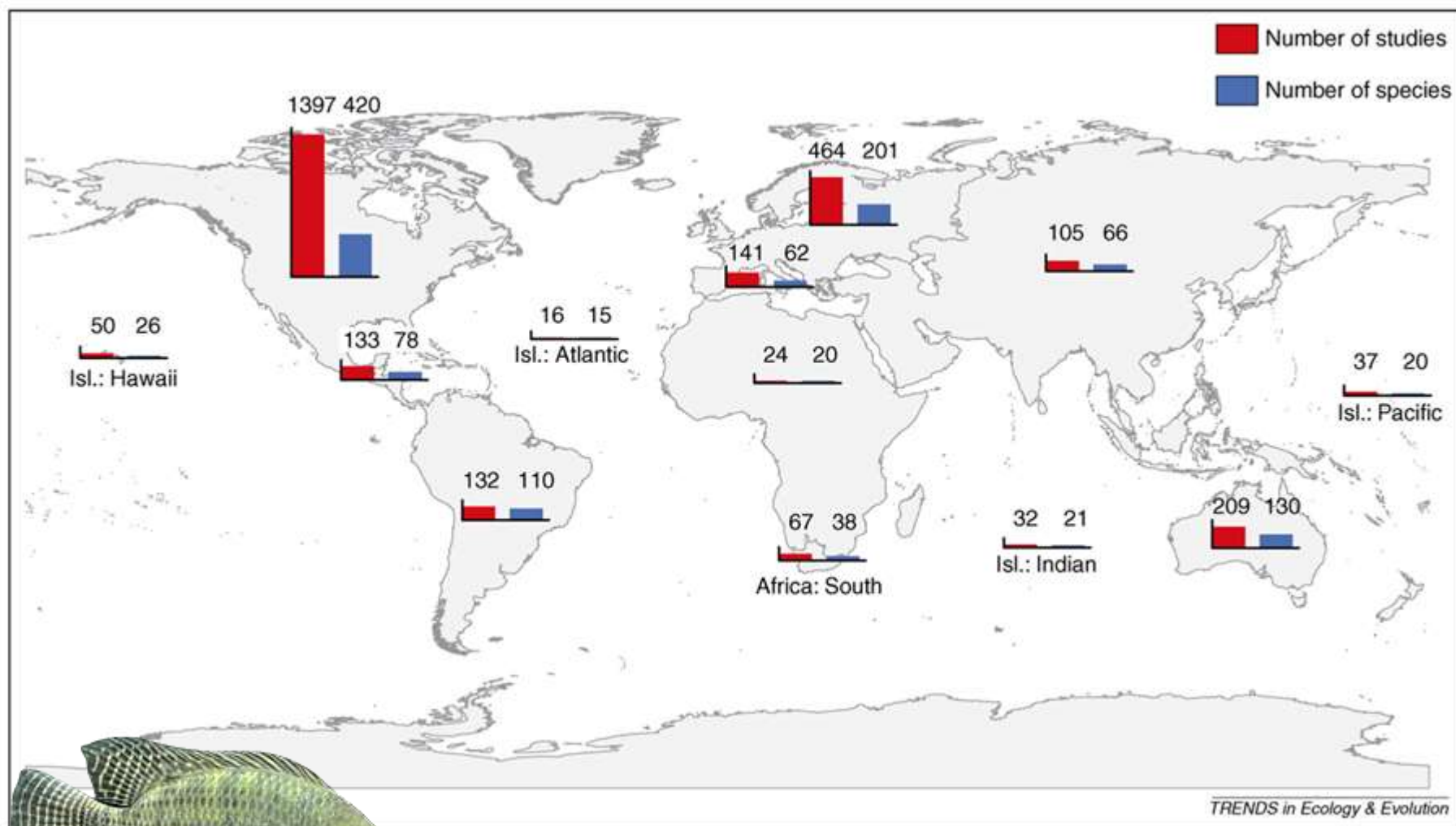
Competition

Predation

Introduction parasites



SOURCE: Pysek *et al.*, 2008

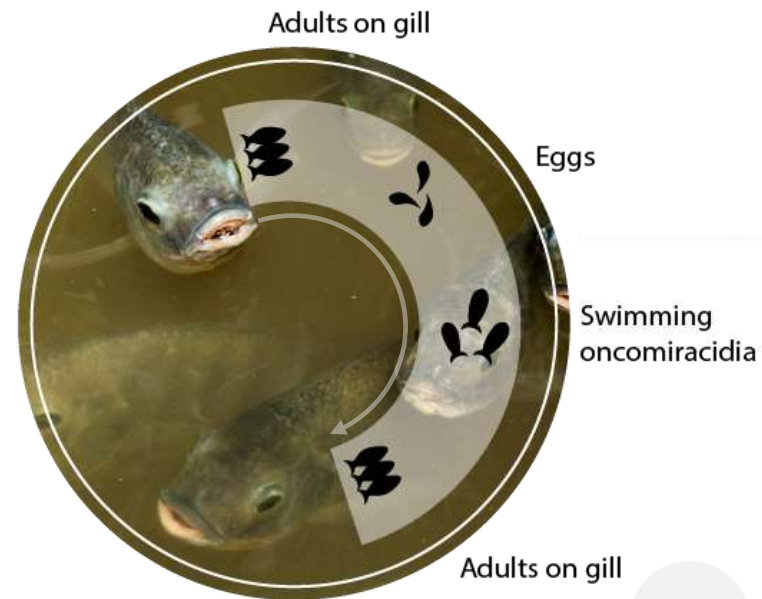


MONOGENEA

- On gills, skin and intestines
- Host specific
- Direct lifecycle



! High chance of introduction





Sanaga Basin

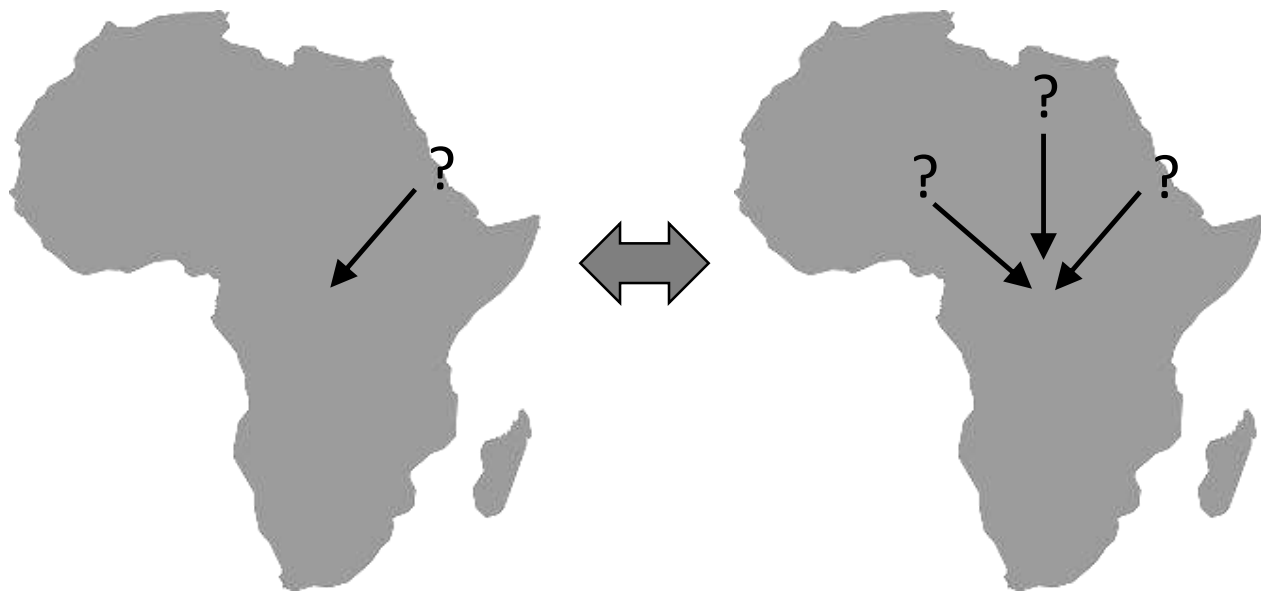


Congo Basin



Lake Kariba

1 ORIGIN

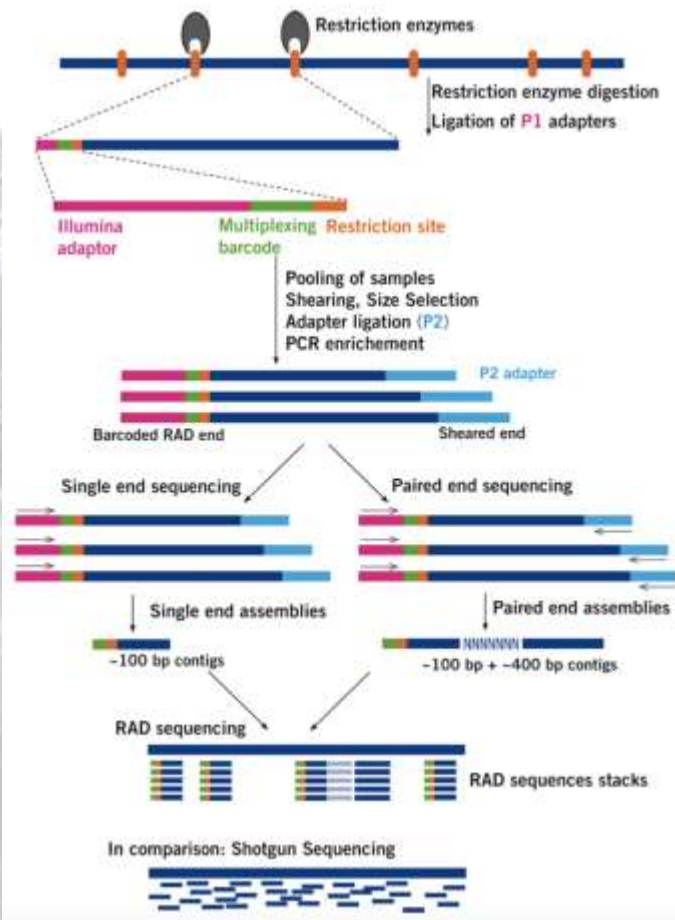


1 ORIGIN



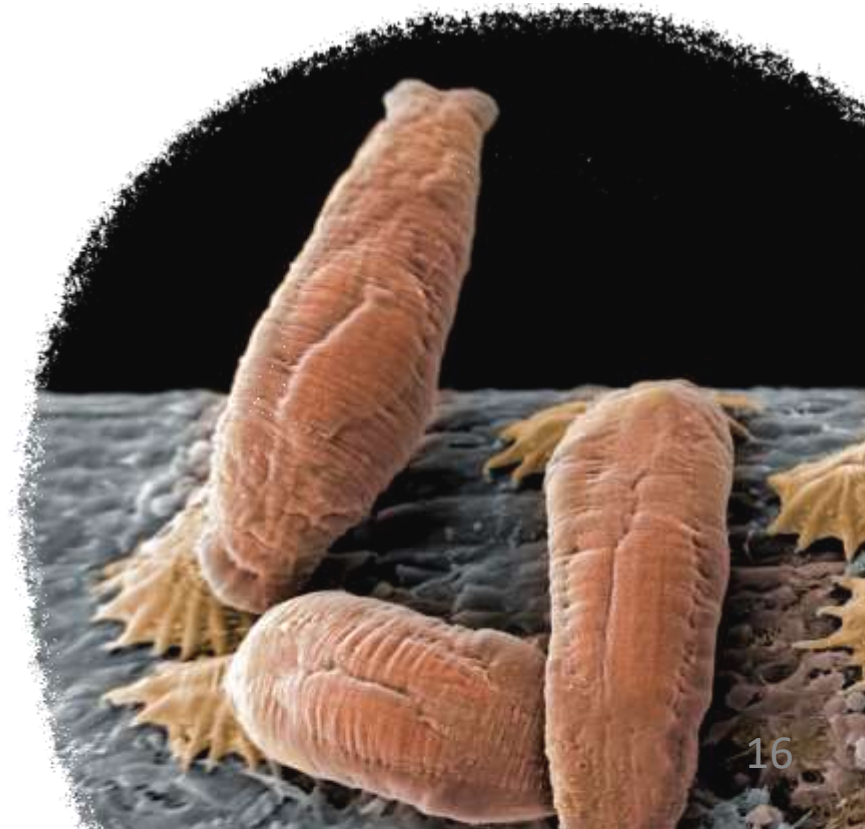
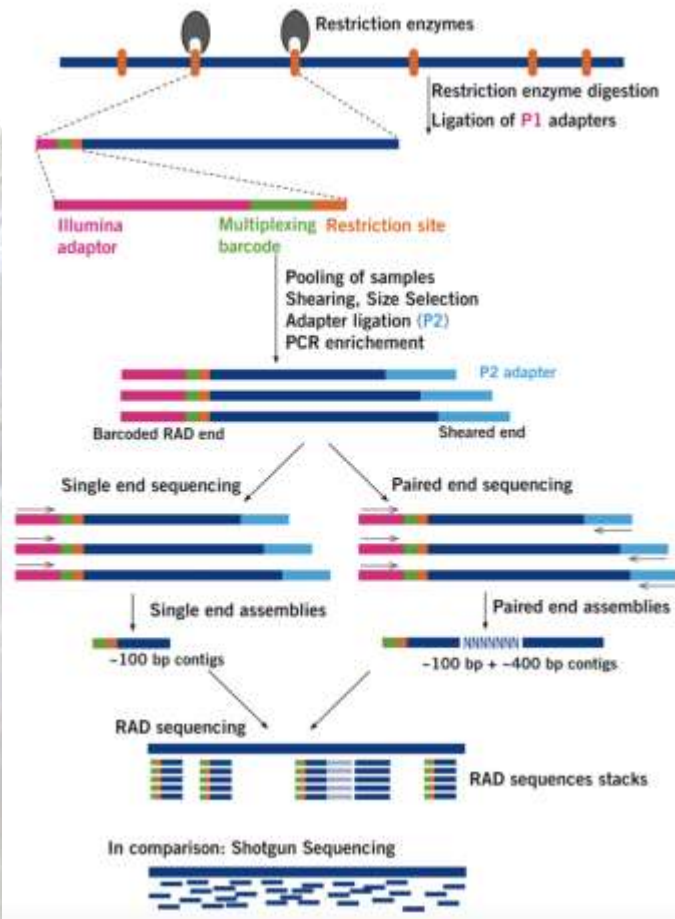
1 ORIGIN

RAD-SEQUENCING



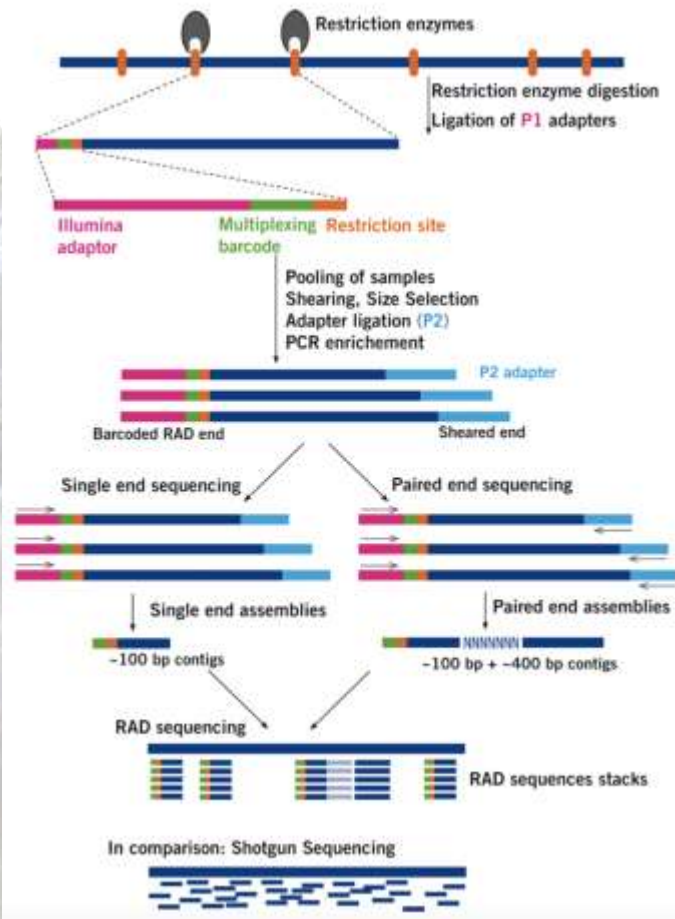
1 ORIGIN

RAD-SEQUENCING

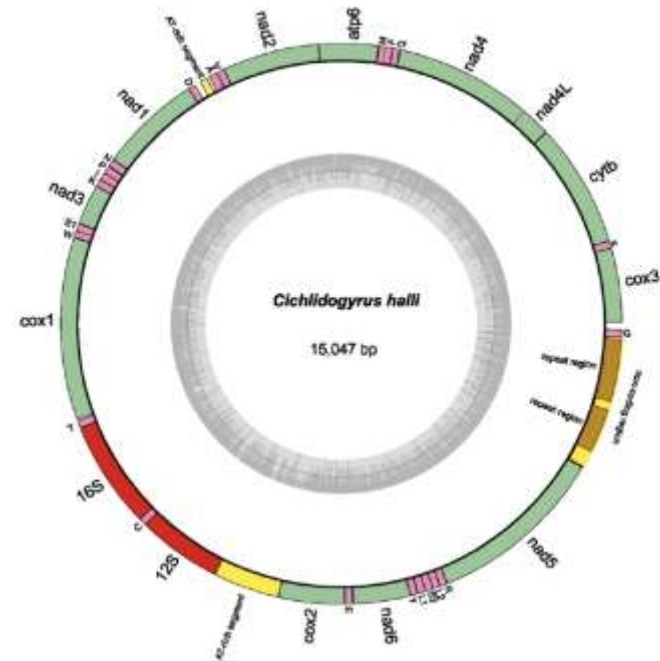


1 ORIGIN

RAD-SEQUENCING

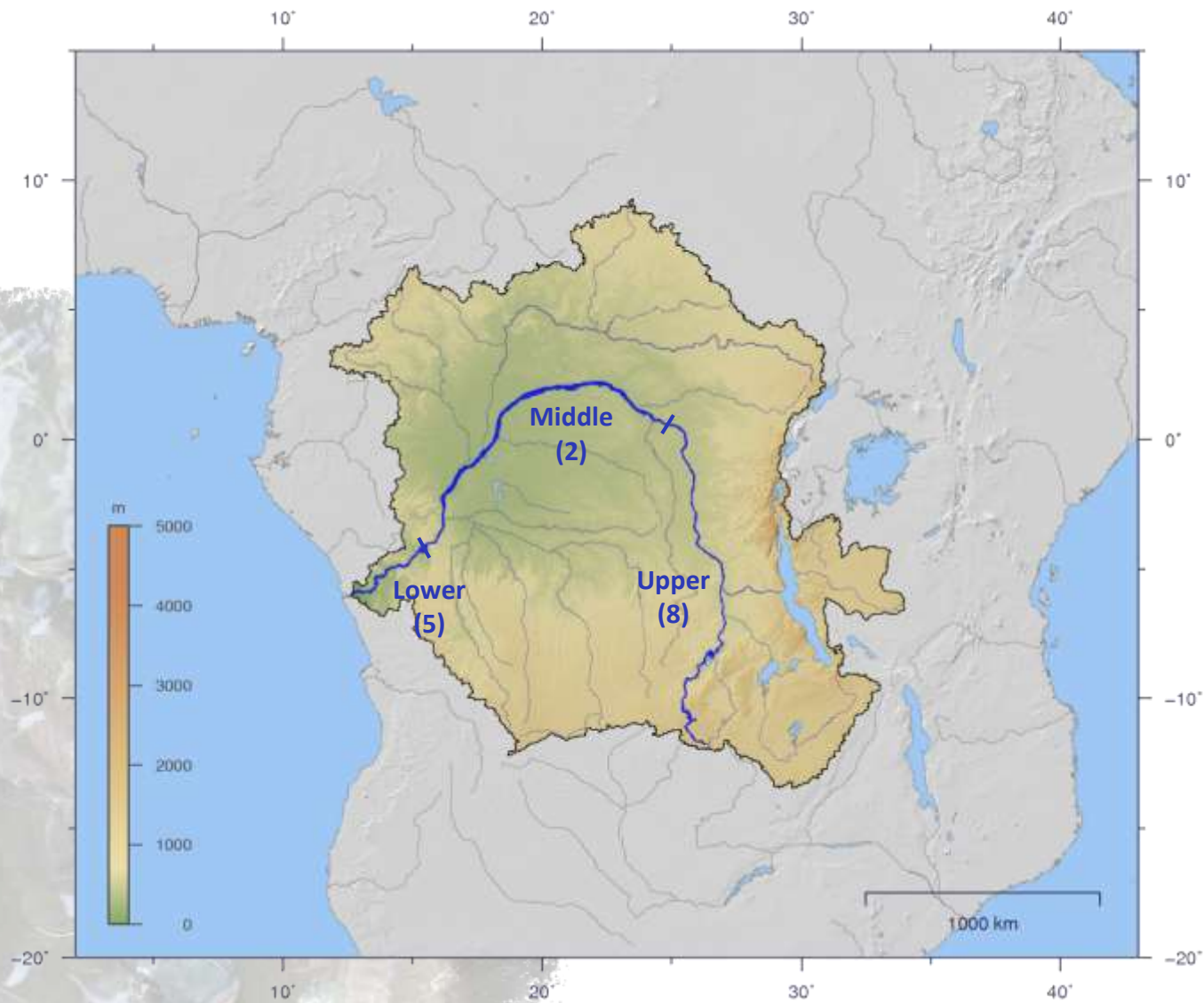


MITOGENOMES

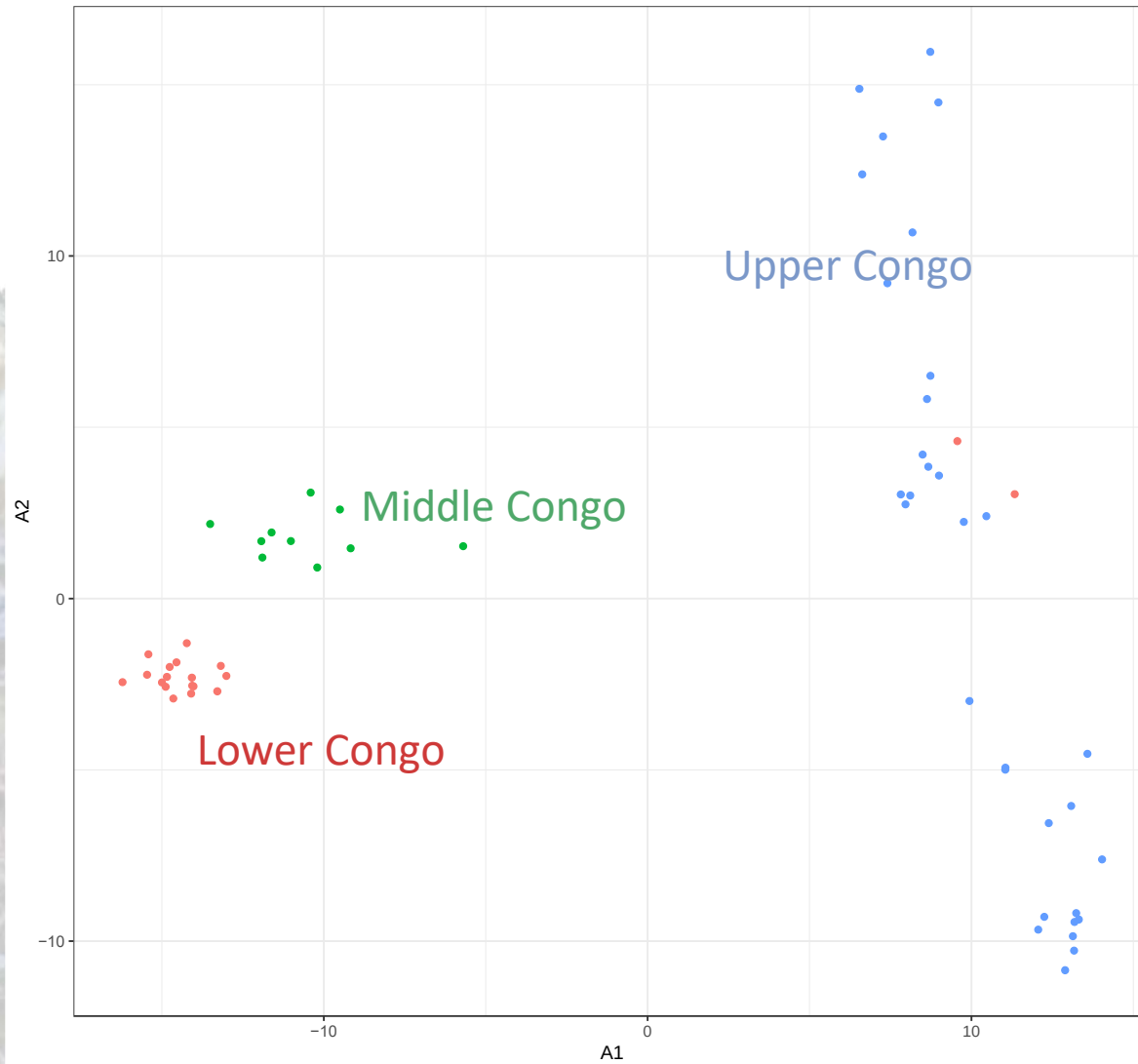


SOURCE: Vanhove *et al.* 2018

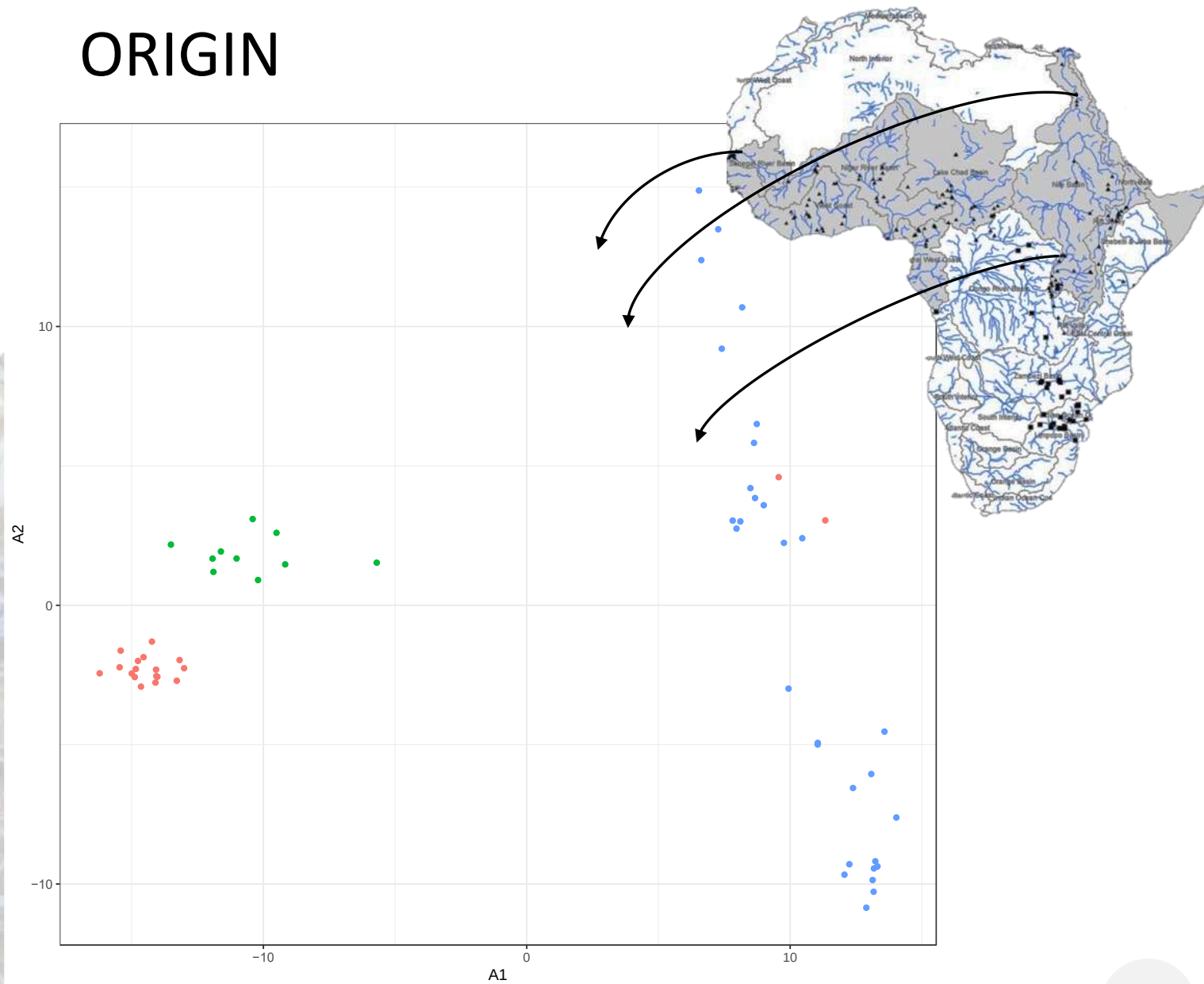
1 ORIGIN



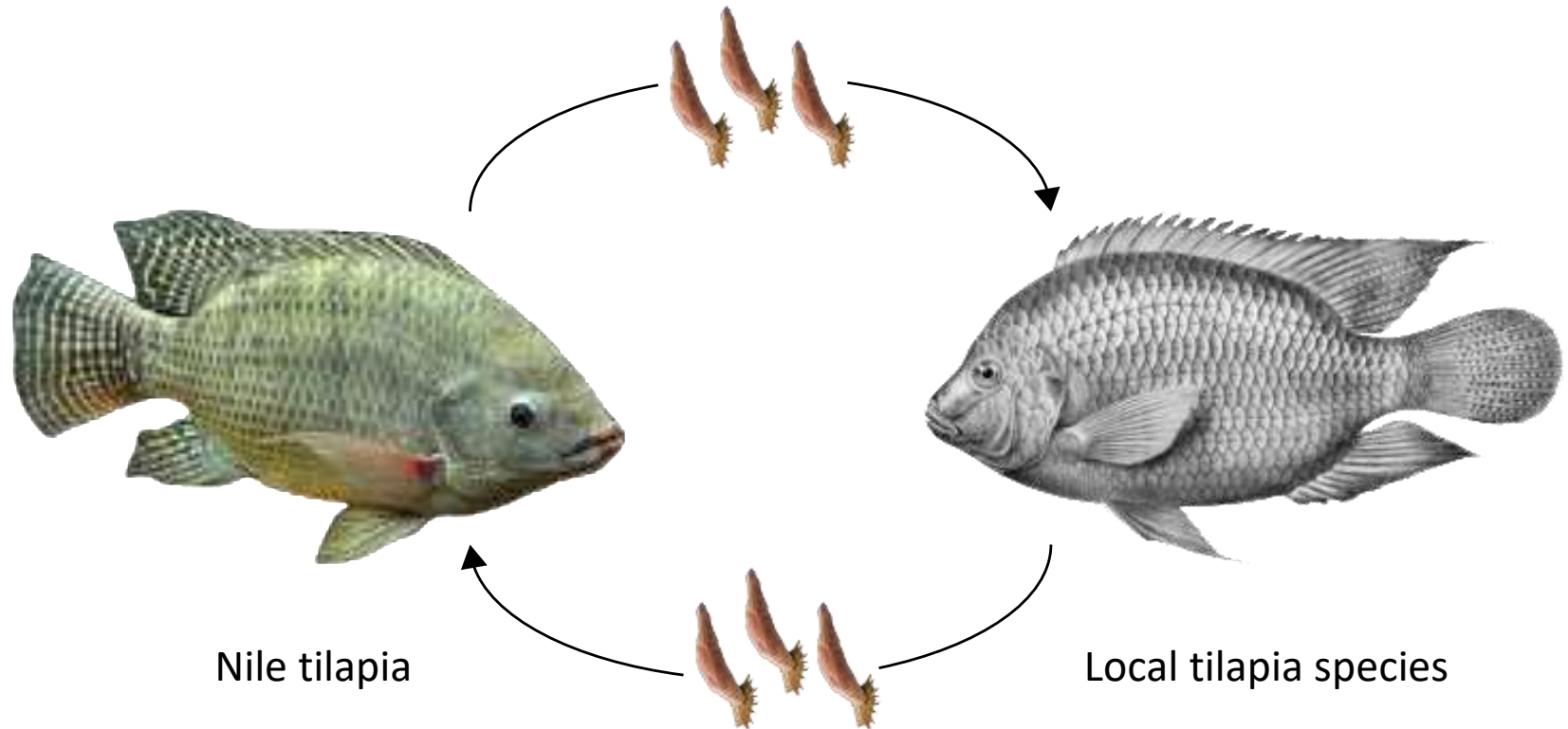
1 ORIGIN



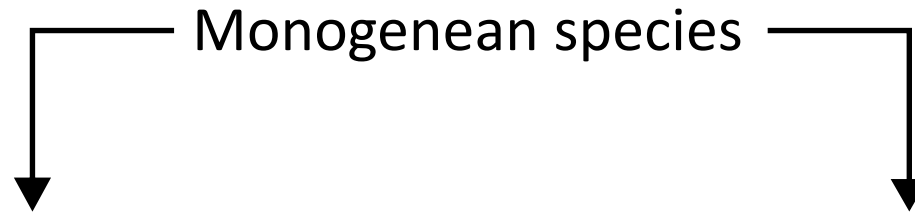
1 ORIGIN



2 INTRODUCTION OF PARASITES



2 INTRODUCTION OF PARASITES



BEFORE
introductions



AFTER
introductions



3 DIFFERENCES BETWEEN REGIONS

Caused by

- Different fish species?
- Different parasite species?
- The origin of the introduced Nile tilapia?
- ...



PERSPECTIVES



Historical
introduction



Parasitic
impact



Parasite
transmission

THANK YOU!

