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InsectMOoD

BRAIN-be 2.0, B2/202/P2/InsectMOoD

project follow-up Committee

2nd meeting

December 7th , 2022

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progress overview

- DNA extraction, quality check and HTS completed
  - almost 800 specimens processed
    - 2 insect families (Tephritidae, Syrphidae)
    - ± 100 different species
- databasing largely finalized
- quality check HTS data ongoing
- GLMM modelling initiated
- project prolongation +6 months (Sep 2023) -> final meeting M30

Scientific output

- Ms drafting to be initiated (Feb 2023)
- one abstract

11th International Symposium on
FRUIT FLIES
of Economic Importance
13-18 NOV 2022 • SYDNEY • AUSTRALIA

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Poster: Genetics and Biotechnology

Linking genomes to Museum vouchers:
an open-access database for African "true" fruit flies (Diptera, Tephritidae)

Esselens L.[1,2], Ody J.[1], Sonet G.[2], Deschepper P.[1], Vanbergen S.[1], Ferrari G.[3], Hollingsworth P.[3], De Meyer M.[1], Vangestel C.[2], Virgilio M.[1]

[1]Royal Museum for Central Africa (RMCA), Biology Department, Tervuren, Belgium. Email: lore.esselens@africamuseum.be, [2]Royal Belgian Institute of Natural Sciences (RBINS), Brussels, Belgium, [3]Royal Botanic Garden Edinburgh, UK

Poster: Genetics and Biotechnology

Genomic characterisation of the population structure
of *Ceratitis rosa* and *C. quilicii* (Diptera, Tephritidae) in southern Africa

Esselens L.[1], Mullens N.[1,2], Addison P.[3], Canhanga L.[4], Cugala D.[4], Deschepper, P.[1], Karsten M.[3], Manrakhan A.[5], Snyman M.[3], Tsatsu S.[5], Terblanche J.S.[3], Vanbergen S.[1], De Meyer M.[1], Virgilio M.[1]

[1]Royal Museum for Central Africa, Biology Department, Tervuren, Belgium. Email: lore.esselens@africamuseum.be, [2]University of Antwerp, Department of Biology, Antwerp, Belgium, [3]Stellenbosch University, Department of Conservation Ecology and Entomology, Stellenbosch, South Africa, [4]Eduardo Mondlane University, Maputo, Mozambique, [5]Citrus Research International, Nelspruit, South Africa.

modeling HTS performances

GLM(M)

- sample age
- sample preservation
- geographic origin

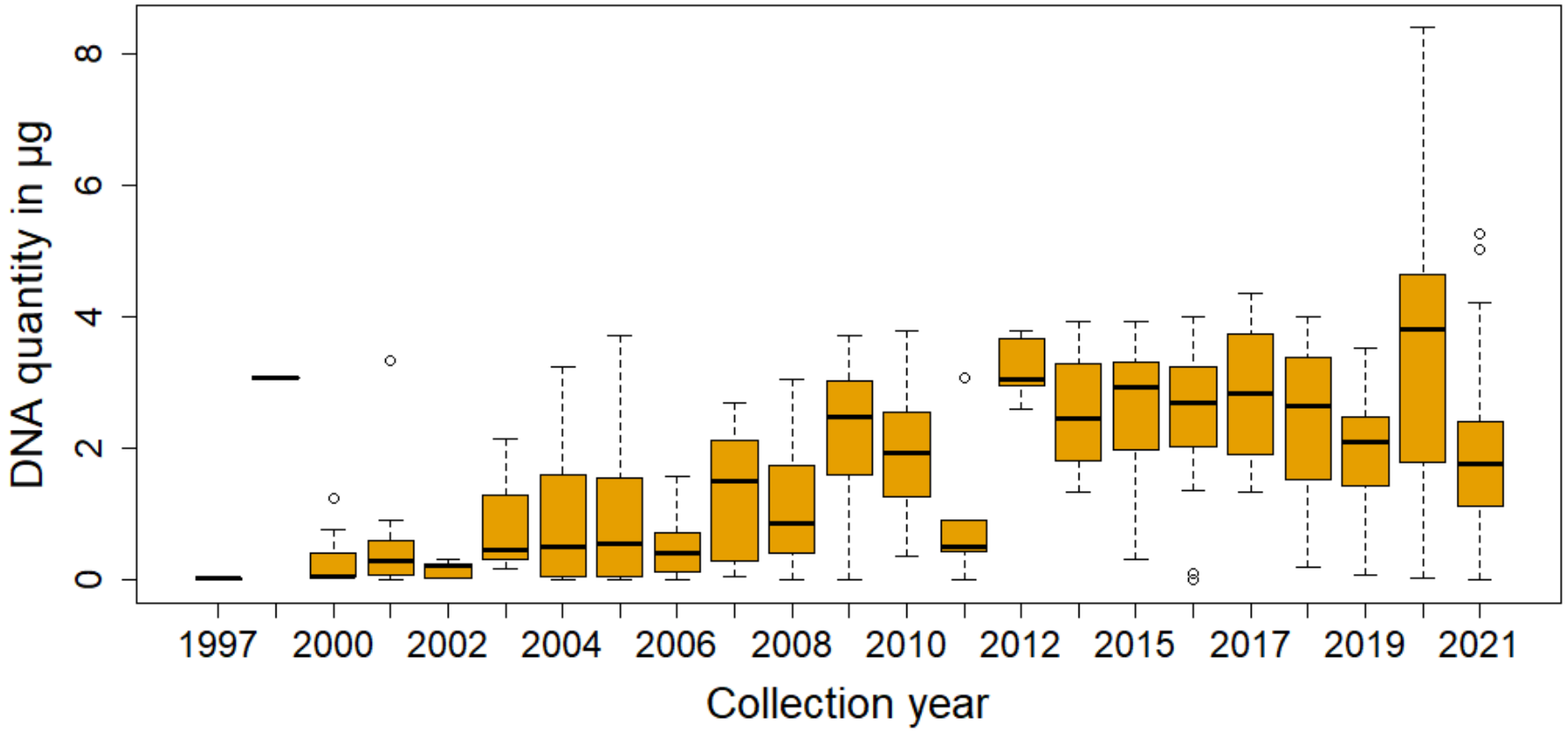
effect on

- DNA concentration
- DNA fragmentation

effect on

- percentage of quality reads
- percentage of mapped reads

final figure



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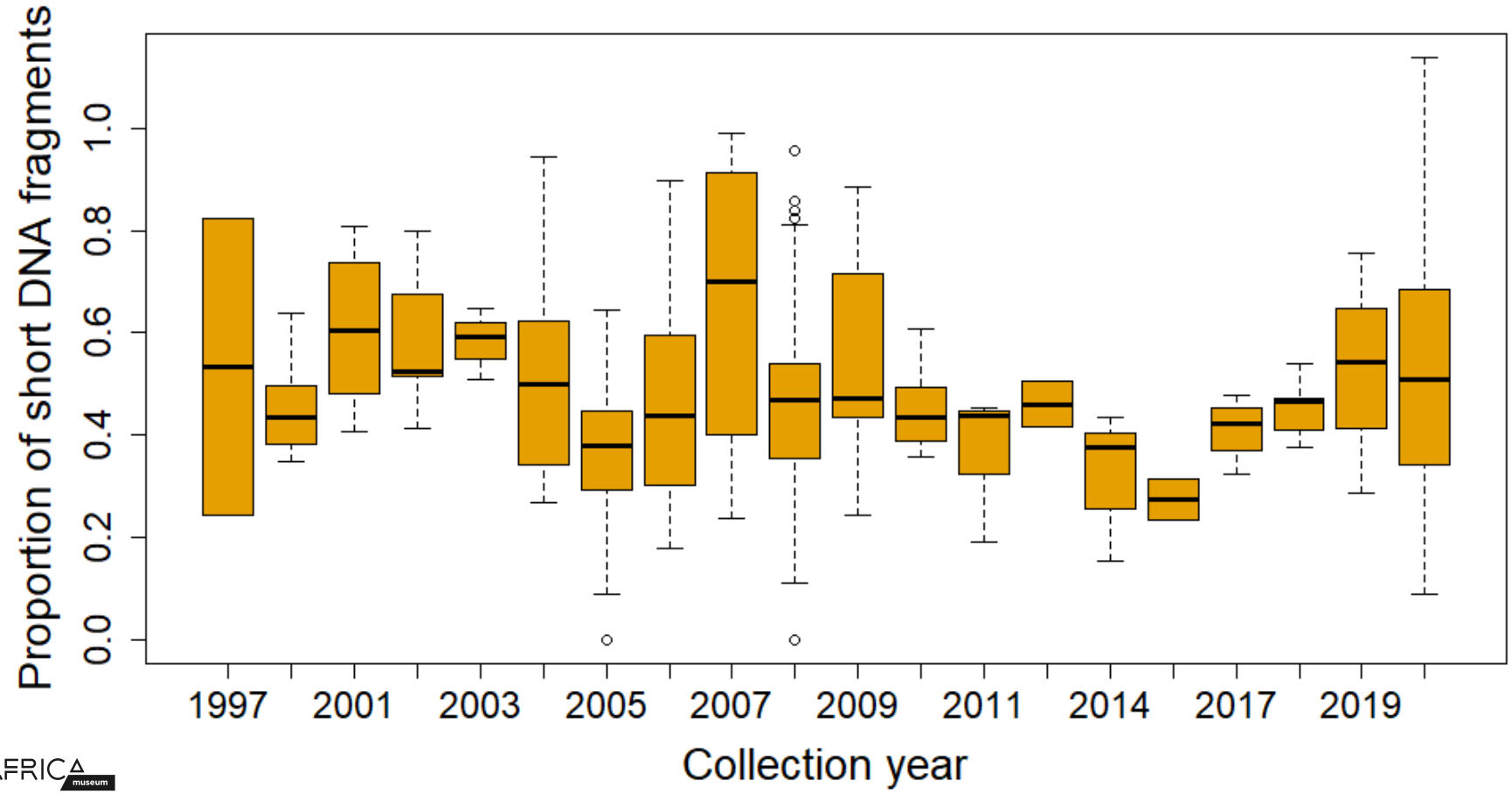
largely finalized figure



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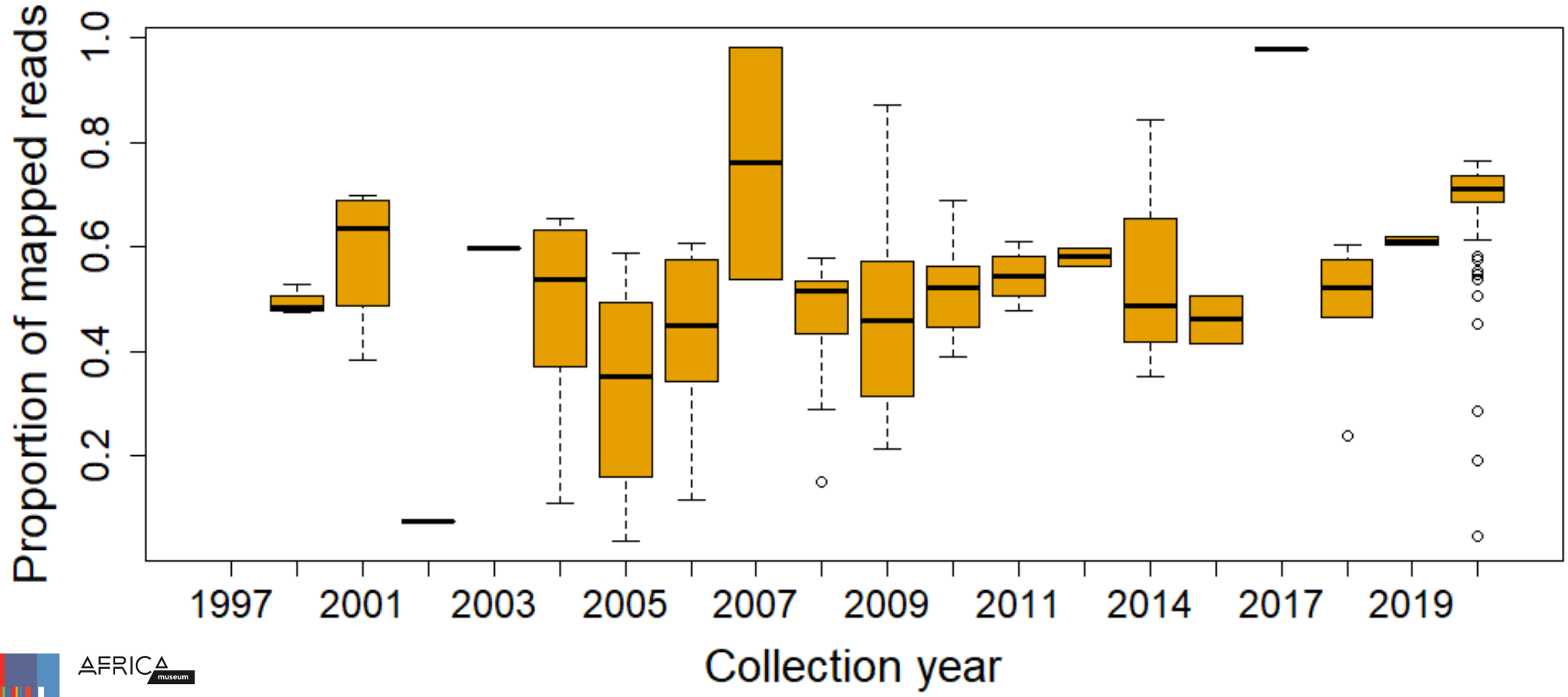
ongoing stats



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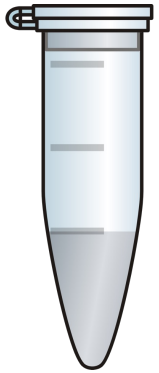
DNA barcoding as a HTS byproduct

synergy with the FF-IPM project

DNA extraction



HTS sequencing

cox1

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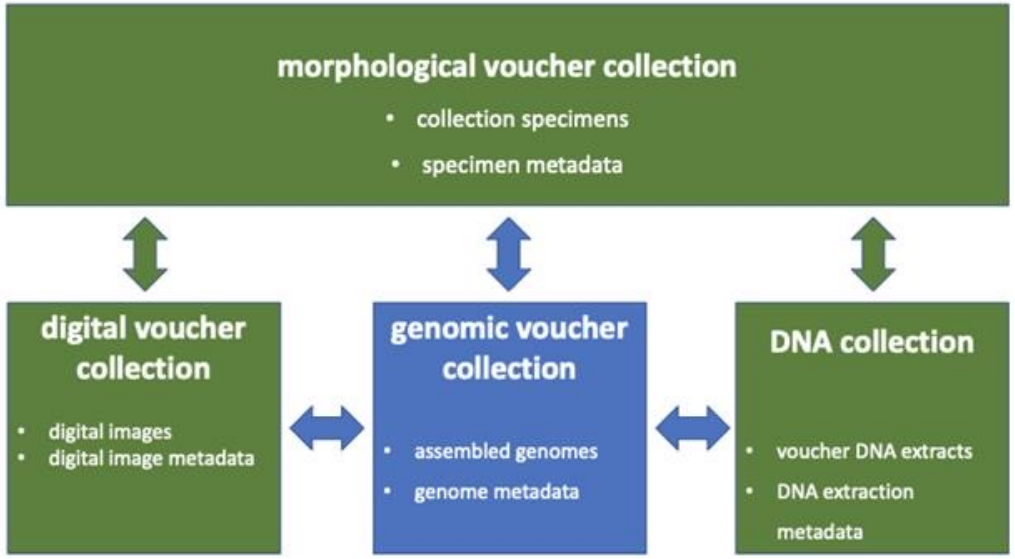
databasing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specimen metadata
digital voucher collection
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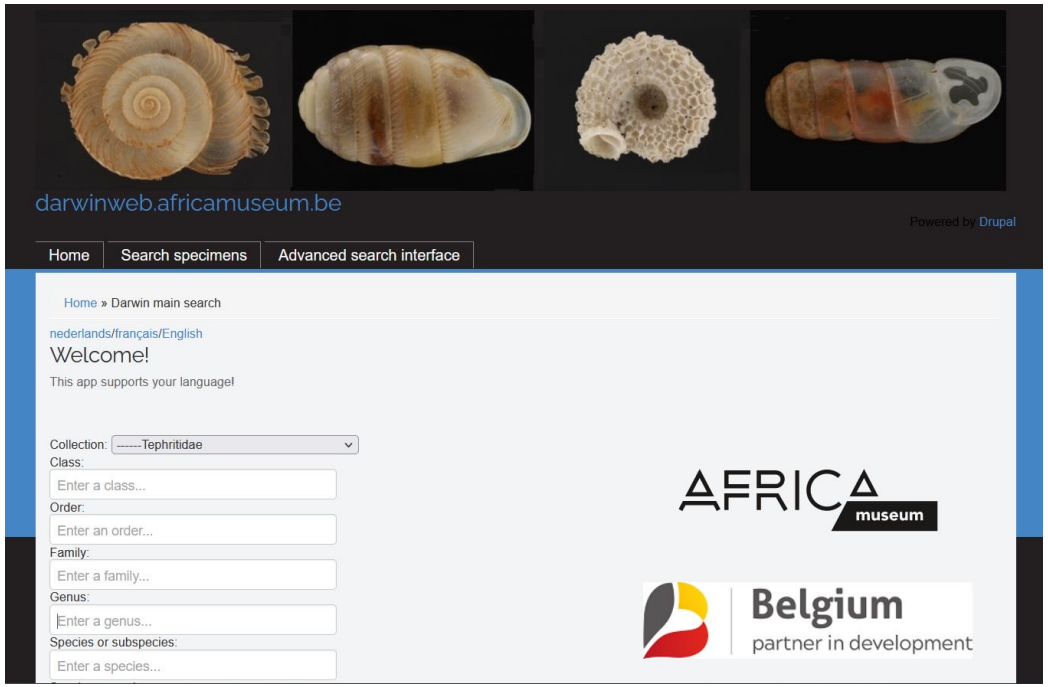
DNA extraction metadata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Thank you for your attention

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