



52nd Annual PARSA Conference

**Stronger Together:
Advancing Parasitology
with Collaboration**

6-8 October 2024 | Villa Paradiso, Hartbeespoortdam

<https://savetcon.co.za/parsa2024/>

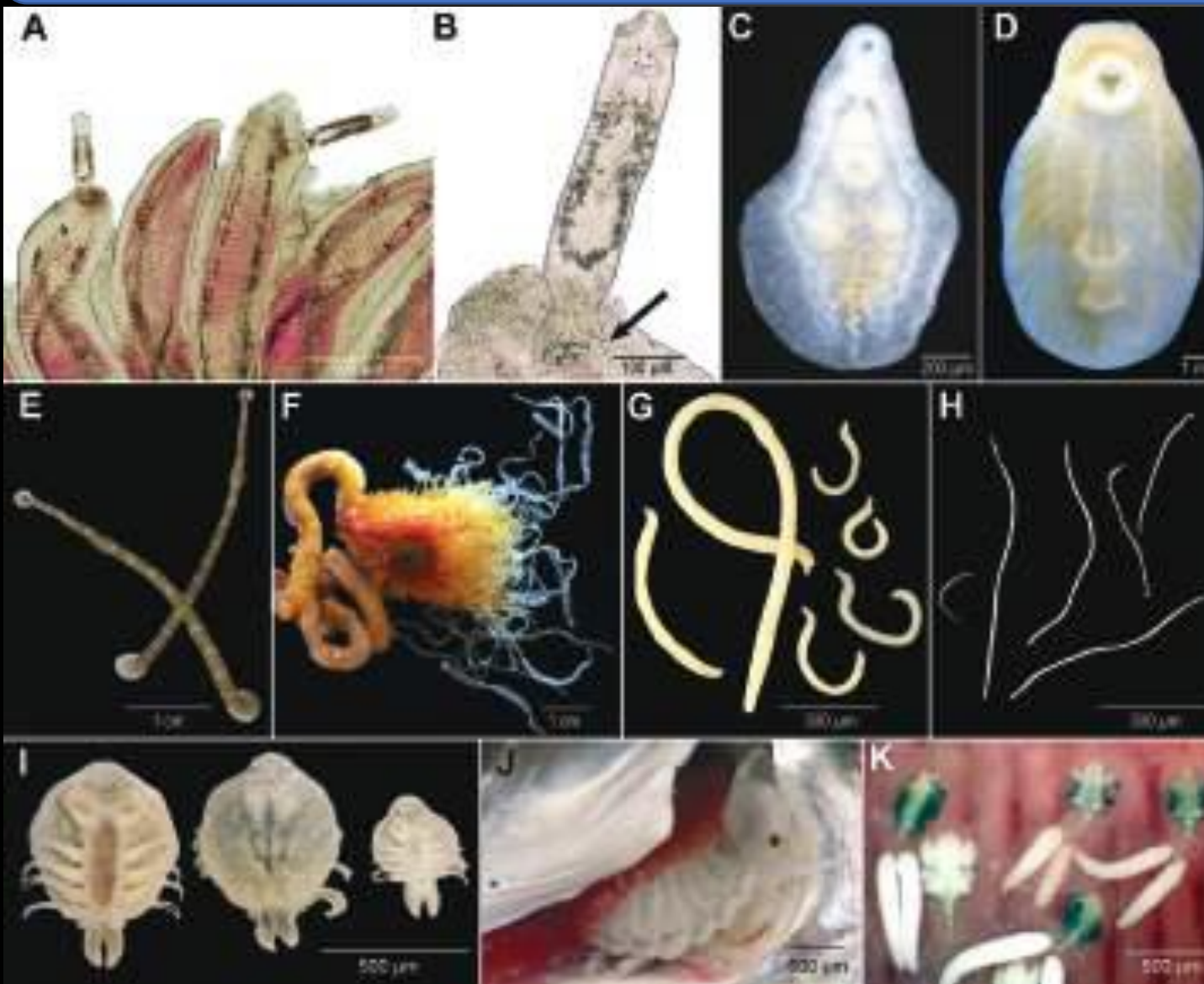


Parasites of clariids in the Upper Congo Basin (DR Congo): Examining diversity

Gyrhaiss K. Kasembe,

Wilmien J. Luus-Powell, Willem J. Smit, Emmanuel Abwe & Maarten PM Vanhove

Background (Parasite diversity)

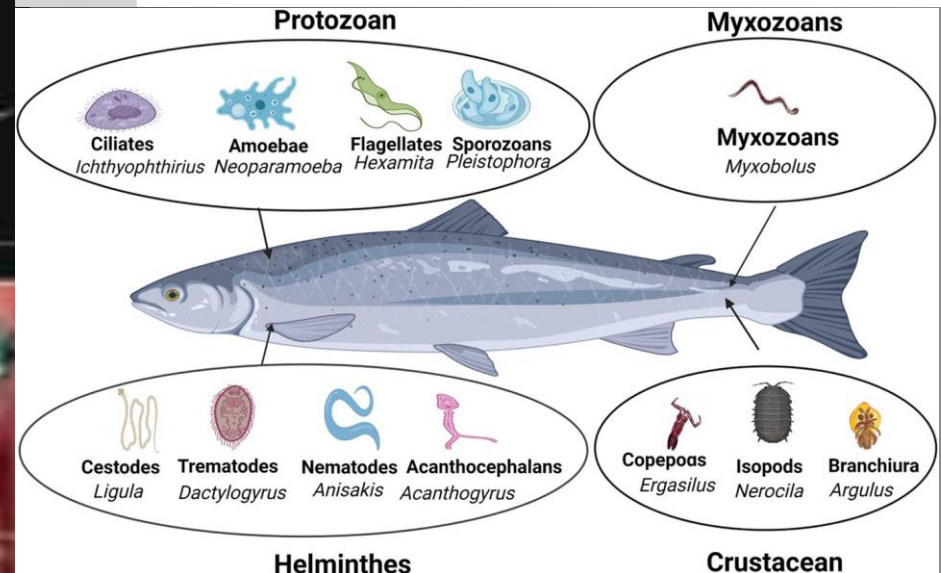


Principal groups of metazoan parasites (Kutcha *et al.* 2018)

Abc Taxa

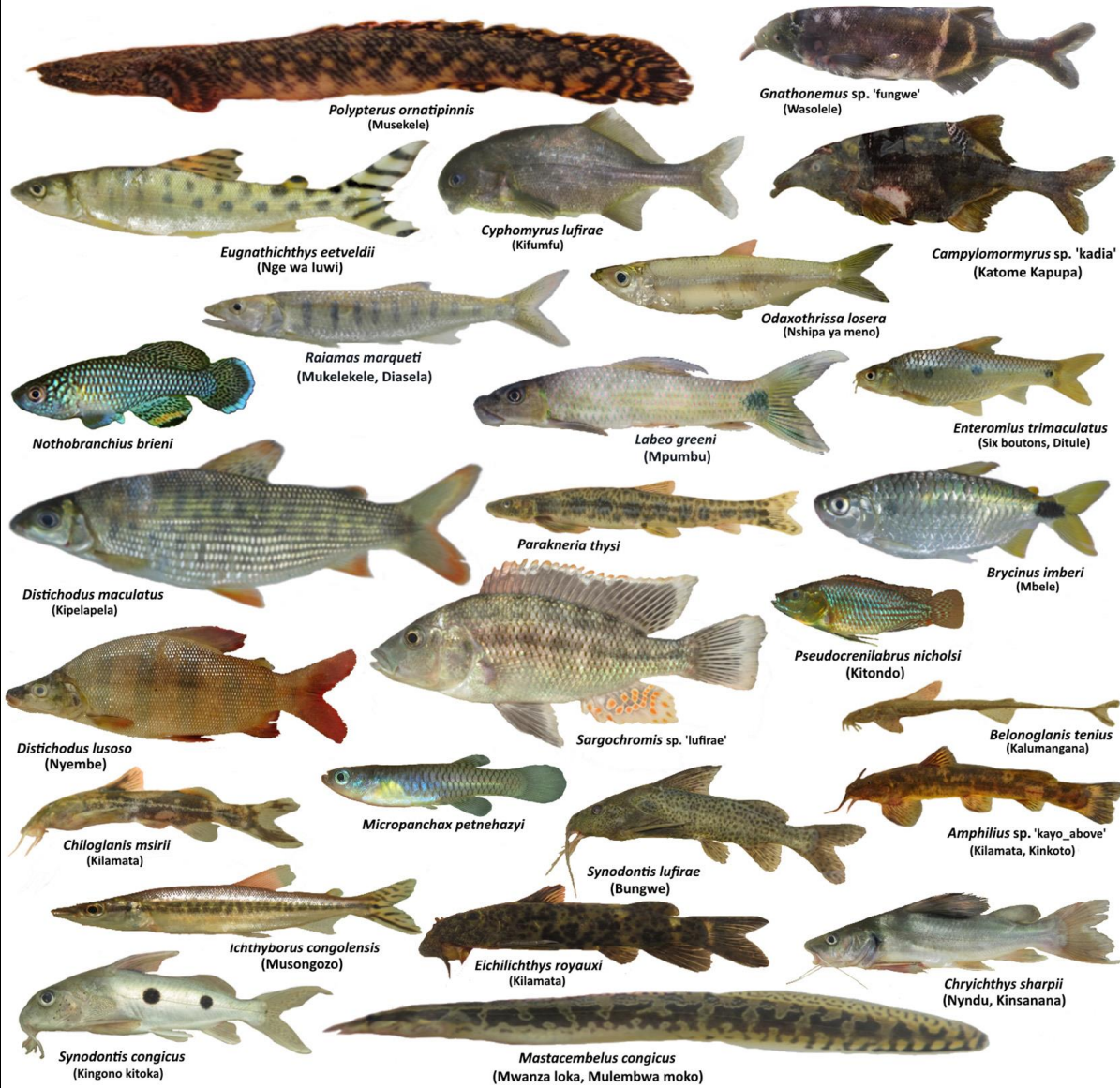
A Guide to the Parasites of African Freshwater Fishes

Edited by
T. Scholz, M.P.M. Vanhove, N. Smit,
Z. Jayasundera & M. Gelnar



Thakur *et al.* 2023

Background (Fish diversity)



Katemo *et al.* 2023

African freshwater: 4203 fish species

The Congo basin : 1300 fish species

The upper Congo : 311 fish species

Background (Parasite diversity in the Upper Congo Basin)

Studies on fish parasites in the Upper Congo Basin

Vanhove MPM *et al.* (2011)

Gillardin C *et al.* (2012)

Muterezi Bukinga F *et al.* (2012)

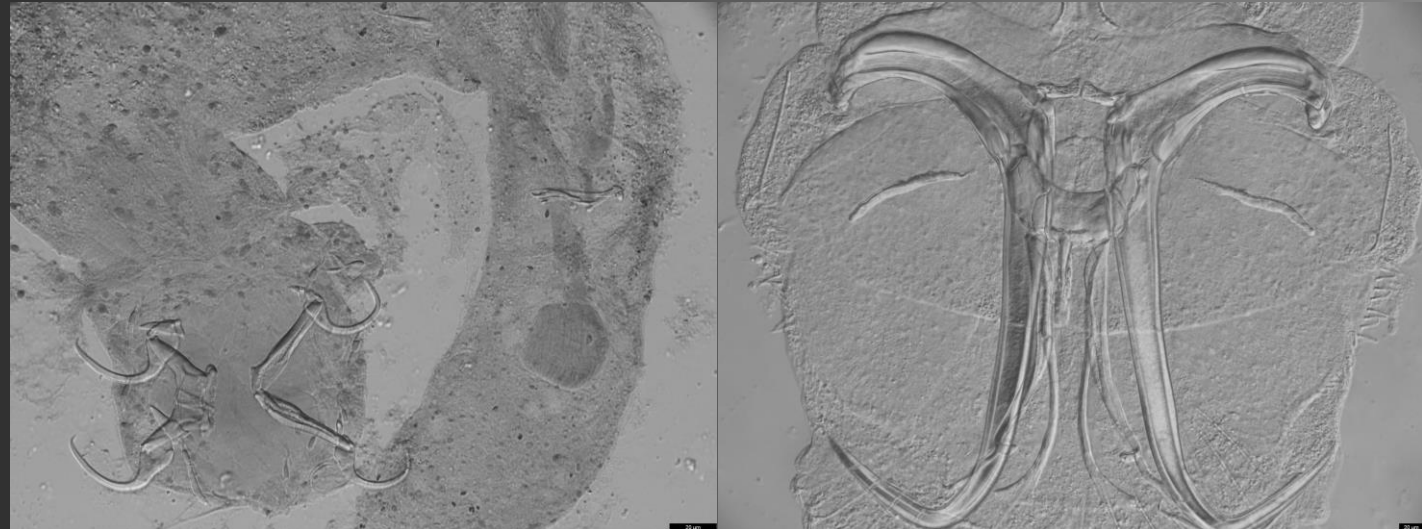
Jorissen MWP *et al.* (2018)

Jorissen MWP *et al.* (2018a,b; 2020)

Prudhoe S (1957)

Kasembele GK *et al.* (2023; 2024a,b)

Mushagalusa Mulega A *et al.* (2022; 2023; 2024)



Background

Problem



Knowledge on fish parasites is fragmentary.

Hypothesis



Parasitological survey leads to the record and description of several species

Objective



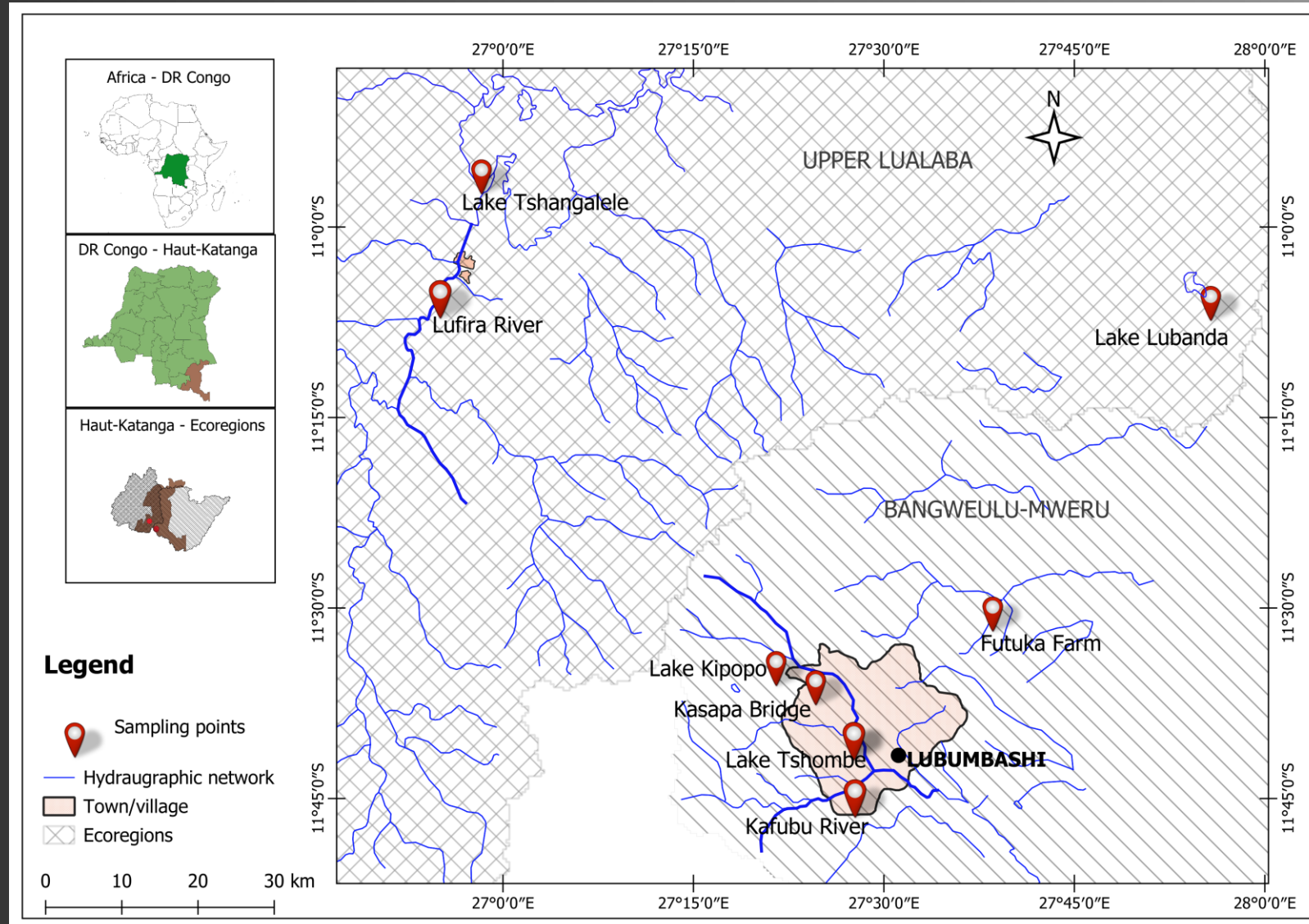
**To contribute to the inventory of the fish parasite diversity,
by examining the diversity of parasite of clariids in the Upper Congo Basin**

Methods

Study Area

Eight localities in the Upper Lualaba (three) and Bangweulu-Mweru (five) ecoregions

The Upper Congo Basin



Methods

Fish collection



We use Nets and Fyke Nets for fishing, or we buy fishes from fishermen

Methods

Fish collection

Five fish species



Clarias ngamensis



C. stappesii



C. buthupogon



C. gariepinus



C. theodora

Methods

Parasite collection

Ecto- and endoparasites

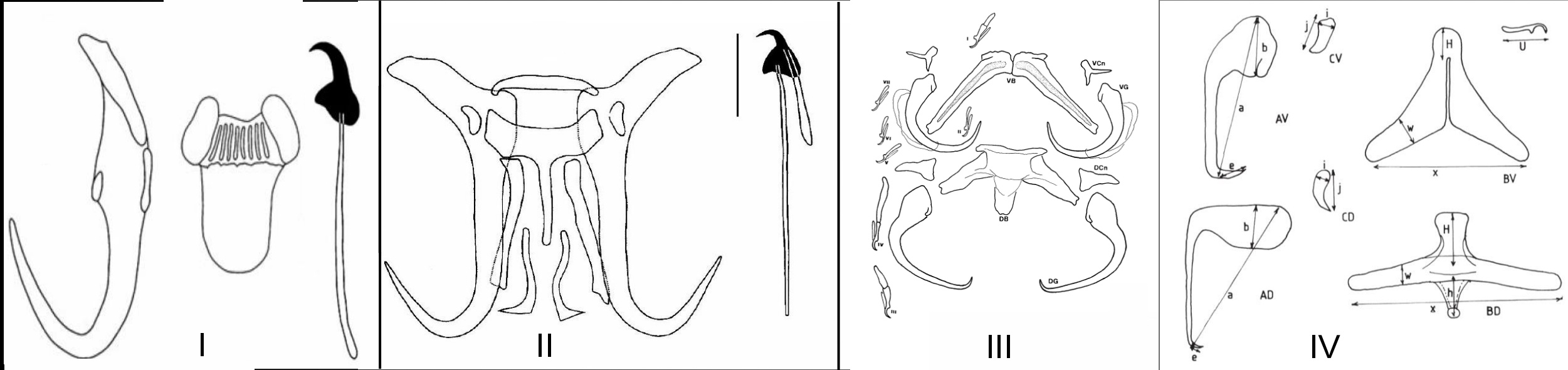
Ectoparasites: Gills are dissected and screened for monogeneans

Endoparasites: The body cavity and intestines are dissected and screened for digenea, acanthocephala, nematoda,...



Methods

Parasite identification



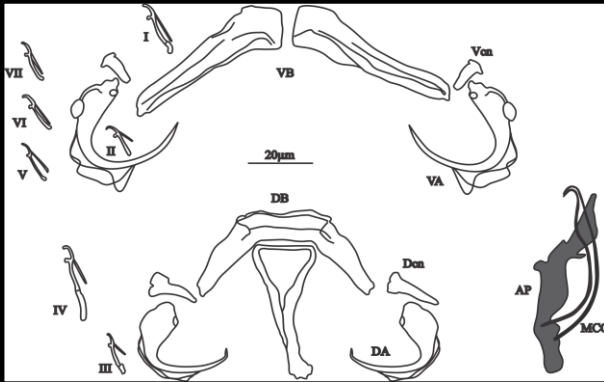
Results

	Lake Tshangalele	Lufira River	Lake Lubanda	Lake Kipopo	Kasapa Bridge	Lake Tshombe	Kafubu River	Futuka Farm
Ectoparasites	6	8	6	3	2	7	10	
Endoparasites	1						1	1



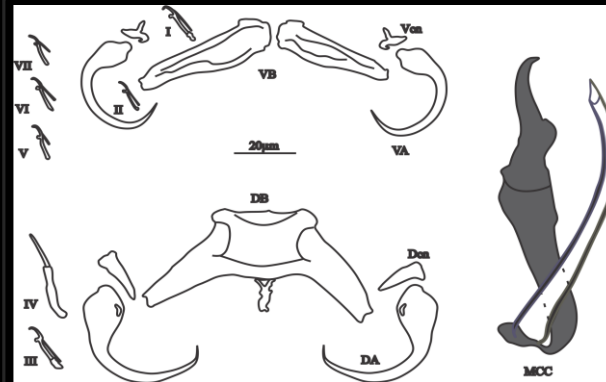
Results

Quadriacanthus curvicirrus



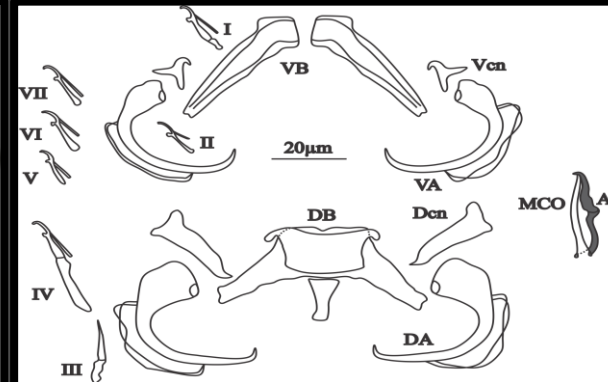
On *Clarias ngamensis*

Q. domatanai



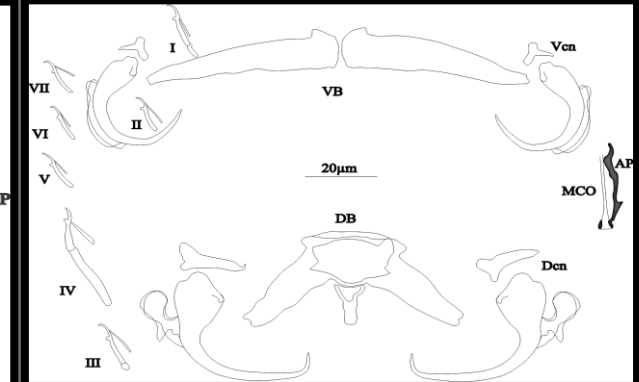
On *C. ngamensis*

Q. halajiani



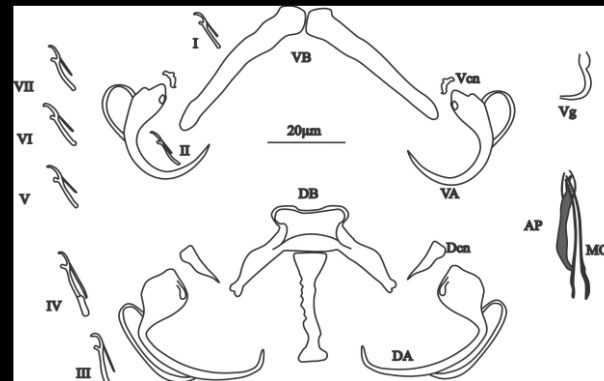
On *C. ngamensis*

Q. lubandaensis



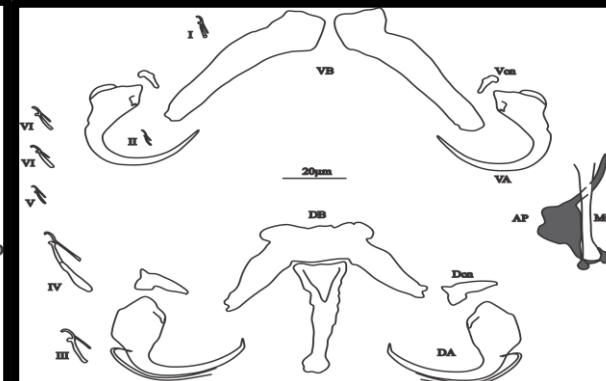
On *C. ngamensis*

Q. amakaliae



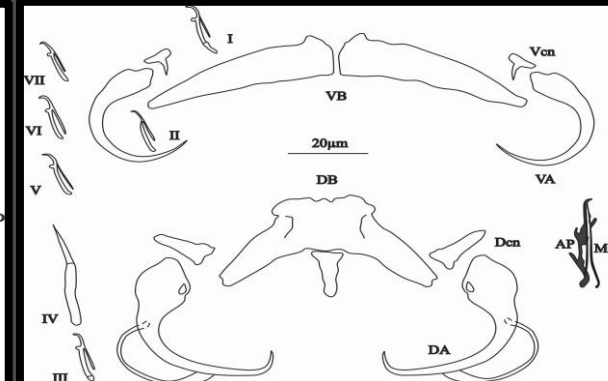
On *C. ngamensis*
C. stappersii
C. buthupogon

Quadriacanthus sp. 'shigoleyae'



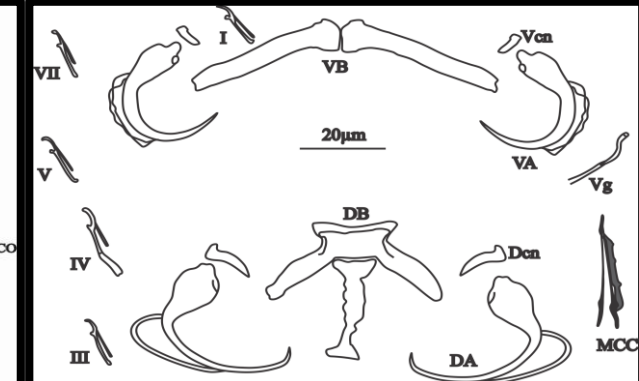
On *C. ngamensis*

Quadriacanthus sp. 'kalomboi'



On *C. stappersii*

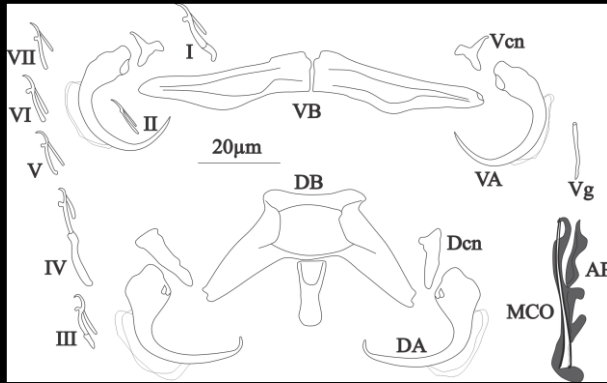
Quadriacanthus sp. 'bassocki'



On *C. gariepinus* *C. buthupogon*
C. stappersii *C. theodora*

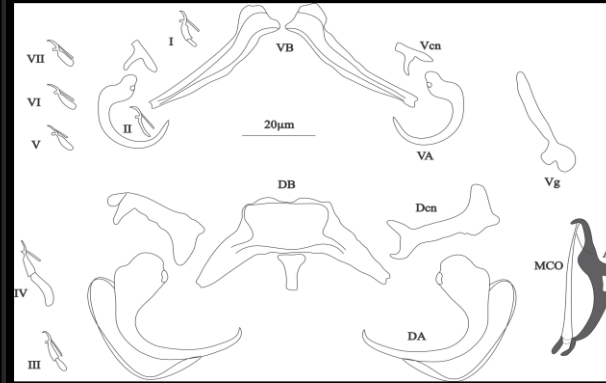
Results

Quadriacanthus aegypticus



From *Clarias ngamensis*

Q. allobychowskiella



From *C. ngamensis*

Gyrodactylus sp. 1



From *C. ngamensis*

Macrogyrodactylus clarii



From *C. ngamensis*

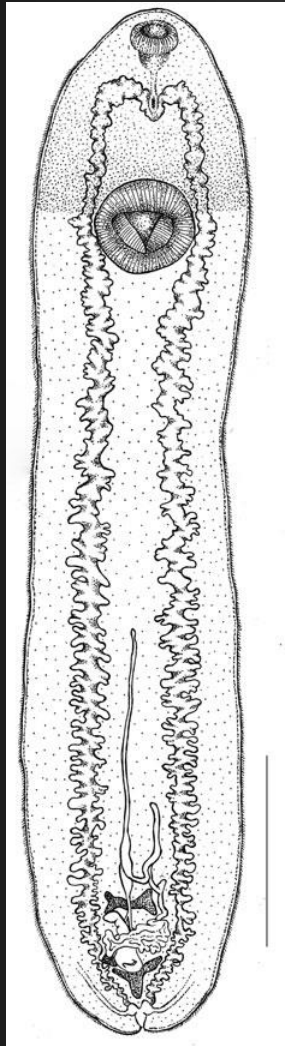
Gyrodactylus sp. 2



From *C. buthupogon*

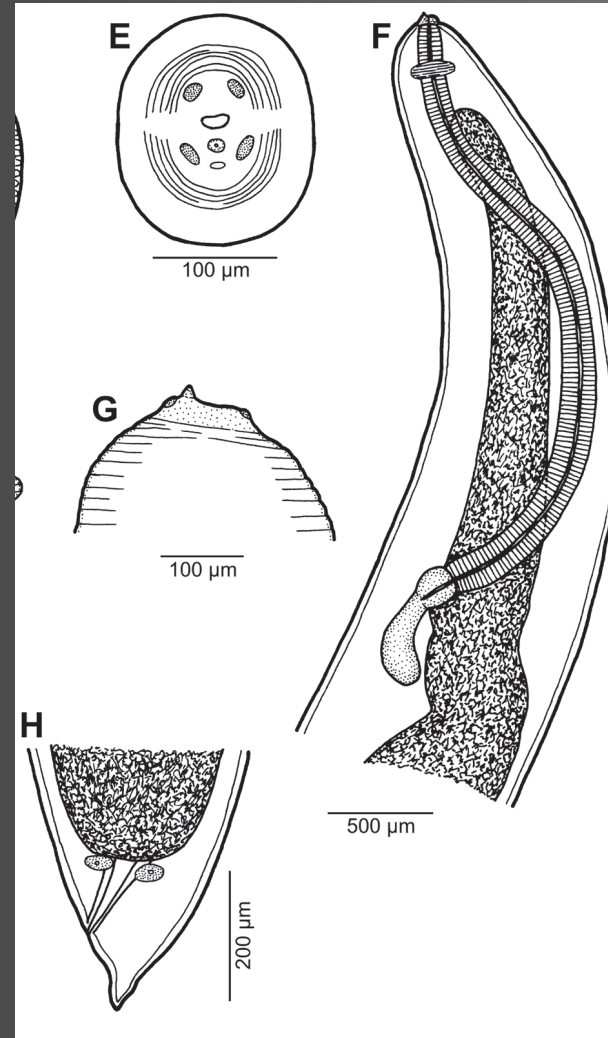
Results

On *Clarias ngamensis*:
*Clinostomoides brien*i
(Digenea)

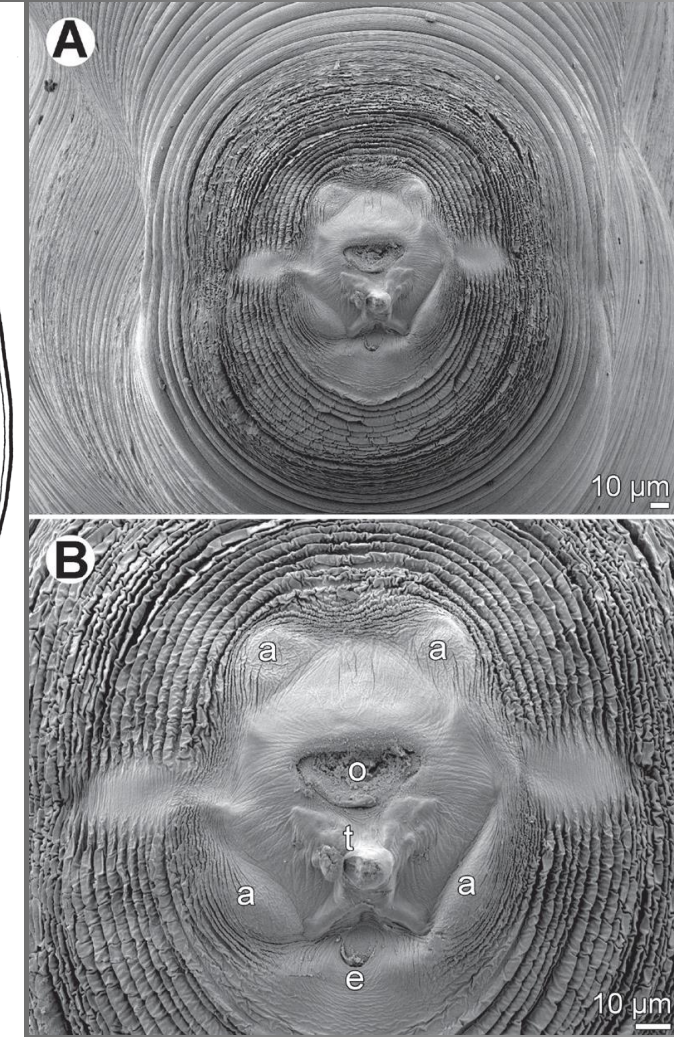


Caffara *et al.* 2019. metacercaria of *Clinistomoides brien*i

On *C. stappersii*:
metacestodes of
Gangesinae (Cestoda)

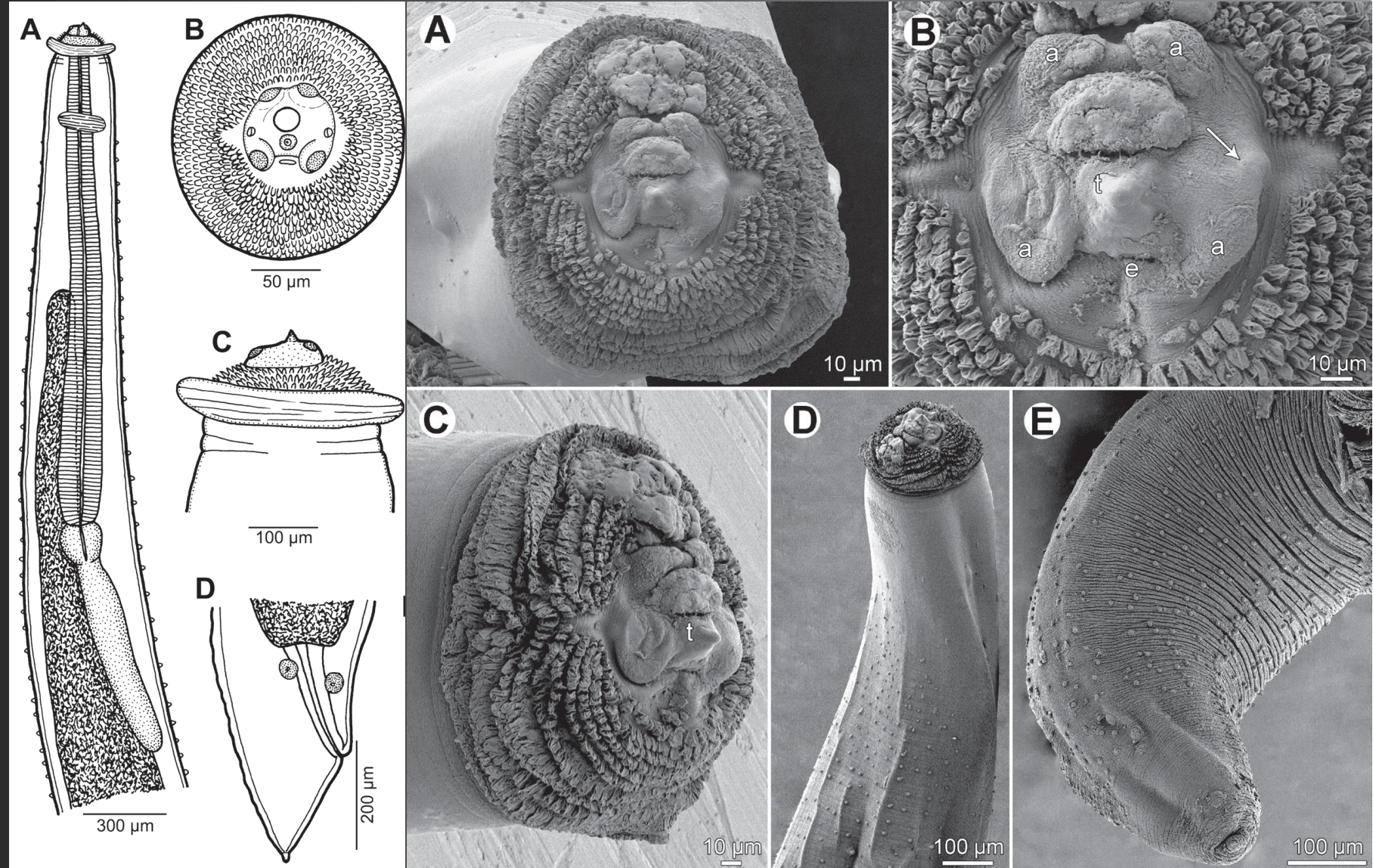


Moravec & Van As, 2015. *Contracaecum* third stage larva



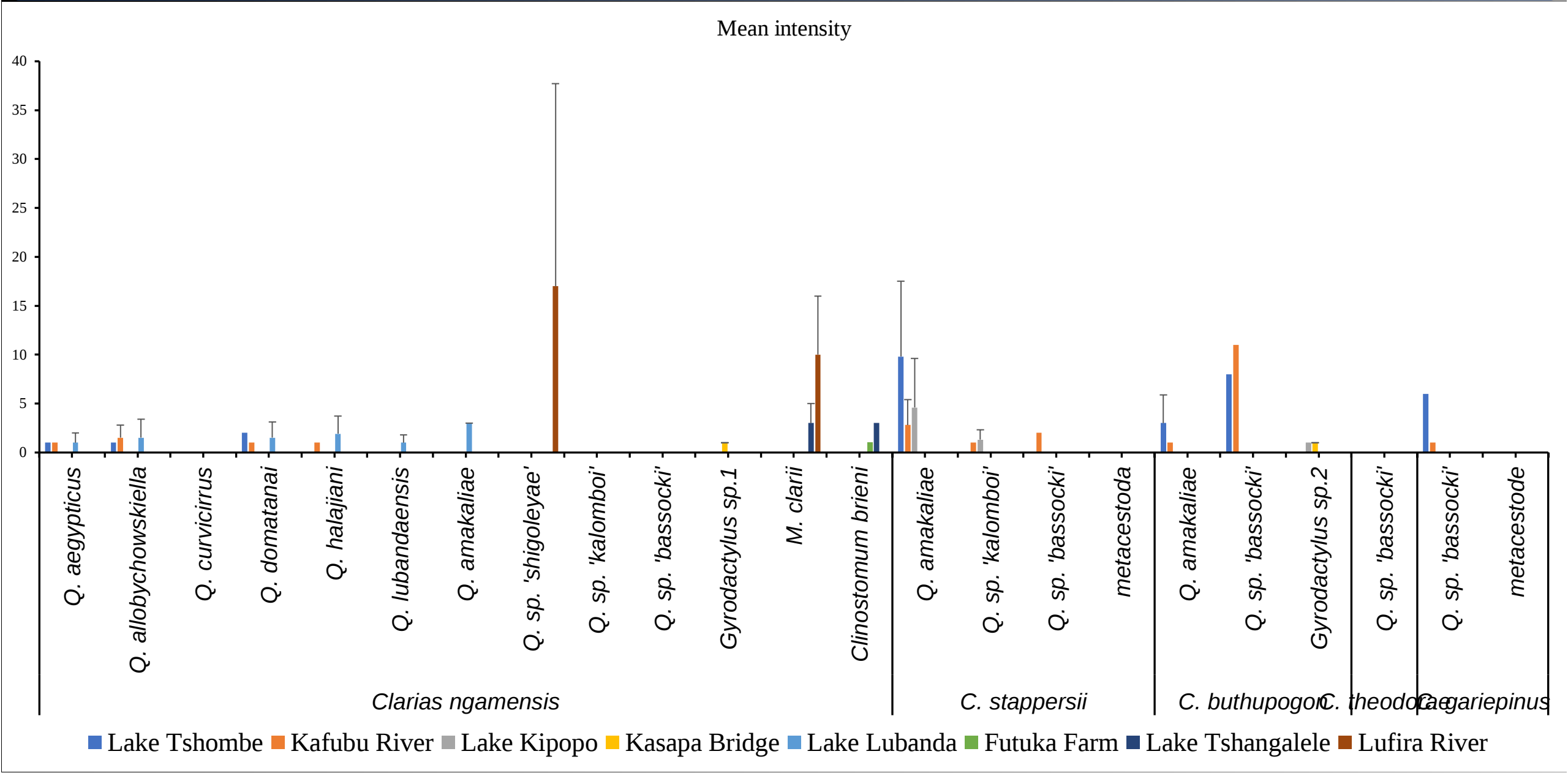
Results

On *Clarias gariepinus*: (Nematoda)



Moravec & Van As, 2015. *Galeiceps* sp. third-stage larva

Results



Discussion



***Clarias ngamensis*: 11 / 16species**

***Quadriacanthus*: 20%**

***C. gariepinus*: 2 / 16species**

Discussion

Clarias ngamensis: Tr – *Masenia bangweulensis*, *Orientocreadium batrachoides*, *Tylodelphys mashonensis* [L];
Ce – *Monobothrioides woodlandi*; Ne – *Contracaecum* sp. [L]; Cr – *Ergasilus mirabilis*, *E. sarsi*, *Lamproglena clariae*

Clarias theodora: Pr – *Trypanosoma mukasai*; Ne – *Contracaecum* sp. [L], *Eustrongylides* sp. [L],
Paracamallanus cyathopharynx, *Procamallanus* (P.) *pseudolaeviconchus*, *P. (Spirocamallanus) spiralis*, Cr –
Chonopeltis fryeri, *C. inermis*

Clarias stappersii: Pr – *Trichodina maritinkae*, Ne – *Contracaecum* sp. [L], *Paracamallanus cyathopharynx*,
Procamallanus (P.) *pseudolaeviconchus*, *P. (Spirocamallanus) spiralis*, Cr – *Dolops ranarum*

Clarias buthupogon: Ne – *Porrocaecum* sp.

Clarias gariepinus: *Gyrodactylus transvaalensis*; *Macrogyrodactylus congolensis*; Cr – *Argulus ambloplites*



Merci

Asante

Bae Dankie

Shukran

Thank You

Tangi

Mamnoon

Ke a leboga

Dank je wel

