

***Echinochasmus* (Trematoda: Echinostomatidae) in Squacco Heron (*Ardeola ralloides*) from the Congo, in the collections of the Harvard University Museum of Comparative Zoology: a first substantiated report of the genus from sub-Saharan Africa.**

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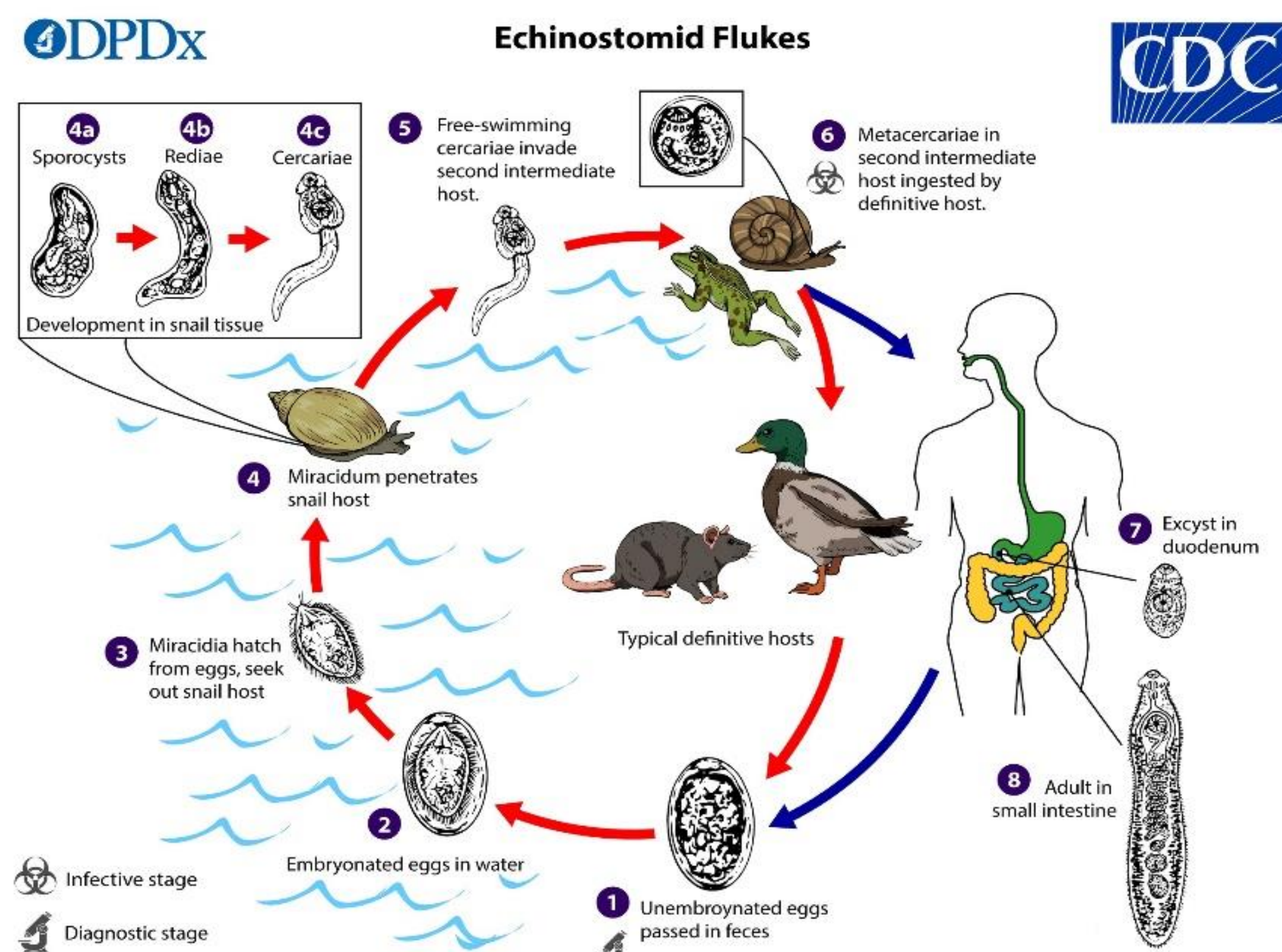
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Introduction

- Echinostomes are a group of trematodes exhibiting complex life cycles.

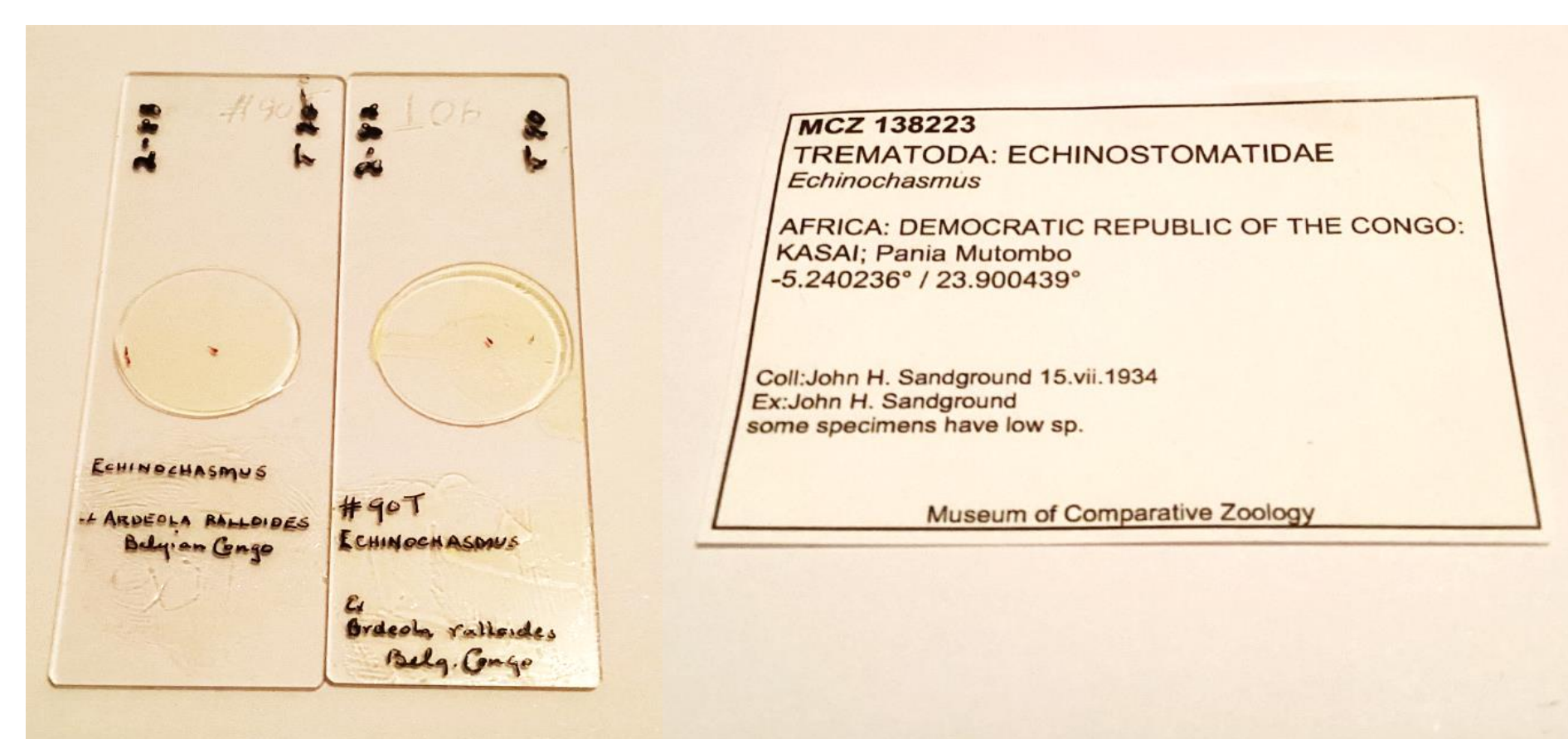


Generalized life cycle of an echinostome trematode

- Echinostomes of the genus *Echinochasmus* are, as adults intestinal parasites of a wide range of piscivorous birds in North, South and Central America, Europe, Asia and Africa.
- Adult worms are also known to infect mammals, including humans.
- In humans they cause the zoonotic and neglected tropical disease Echinostomiasis, a “food-borne trematodiasis”, as defined by the World Health Organization.
- Individuals become infected by ingestion of metacercariae usually found in fish second intermediate hosts.

Materials and Methods

Light microscope examination was carried out on four adult echinostome specimens from the collections of Harvard University MCZ, these having been preserved as stained whole mounts and catalogued as “*Echinochasmus*”.



The specimens were collected by John H. Sandground of Harvard University MCZ in 1934 from Squacco Heron (*Ardeola ralloides*) obtained at Pania Matombo (arrowed), Kasai, in present day Democratic Republic of Congo.



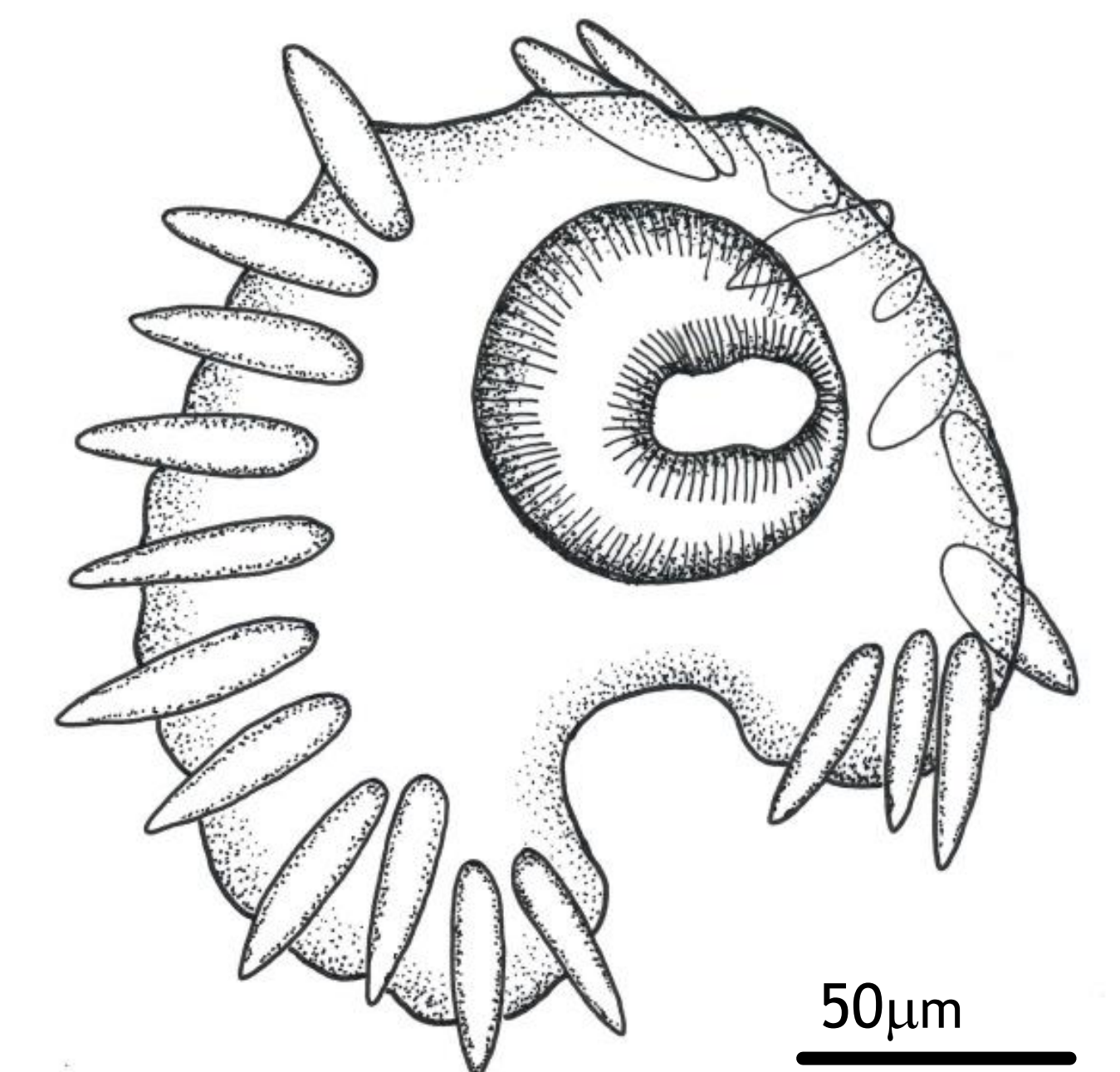
Results

Examination of the specimens confirmed their identity as being gravid adults of the genus *Echinochasmus* (Dietz, 1909) with reference to Kostadinova (2005). Two adult worms (left) and head collars bearing collar spines (right)



Collar Spine number

- In echinostome systematics the collar spine number is an important factor in species diagnosis.
- In those worms where the spined collar could be clearly discerned, the collar spine number was found to be twenty two.
- The figure to the right shows the arrangement of collar spines drawn using camera lucida from a single specimen.



Discussion

- It is suggested that the present study provides the first substantiated record of an adult member of the genus *Echinochasmus* from Sub-Saharan Africa.
- It is possible that the twenty-two collar spined worms may be closely related to the only other twenty-two collar spined species of the genus so far recorded from Africa *Echinochasmus mordax* found in the intestine of the Great White Pelican (*Pelecanus onocrotalus*) by Looss (1899) in Egypt.
- This study demonstrates the value of specimens from well curated museum collections in providing novel insights into trematode species diversity and geographical distribution.

References

Kostadinova, A. (2005) Family Echinostomatidae Looss, 1899. In, Keys to the Trematoda Volume 2, Edited by A. Jones, R.A. Bray and D.I. Published : CABI Publishing and The Natural History Museum, London. pp.9-64.

Looss, A. (1899) Weitere Beiträge zur Kenntniss der Trematoden-Fauna Aegyptens, zugleich Versuch einer natürlichen Gliederung des Genus Distomum Retzius. *Zoologische Jahrbücher* 12, pp. 521-784. Published: G. Fischer, Jena, Germany. [In German]

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