Description of a *Heterebothrium* (Monogenea: Diclidophoridae) species from the evileye pufferfish *Amblyrhynchotes honckenii* from South Africa using integrative approach

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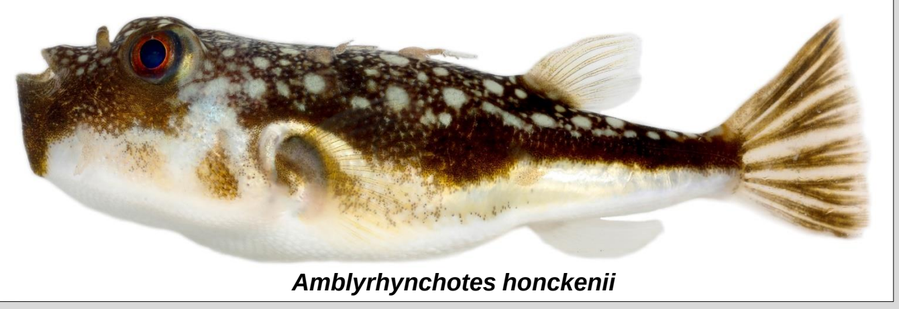
INTRODUCTION

Heterobothrium is genus of polyopisthocotylean highly specific to tetraodontid fishes currently consisting of 13 accepted species described globally from various pufferfishes. The economically important *Heterobothrium okamotoi* Ogawa 1991 is the causative of severe disease in the cultured tiger puffer *Takifugu rubripes* in Japan. *Amblyrhynchotes honckenii* (Bloch, 1785), known as evileye pufferfish, dwells marine and brackish habitats, associated with reefs, distributed in the Indo-West Pacific from South Africa to China, and Marshall Islands in Micronesia.

MATERIAL & METHODS

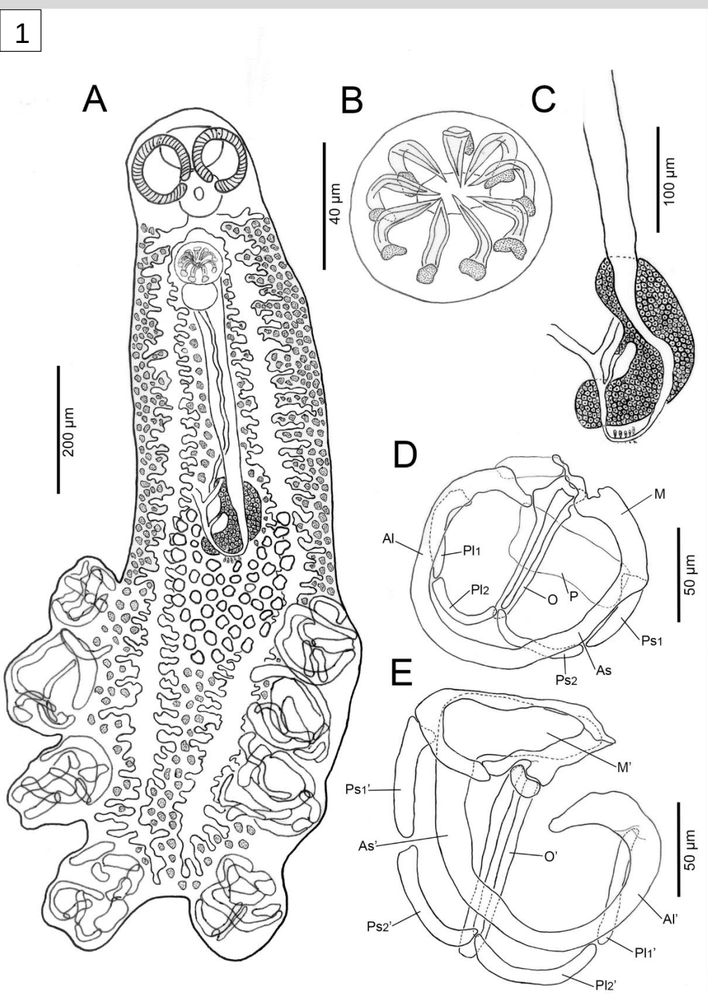
Five *A. honckenii* were sampled in 2019 by hand nets in intertidal pools (32°50′16″S, 28°07′02″E) in South African coast. Fish were euthanized following ethics procedures. Gills were removed and screened for parasites using a stereomicroscope. For detailed information on methodology for morphological and molecular analyses of the parasites, see Acosta & Smit, 2021.

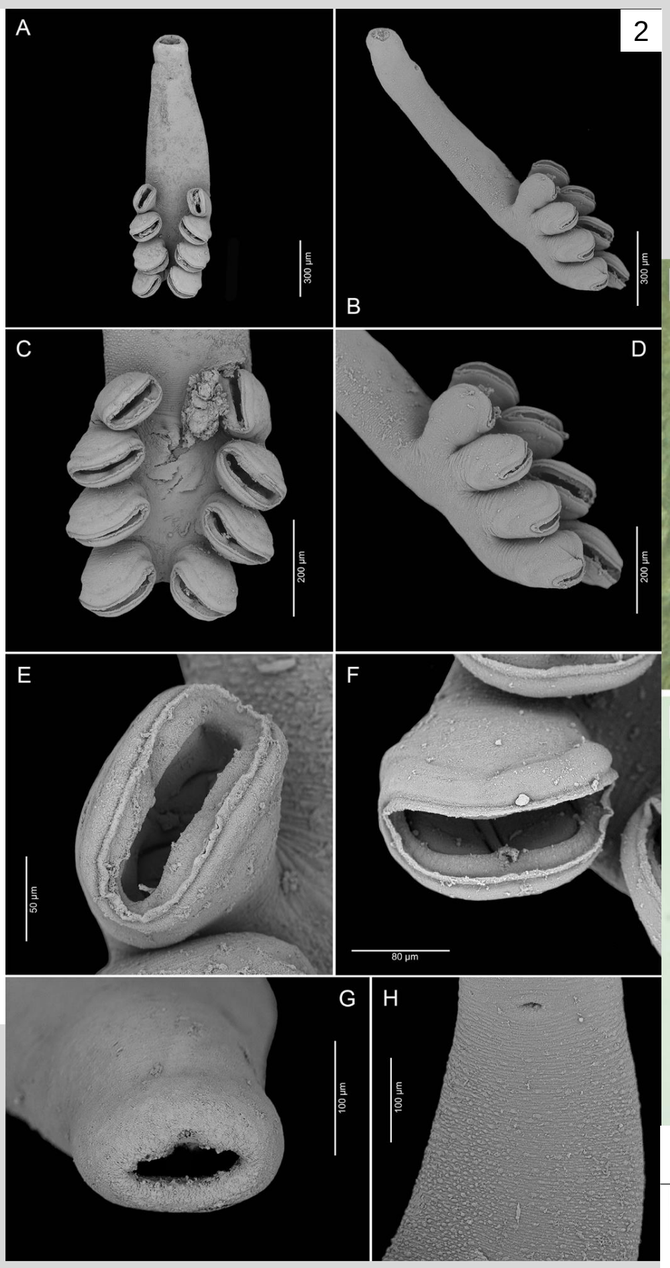


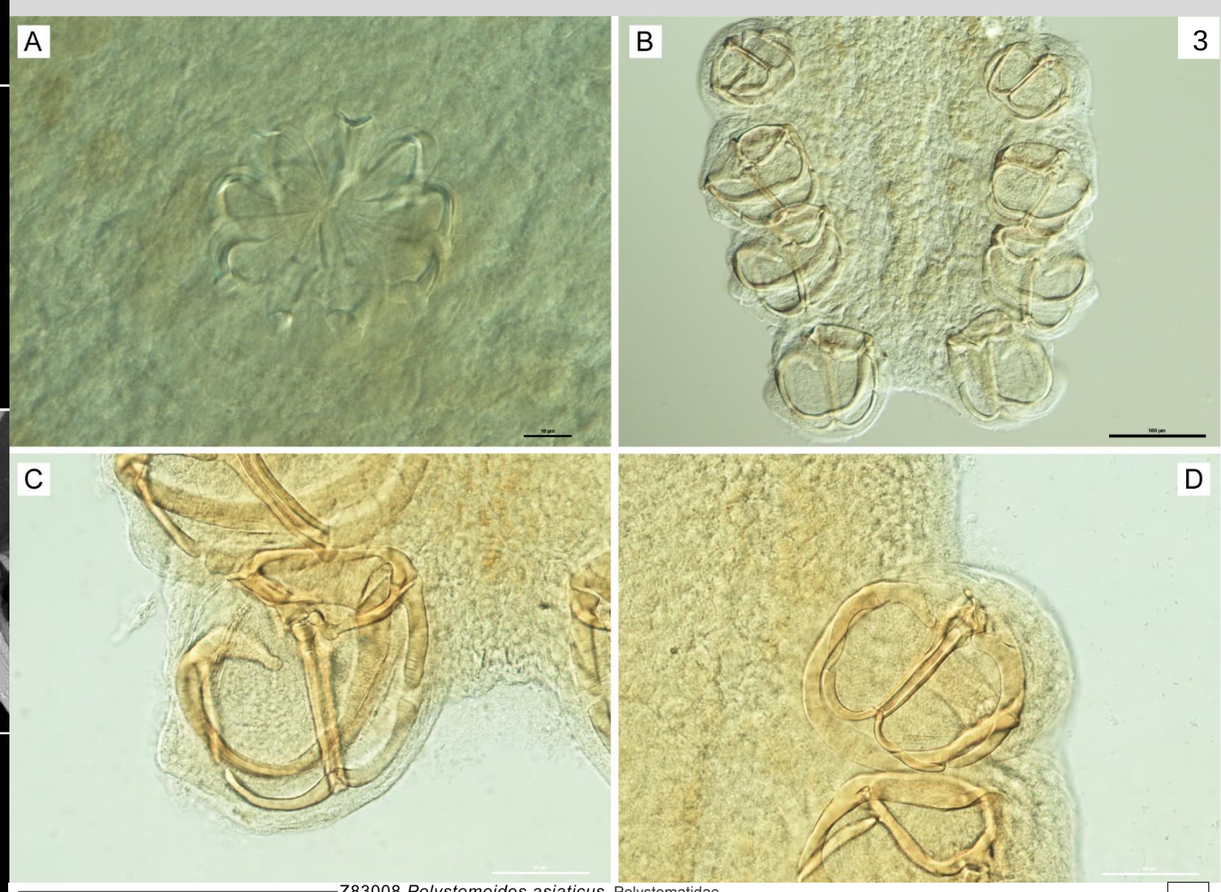
Amblyrhynchotes honckenii

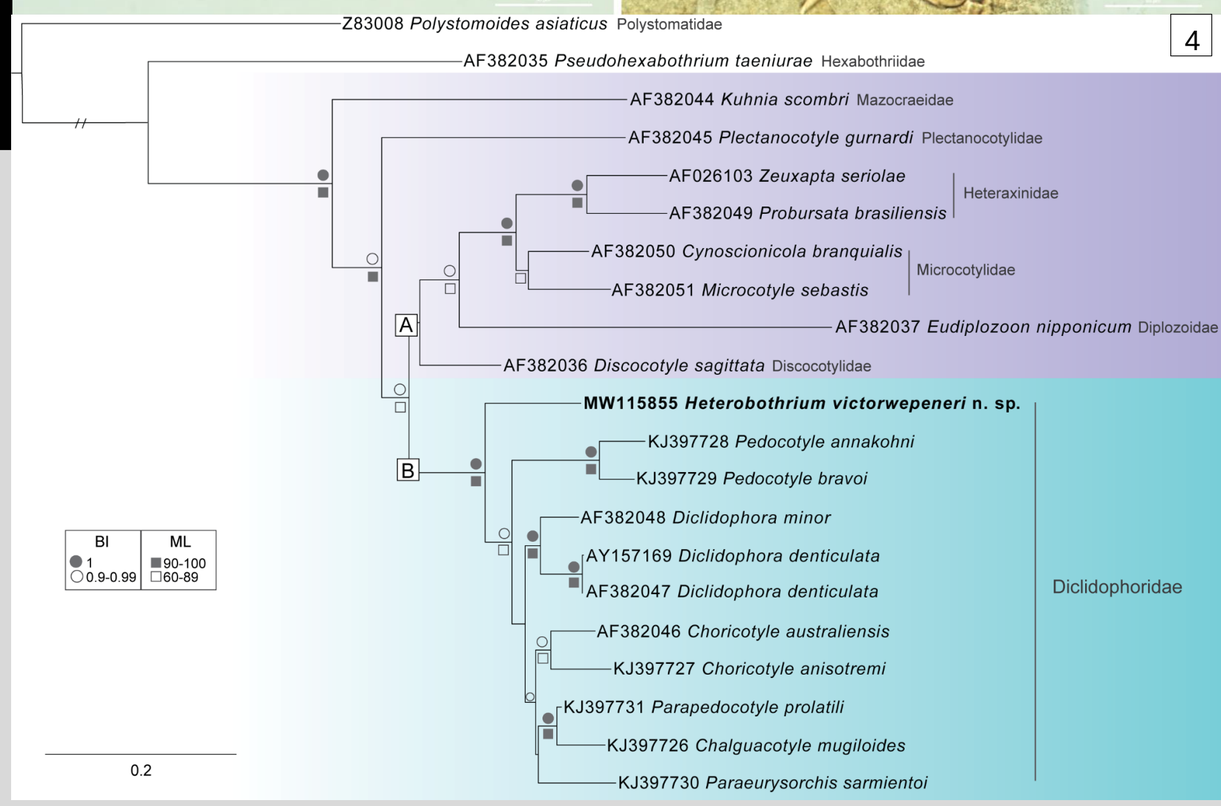
RESULTS

1 – Line drawing of *H. victorwepeneri* from A. honckeni from South Africa. A – whole worm; B – MCO; C – ovarian complex; D – fourth clamp pair; E – remaining clamp pairs.
2 – Scanning electron photomicrographs of *H. victorwepeneri* from A. honckeni
3 – Light microscope photomicrographs of sclerotized structures of *H. victorwepeni*.
4 – Maximum likelihood phylogram based on partial sequences of the 28S rDNA.









REMARKS

Heterobothrium victorwepeneri Acosta et Smit, 2021 differs from its congeners by a combination of morphological characteristics:

- Isthmus absent;
- Fourth clamp pair (anteriormost, 180° inverted) differs in shape of some sclerites;
- Anteriormost clamp pair as the smallest;
- 8-9 genital hooks in male copulatory organ (MCO);
- 40-50 testes.

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CONCLUSION

- First description of a *Heterobothrium* from the tetraodontid *A. honckenii* from the coast of South Africa, using morphological and molecular analyses combined;
- First partial sequences of the 28S rDNA of a species of the genus;
- Contribution to the knowledge of the underestimated monogenean fauna of marine fishes from South Africa.