

<sup>1</sup>Laboratoire de Biodiversité et Environnement: Interactions et Génomes, Faculté des Sciences Biologiques, Université des Sciences et de la Technologie Houari Boumediene, BP 32, El Alia Bab Ezzouar, Alger, Algérie.  
 E-mail: ayadi.z.mouna@gmail.com

## ABSTRACT

A taxonomic study of monogenean parasites of deep sea groupers belonging to two species of the genus *Epinephelus* Bloch, 1793: *Epinephelus costae* (Steindachner, 1878) and *E. marginatus* (Lowe, 1834) caught from the Algerian coast reveals the presence of 6 parasites species collected for the first time in Algeria.

The morpho-anatomic study of harvested Monogenea shows that all these parasites reattached to the family of Diplectanidae Monticelli, 1903 and are represented with two genera *Pseudorhabdosynochus* Yamaguti, 1958 and *Echinoplectanum* Justine & Euzet, 2006.

In our collection we have found 5 species belonging to *Pseudorhabdosynochus*: *P. riouxi* (Oliver, 1986) Santos, Buchmann & Gibson, 2000, *P. beverleybrtonae* (Oliver, 1984) Kritsky & Beverley-Burton, 1986, *P. bouaini* Neifar & Euzet, 2007, *P. sosia* Neifar & Euzet, 2007 and *P. enitsuji* Neifar & Euzet, 2007. The distinction between the species of this genus is based on the length and disposition of sclerites of haptor and the morphology of the sclerotized vagina.

Only one species of the genus *Echinoplectanum* was found on the gills of studied Epinephelids. This species is identified as *Echinoplectanum echinophallus* (Euzet & Oliver, 1965) Justine & Euzet, 2006 which is characterized by a funnel shaped male copulatory organ provided with spines.

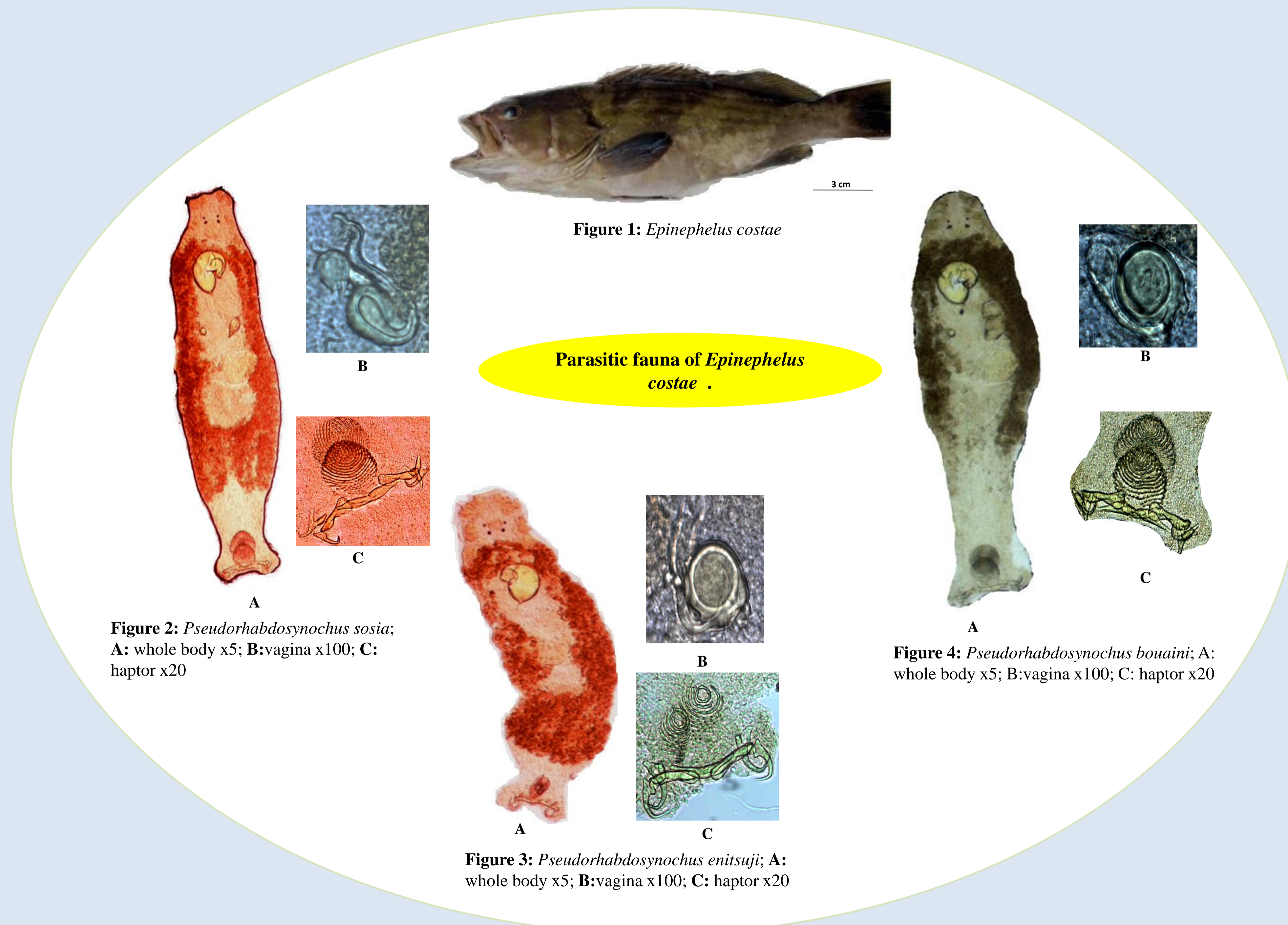
This study allowed establishing for the first time in Algeria an inventory of Monogenean parasites of epinephelids (Serranidae).

## INTRODUCTION

Among the 8 species of grouper existing in the Mediterranean Sea, *Epinephelus costae* (Steindachner, 1878) (fig. 1) and *Epinephelus marginatus* (Lowe, 1834) (fig. 5) are sympatric species.

The parasitic fauna of these fish (fig.2 to fig.8) is studied for the first time in Algeria.

## RESULTS AND DISCUSSION



According to WORMS (2021) there are about 96 species belonging to the genus *Pseudorhabdosynochus*. The representatives of this genus are characterised by a sclerotised quadriloculate male organ (Justine & Euzet, 2006) and different shape of a sclerotised vagina.

In our study we have found 5 species belonging to this genus : *Pseudorhabdosynochus bouaini*, *Pseudorhabdosynochus sosia* and *Pseudorhabdosynochus enitsuji* from *Epinephelus costae* and *Pseudorhabdosynochus beverleybrtonae* and *Pseudorhabdosynochus riouxi* on the gills of *Epinephelus marginatus*. The distinction between these species is based on the sclerotised vaginal parts and also other sclerotised parts such as the squamodiscs, the sclerit of haptor and the male copulatory organ (Chaabane et al., 2016).

We have found also on the gills of *Epinephelus marginatus*, the species parasite *Echinoplectanum echinophallus* which is characterised by the presence of a tubular penis associated with a spiny cercus.

Algerian coast is a new geographical record for *Pseudorhabdosynochus* spp. and *Echinoplectanum echinophallus* of serranid fish.



Figure 5: *Epinephelus marginatus*

### Parasitic fauna of *Epinephelus marginatus*

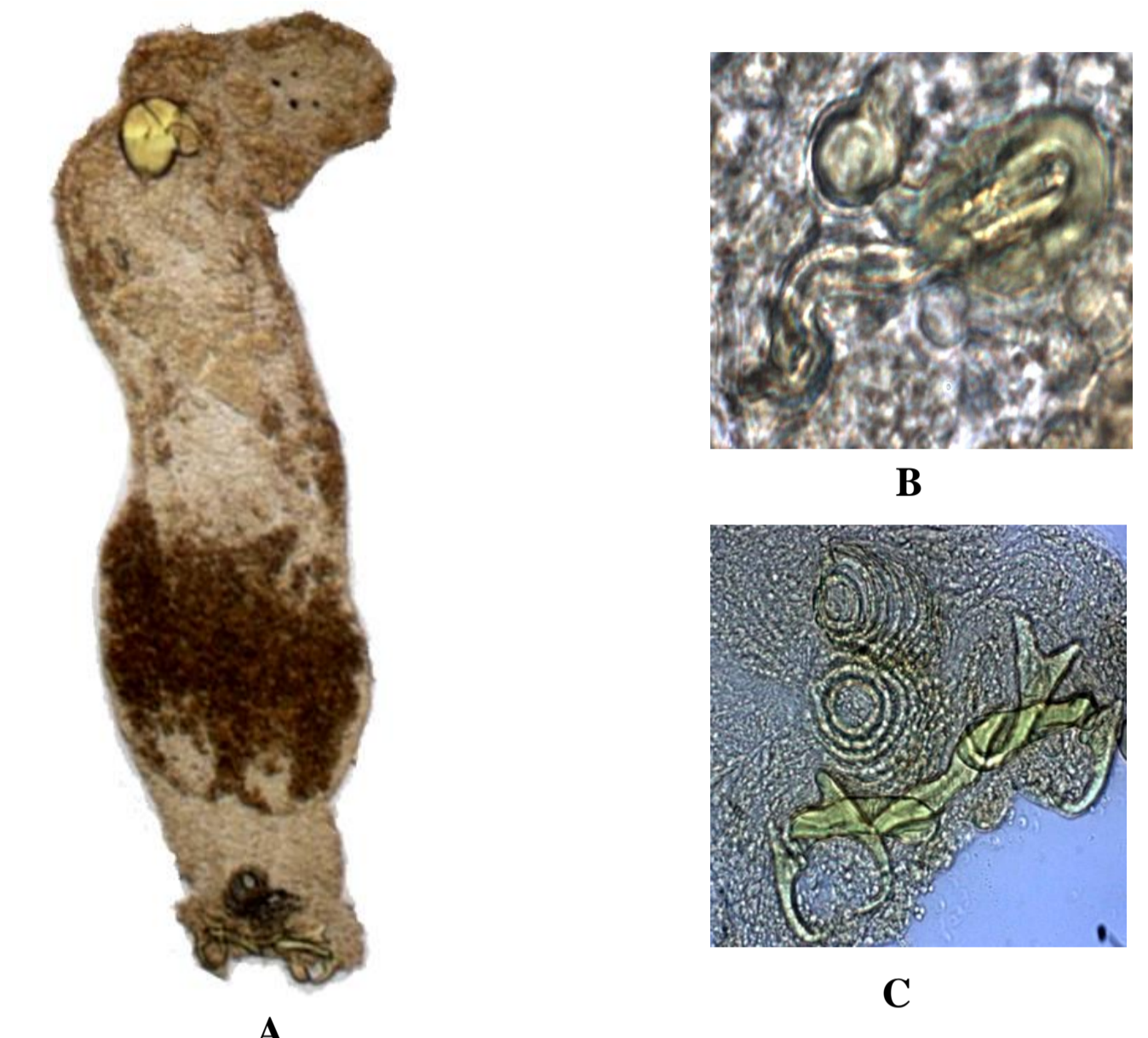


Figure 6: *Pseudorhabdosynochus beverleybrtonae*; A: whole body x5; B: vagina x100; C: haptor x5

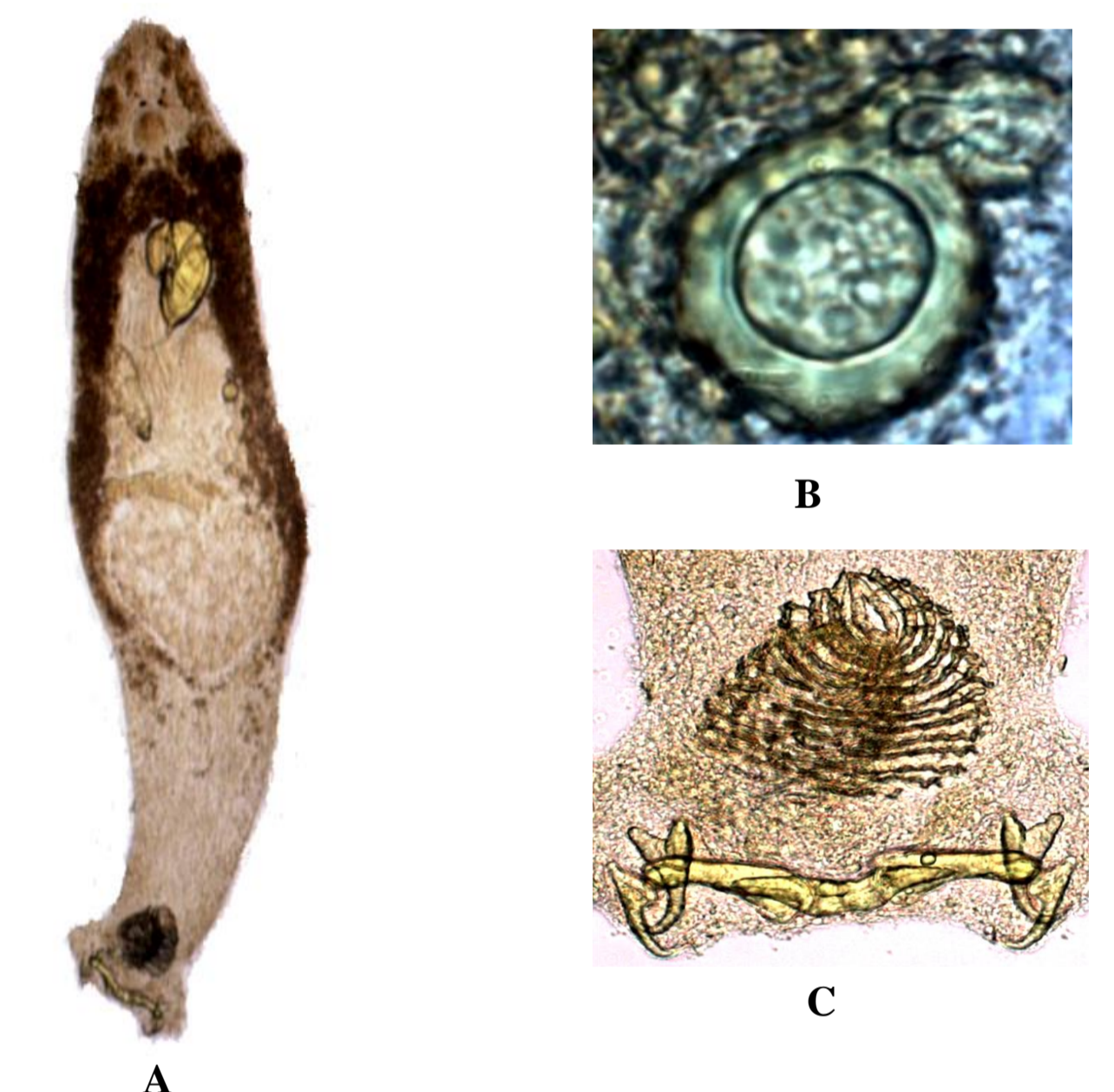


Figure 7: *Pseudorhabdosynochus riouxi*; A: whole body x5; B: vagina x100; C: haptor x20

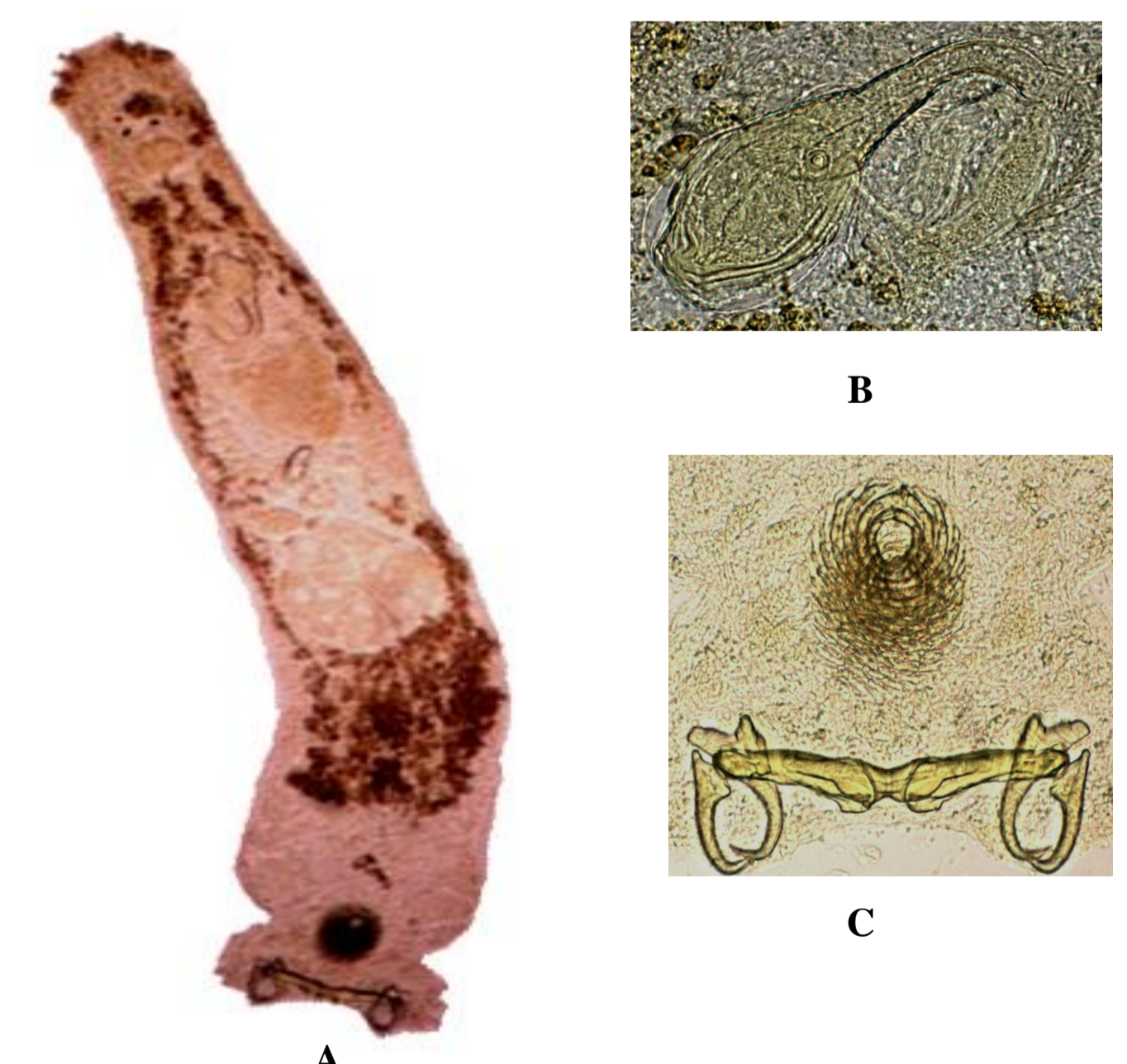


Figure 8: *Echinoplectanum echinophallus*; A: whole body x5; B: male copulatory organ x100; C: haptor x20

## REFERENCES

Chaabane A., Neifar L. and Justine J-L. 2017. Diplectanids from Mycteroperca spp. (Epinephelidae) in the Mediterranean Sea: redescription of six species from material collected off Tunisia and Libya, proposal for the '*Pseudorhabdosynochus riouxi* group', and a taxonomic key. PLoS ONE, 12 (2): e 0171392. DOI 10.1371/journal.pone.0171392.

Justine J-L., Euzet L. 2006. Diplectanids (Monogenea) parasitic on the gills of the coralgroupers *Plectropomus laevis* and *P. leopardus* (Perciformes, Serranidae) off New Caledonia, with the description of five new species and the erection of *Echinoplectanum* n. g. Systematic Parasitology, 64: 147-172. DOI 10.1007/s 11230-006-9028-8.

Http://marinespecies.org/aphia.php?p=taxdetails&id=468117 on 2021-06-18.