

# MORPHOLOGICAL CHARACTERIZATION OF DICYEMID MESOZOANS (PHYLUM DICYEMIDA) OF *Octopus maya* Voss and Solis 1966 FROM YUCATAN, MEXICO

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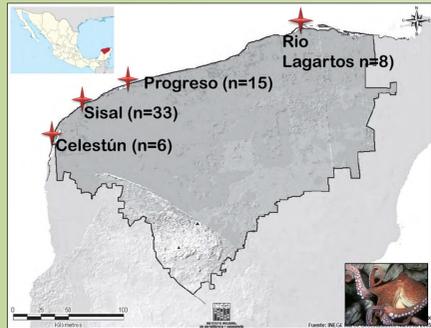
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## INTRODUCTION

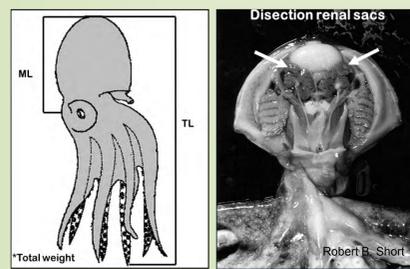
Dicyemid mesozoans are common endosymbionts inhabiting the renal appendages of cephalopods, they are characterized by a simple morphology with low number of cells and a complex life cycle (Hochberg, 1990). Dicyemids has been suggested as natural tags to assess cephalopod stocks and currently they are used to assess host population structure (Pacual & Hochberg, 1996; Catalano et al., 2013). The present study describes for the first time dicyemid species from *Octopus maya*, an endemic octopus from the Yucatan Peninsula, Mexico.

## MATERIAL AND METHODS

Octopus collection from artisanal fishery



Measurements and Dissection



Description following Hochberg (1990)



- 15 smears made (per right & left sac)
- Smears stained (H-E)
- Prevalence of infection (Bush et al., 1997).

## RESULTS AND DISCUSSION

### *Dicyema A*

- Body lengths Ranging 70-729  $\mu\text{m}$
- Trunk composed by 6-8 cells.
- Vermiform embryos (VE): 40  $\mu\text{m}$  to 70  $\mu\text{m}$  in length; 2-4 axoblast (moda 2)
- Overall infection rate 73%
- Recorded from three localities except Celestun.

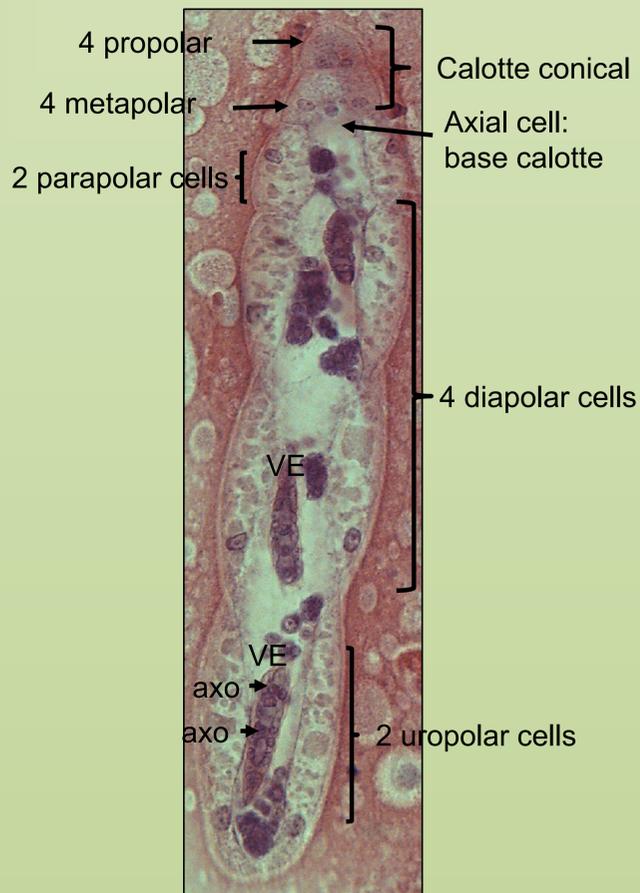


Fig. 1. Nematogen (asexual stage) of *Dicyema A* with 2 vermiform embryos (VE) inside the axial cell (40x).

### *Dicyema B*

- Body lengths reaching 316  $\mu\text{m}$ -2,245 $\mu\text{m}$
- 22-30 peripheral cells
- Vermiform embryos: 50  $\mu\text{m}$  - 80  $\mu\text{m}$  in length, 2 axoblast.
- Overall infection rate 60%
- Recorded from three localities except Celestun

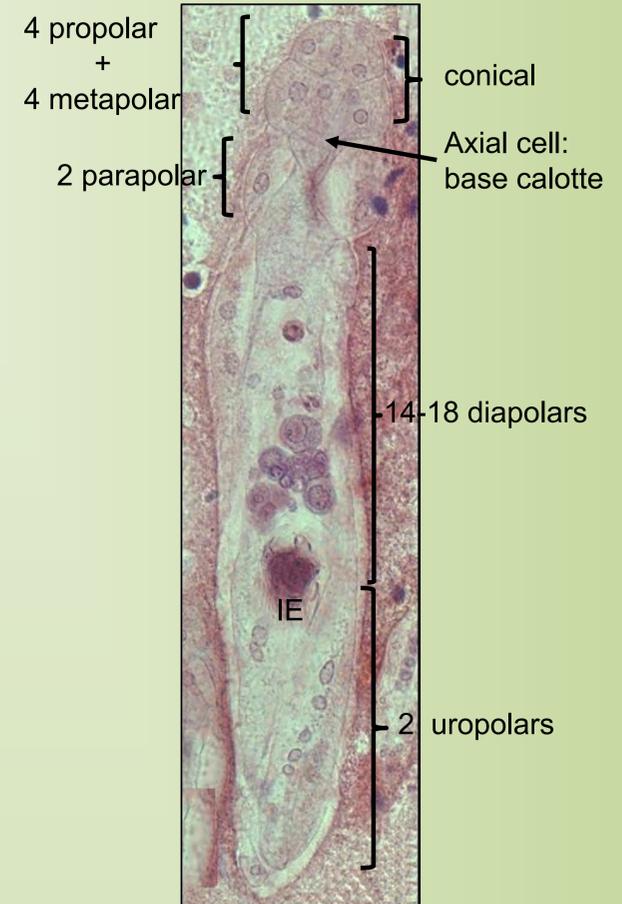


Fig. 2. Rhombogen (sexual stage) of *Dicyema B* with 1 infusoriform embryo (IE) inside the axial cell (40x).

### *Dicyema C*

- Body lengths ranging from 218  $\mu\text{m}$  to 1,114  $\mu\text{m}$
- 22-24 peripheral cells
- Vermiform embryos (VE): 72  $\mu\text{m}$  to 147  $\mu\text{m}$  in length; 4-11 axoblast (moda 8)
- Overall infection rate 25%
- Recorded from Celestun and Progreso.

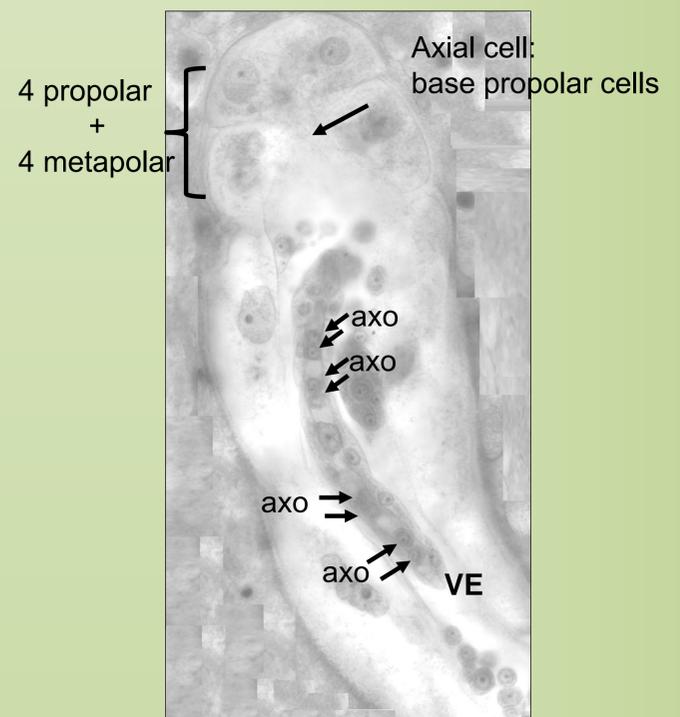


Fig. 3. Nematogen (asexual stage) of *Dicyema C* with a vermiform embryo (VE) showing 8 axoblast (40x).

No differences were found in the infection pattern between right and left renal sacs. The calotte constituted by 4 propolar and 4 metapolar cells is characteristic of the genus *Dicyema*. Our results suggest that different dicyemid species might inhabit the renal sacs of *O. maya* along its distribution. Description of infusoriform embryos will contribute to clarify if they certainly are different and new species for science.

## REFERENCES

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