



<http://dx.doi.org/10.11646/zootaxa.3881.1.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:9C0FB9F8-C565-4627-87A2-D44FDFAB6781>

***Pseudoceros astrorum*, a new species of Polycladida (Cotylea, Pseudocerotidae) from Northeastern Brazil**

VERONICA N. BULNES¹ & YAN TORRES²

¹Zoología de Invertebrados I, Universidad Nacional del Sur. San Juan 670. 8000 Bahía Blanca, Argentina

²Departamento de Biología, Centro de Ciências, Universidade Federal do Ceará, Ceará, Brasil

Abstract

Pseudoceros astrorum n. sp. is characterized by a smooth dorsal surface with a brown ground colour, and with net-like pattern of small black granules, white spots of different sizes uniformly distributed, a thin black sub-marginal band, and a white marginal rim. The pseudotentacles are dark brown with white tips and the anterior margin and cerebral region is devoid of pigmentation. The male system is characterised by conspicuous spermiducal bulbs, a conical curved penis stylet, and the sucker lies more or less posterior. With this contribution, the number of known species from Brazil is now 72, and has created new interest in the lesser-known polyclad fauna from the northeast coast of Brazil.

Key words: biodiversity, morphology, Marine flatworms, Western Atlantic, Cotylea

Introduction

The Pseudocerotidae is one of the largest families within the Cotylea, with a large number of described species. The phylogeny as well as the monophyly of some genera are still unclear (Rawlinson & Litvaitis 2008). *Pseudoceros* is one of the most common tropical polyclad genera, and species of *Pseudoceros* are determined on the basis of their colour patterns (Newman & Cannon 1995), external morphological features, as well as the reproductive biology, and microanatomy (Hyman 1951; Prudhoe 1985; Faubel 1984; Bolaños *et al.* 2007).

The number of described polyclad species in Brazil is 71, most of them from the southern states, with only seven species described from the North-East of Brazil (Bahia *et al.*, 2012). Much of the Brazilian coast remains unexplored, and the low number of described species suggests that the biodiversity of polyclads in Brazil is currently underestimated. This contribution reports the presence of a new species of *Pseudoceros* inhabiting the waters of Ceará State, northeast Brazil.

Material and methods

The specimens were collected by hand from the rocky intertidal zone at Pacheco Beach, Ceará, Brazil. The animals were photographed and measured *in vivo*. The specimens were fixed in frozen formalin mixed with seawater, and preserved in ethanol 70% (Newman & Cannon, 1995). One specimen was embedded in paraffin and sagittally sectioned at 7 µm, and histological sections stained with hematoxylin-eosin method. The description is based on morphological characteristics, coloration pattern, arrangement of eyes, and reconstruction of the reproductive structures from serial histological sections; the determination and description were made following Faubel's system (1984). All given measurements are from the holotype, unless stated otherwise. The material collected was deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil (MZUSP).

Acknowledgements

Verónica N. Bulnes is a staff researcher of the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina. This contribution was partially granted by the CONICET, and the Universidad Nacional del Sur through allowances, supporting the activity of their fellows and researchers.

Literature cited

- Bahia, J., Padula, V. & Delgado, M. (2012) Five new records and morphological data of polyclad species (Platyhelminthes: Turbellaria) from Rio Grande do Norte, Northeastern Brazil. *Zootaxa*, 3170, 31–44.
- Bolaños, D.M., Quiroga, S.Y. & Litvaitis, M.K. (2007) Five new species of cotylean flatworms (Platyhelminthes: Polycladida) from the wider Caribbean. *Zootaxa*, 1650, 1–23.
- Faubel, A. (1984) The Polycladida, Turbellaria. Proposal and establishment of a new system. Part II. The Cotylea. *Mitteilungen Hamburgisches Zoologisches Museum und Institut*, 81, 189–259.
- Hyman, L.H. (1951) *The Invertebrates: Platyhelminthes and Rhynchocoela*. The acoelomate Bilateria. Vol. II. McGraw-Hill, New York, 51 pp.
- Hyman, L.H. (1954) The polyclad genus *Pseudoceros*, with special reference to the Indo-Pacific region. *Pacific Science*, 8, 331–336.
- Hyman, L.H. (1955a) Some Polyclad flatworms from the West Indies and Florida. *Proceedings of the United States National Museum*, 104 (3341), 115–150.
<http://dx.doi.org/10.5479/si.00963801.104-3341.115>
- Hyman, L.H. (1955b) Some polyclad flatworms from Polynesia and Micronesia. *Proceedings of the United States National Museum*, 105, 65–82.
<http://dx.doi.org/10.5479/si.00963801.105-3352.65>
- Hyman, L.H. (1959a) A further study of Micronesian polyclad flatworms. *Proceedings of the United States National Museum*, 108, 543–597.
<http://dx.doi.org/10.5479/si.00963801.108-3410.543>
- Hyman, L.H. (1959b) Some Australian polyclads. *Records of the Australian Museum*, 25, 1–17.
<http://dx.doi.org/10.3853/j.0067-1975.25.1959.653>
- Lang, A. (1884) *Die Polycladen (Seeplanarien) des Golfes von Neapel und der angrenzenden Meeresabschnitte*. Leipzig, Verlag von W. Engelmann, 688 pp. [*Fauna und Flora des Golfes von Neapel, Monograph 11*]
- Newman, L.J. & Cannon, L.R.G. (1994) *Pseudoceros* and *Pseudobiceros* (Platyhelminthes, Polycladida, Pseudocerotidae) from eastern Australia and Papua New Guinea. *Memoirs of the Queensland Museum*, 37, 205–266.
- Newman, L.J. & Cannon, L.R.G. (1995) The importance of the fixation of colour, pattern and form in tropical Pseudocerotidae (Platyhelminthes, Polycladida). *Developments in Hydrobiology*, 108, 141–143.
<http://dx.doi.org/10.1007/BF00036376>
- Newman, L.J. & Cannon, L.R.G. (1996) New genera of pseudocerotid flatworms (Platyhelminthes; Polycladida) from Australian and Papua New Guinean coral reefs. *Journal of Natural History*, 30 (10), 1425–1441.
<http://dx.doi.org/10.1080/00222939600770811>
- Newman, L.J. & Cannon, L.R.G. (1997) Nine new species of *Pseudobiceros* (Platyhelminthes: Polycladida) from the Indo-Pacific. *The Raffles Bulletin of Zoology*, 45 (2), 341–368.
- Newman, L.J. & Cannon, L.R.G. (1998) *Pseudoceros* (Platyhelminthes: Polycladida) from the Indo-Pacific with twelve new species from the Australia and Papua New Guinea. *The Raffles Bulletin of Zoology*, 46 (2), 293–323.
- Prudhoe, S. (1985) *A Monograph on Polyclad Turbellaria*. London/Oxford: British Museum of Natural History and Oxford University Press, 259 pp.
- Prudhoe, S. (1989) Polyclad turbellarians recorded from African waters. *Bulletin of the British Museum of Natural History (Zool.)*, 55, 47–96.
- Rawlinson, K.A. & Litvaitis, M.K. (2008) Cotylea (Polycladida): a cladistic analysis of morphology. *Invertebrate Biology*, 127 (2), 121–138.
<http://dx.doi.org/10.1111/j.1744-7410.2007.00119.x>