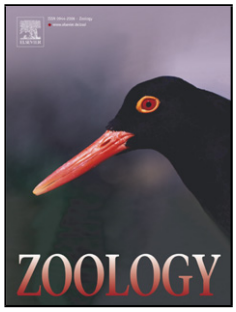

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PII: S0944-2006(16)30095-2
DOI: http://dx.doi.org/doi:10.1016/j.zool.2017.08.002
Reference: ZOOL 25594

To appear in:

Received date: 12-9-2016
Revised date: 2-8-2017
Accepted date: 2-8-2017

Please cite this article as: Zaccone, Giacomo, Lauriano, Eugenia Rita, Kuciel, Michał, Capillo, Gioele, Pergolizzi, Simona, Alesci, Alessio, Ishimatsu, Atsushi, Ip, Yuen Kwong, Icardo, Jose M., Identification and distribution of neuronal nitric oxide synthase and neurochemical markers in the neuroepithelial cells of the gill and the skin in the giant mudskipper, Periophthalmodon schlosseri.Zoology http://dx.doi.org/10.1016/j.zool.2017.08.002

Identification and distribution of neuronal nitric oxide synthase and neurochemical markers in the neuroepithelial cells of the gill and the skin in the giant mudskipper, *Periophthalmodon schlosseri*

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Highlights

- We document the presence of neuroepithelial cells (NECs) in the gill and skin tissues of *Periophthalmodon schlosseri*.
- NECs and their associated innervation may represent a functional system of O_2 chemoreceptors.
- NECs in the gill and skin are innervated by catecholaminergic nerves, suggesting their involvement in the control of respiration.

Abstract

Mudskippers are amphibious fishes living in mudflats and mangroves. These fishes hold air in their large buccopharyngeal-opercular cavities where respiratory gas exchange takes place via the gills and higher vascularized epithelium lining the cavities and also the skin epidermis. Although aerial ventilation response to changes in ambient gas concentration has been studied in mudskippers, the localization and distribution