

Review of: "Evolution of Venom Production in Marine Predatory Snails"

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Potential competing interests: No potential competing interests to declare.

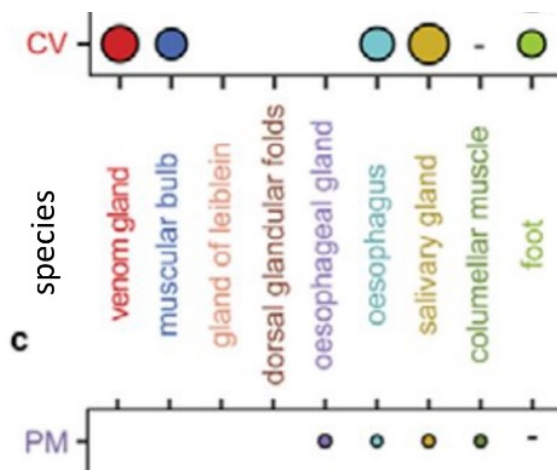
Evolution of venom production in marine predatory snails

This is a very interesting paper with a large amount of molecular data, providing new insights about the evolution of venom glands in *Conus*.

Just a few questions and suggestions:

References are indicated by numbers. Thus, reference (Lobo-da-Cunha, 2019) on page 4, line 16, must be [12]; (Kantor 1996) on page 14, line 15, must also be numbered.

Page 6, figure 2a, c: For better understanding, the left column could be labelled "species"



Page 8, line 6: "lysosome and organelle lumen" - What do the authors mean by "organelle lumen"?

Discussion. The authors could mention and include in the discussion a paper about the role of *Conus* salivary glands in toxin secretion:

Biggs JS, Olivera BM, Kantor YI, 2008. α -Conopeptides specifically expressed in the salivary gland of *Conus pulicarius*. *Toxicon*, 52 (1): 101-105.

Additionally, some *Conus* species (*Conus virgo*, for example) and other caenogastropods have accessory salivary glands

that in some species have been implicated in the secretion of toxins or bioactive compounds. However, I have not found a reference to the accessory salivary glands in the manuscript. For a more comprehensive view of the foregut glands, I think that the accessory salivary glands should be mentioned in the discussion or in the introduction. Some molecular data implicating the accessory salivary glands of *C. virgo* in venom secretion have been published (Fedosov et al., 2023), and could be mentioned more explicitly.

Andrews EB, Elphick MR, Thorndyke MC, 1991. Pharmacologically active constituents of the accessory salivary and hypobranchial glands of *Nucella lapillus*. *J Molluscan Stud* 57: 136–138.

Ball A, Taylor J, Andrews EB, 1997. Development of the acinous and accessory salivary glands in *Nucella lapillus* (Neogastropoda: Muricoidea). *J Molluscan Stud* 63: 245–260.

Schultz MC, 1983. A correlated light and electron microscopic study of the structure and secretory activity of the accessory salivary glands of the marine gastropods, *Conus flavidus* and *C. vexillum* (Neogastropoda, Conacea). *J Morphol*, 176 (1): 89-111.

West DJ, Andrews EB, McVean AR, Osborne DJ, Thorndyke MC, 1994. Isolation of serotonin from the accessory salivary glands of the marine snail *Nucella lapillus*. *Toxicon* 32: 1261–1264.

Fedosov, A., Tucci, C.F., Kantor, Y. *et al.* 2023. Collaborative expression: transcriptomics of *Conus virgo* suggests contribution of multiple secretory glands to venom production. *J Mol Evol* 91: 837–853. - Includes the accessory salivary glands