

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

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Potential competing interests: No potential competing interests to declare.

The manuscript by Zancolli and colleagues provides a comprehensive and insightful investigation into the evolutionary biology of venom production in marine predatory gastropods. The authors performed a comparative transcriptomic analysis of the glands associated with the oesophagus and described how the venom gland has functionally diverged and specialized. They demonstrate that the increased secretory capacity of the venom gland was achieved by modulating the secretory machinery, particularly through genes involved in the endoplasmic reticulum stress response and unfolded protein response. This study highlights the genetic mechanisms behind functional divergence and emphasizes the adaptability of the gastropod digestive system.

I believe this work is well-written and could be published as is with only minor modifications.

Figures 2a and 2b lack legends. In Figure 2a, the authors should clarify what PM, MP, NS, MT, OA, and other abbreviations mean. In Figure 2b, although the information is shown in Figure 1, the authors should explain the significance of each drawing on the left.

Additionally, in section 2.3.2, the authors should provide a clearer explanation of the first paragraph, which discusses the secretome analysis based on genes predicted to have signal peptides.