

# Sequestration of Dietary Alkaloids by the Spongivorous Marine Mollusc *Tylodina perversa*

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Specimens of the spongivorous Mediterranean opisthobranch *Tylodina perversa* that had been collected while feeding on *Aplysina aerophoba* were shown to sequester the brominated isoxazoline alkaloids of their prey. Alkaloids were stored in the hepatopancreas, mantle tissues, and egg masses in an organ-specific manner. Surprisingly, the known sponge alkaloid aerothionin which is found only in *A. cavernicola* but not in *A. aerophoba* was also among the metabolites identified in wild caught specimens of *T. perversa* as well as in opisthobranchs with a documented feeding history on *A. aerophoba*. Mollusc derived aerothionin is postulated to be derived from a previous feeding encounter with *A. cavernicola* as *T. perversa* was found to freely feed on both *Aplysina* sponges in aquarium bioassays. The possible ecological significance of alkaloid sequestration by *T. perversa* is still unknown.

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