Video: Virtual predator makes decisions like the real one
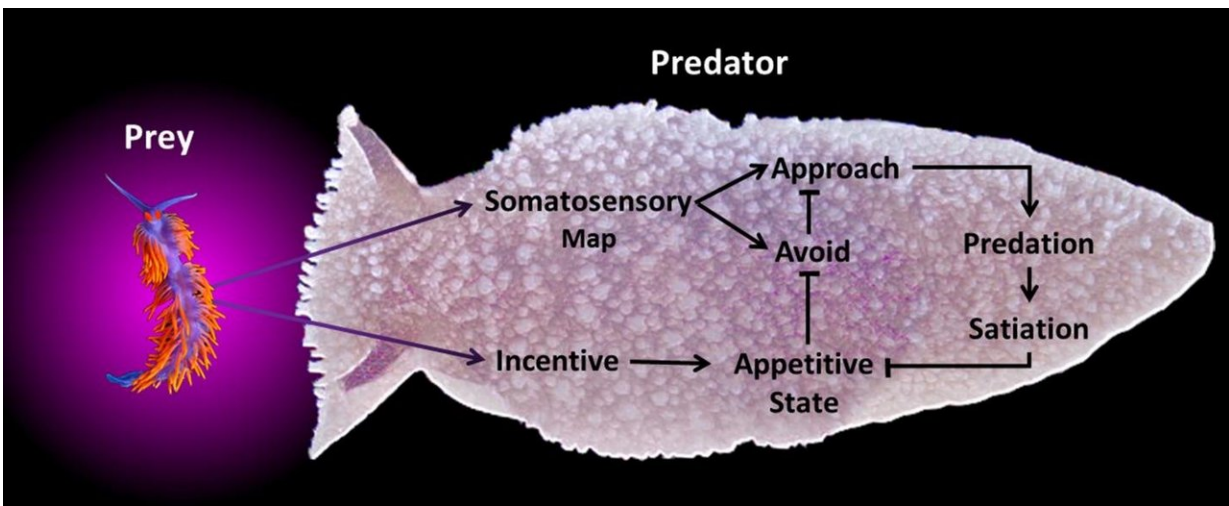
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Approach-avoidance modeling in Pleurobranchaea. Credit: Brown et al., eNeuro (2018)

A sea slug's decision to approach or avoid potential prey has been simulated in a virtual environment called Cyberslug. In the future the software, described in a paper published in *eNeuro*, may provide a foundation for the development of more realistic artificial intelligence systems.

Sea slugs in the genus Pleurobranchaea readily learn to prefer easy prey while avoiding others that protect themselves from predators with a

stinging defense, unless forced to eat them by intense hunger. Rhanor Gillette and colleagues were able to reproduce these choices in Cyberslug using data from previous studies of Pleurobranchaea brain and behavior. By simulating the relationships between the virtual predator's hunger level and learning ability, the researchers demonstrated how both attributes are required to regulate consumption of the appropriate amount and type of prey. The research suggests that this simple model is poised for improvements and additions that could enable the simulation of complex decision-making, as in addiction and social behavior.

More information: Implementing goal-directed foraging decisions of a simpler nervous system in simulation,*eNeuro*. DOI: 10.1523/ENEURO.0400-17.2018

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