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Title:	Neuropeptides and Behaviors: How Small Peptides Regulate Nervous System Function and Behavioral Outputs
Authors:	Bhat, Umer Saleem (/jspui/browse?type=author&value=Bhat%2C+Umer+Saleem)
Keywords:	Neuropeptides Behaviors Small Peptides Regulate
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Abstract:	One of the reasons that most multicellular animals survive and thrive is because of the adaptable and plastic nature of their nervous systems. For an organism to survive, it is essential for the animal to respond and adapt to environmental changes. This is achieved by sensing external cues and translating them into behaviors through changes in synaptic activity. The nervous system plays a crucial role in constantly evaluating environmental cues and allowing for behavioral plasticity in the organism. Multiple neurotransmitters and neuropeptides have been implicated as key players for integrating sensory information to produce the desired output. Because of its simple nervous system and well-established neuronal connectome, <i>C. elegans</i> acts as an excellent model to understand the mechanisms underlying behavioral plasticity. Here, we critically review how neuropeptides modulate a wide range of behaviors by allowing for changes in neuronal and synaptic signaling. This review will have a specific focus on feeding, mating, sleep, addiction, learning and locomotory behaviors in <i>C. elegans</i> . With a view to understand evolutionary relationships, we explore the functions and associated pathophysiology of <i>C. elegans</i> neuropeptides that are conserved across different phyla. Further, we discuss the mechanisms of neuropeptidergic signaling and how these signals are regulated in different behaviors. Finally, we attempt to provide insight into developing potential therapeutics for neuropeptide-related disorders.
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