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## The octopus mind: Implications for cognitive science

Commentary on [Mather](#) on *Octopus Mind*

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**Abstract:** Mather consolidates the case for octopus mind and how it may be structured, shifting the starting point of inquiry from “If octopuses had minds, what would they be like?” to “What is the mind of an octopus like?”.

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A difficulty that often plagues researchers on cognition in octopuses is the need to establish whether these animals are indeed endowed with minds. Disciplines studying the nature and structure of the mind, such as philosophy, are reluctant to accept the idea that a creature so unlike vertebrates may be on a par with them in psychological sophistication. One compelling reason to study octopus minds is that it reveals how similar outcomes can be realized (Godfrey-Smith 2016, 2019) through strategies that differ significantly from those used by vertebrates (Sumbre et al. 2005; Sumbre et al. 2001; Porcher 2019; Zullo et al. 2009). It thus occupies a place of particular significance in empirical and theoretical studies of the mind.

Before conceptual discussion can proceed, it has to be shown convincingly that the octopus nervous system is capable of supporting mental capacities, i.e., that octopuses can and do have minds. Mather (2019) provides compelling evidence, thereby allowing the discussion to progress to the question of “What might the mind of an octopus be like?”, providing more details about the psychological life of a creature whose nervous system differs radically from the vertebrate one that has long informed cognitive science and philosophy of mind. Accepting that the octopus has a mind opens the door to learning more about a different kind of sentience.

Many accepted views of cognition are biased toward vertebrates and must now be rethought. Octopuses have evolved unique solutions for motor control and other cognitive tasks that are closely intertwined with their morphology (Hochner 2013; Guerra 2019). Cognitive tasks considered high-level in humans (e.g., dependent on representational capacities) may be realized through low-level or even non-cognitive processes in octopuses. Disciplines studying the mind need to be more pluralistic in their explanations. Morphologically influenced control strategies are needed to explain certain forms of octopus behaviour. An octopus model of cognition is necessary to account for octopus cognition.

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