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EDITORIAL

Editorial to the topical collection "From sensory perception to behavior"

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The Topical Collection *From sensory perception to behavior* is based on a selection of presentations that were given on a Topical Meeting with the same name of the Ethological Society in Bonn, February 22–24, 2017. The local organization committee of the meeting was made up by Gerhard von der Emde, Theo Bakker, Horst Bleckmann, Ulrike Hanslik, Michael Hofmann, Joachim Mogdans, Ingolf Rick, Vera Schluessel, Anke Schmitz, and Helmut Schmitz.

From sensory perception to behavior covers the key processes that connect the environment to the individual and the individual back to the environment. Behavior needs sensory perception and information processing and in turn, feeds back on these processes. Complex social behaviors of animals are striking examples for this interaction, when the behavior of one animal constitutes the sensory input of another one.

The Topical Collection comprises 10 contributions with a wide range of topics that study the effects of sensory input from the visual (Corral-López et al. 2017; Cummings 2018; Schluessel et al. 2018), auditory (Wöhr 2018), and olfactory (Vallon and Heubel 2017; Eccard et al. 2018) systems, as well as proprioception (Dürr et al. 2018) and input from social behavior (Gierszewski et al. 2018; Tanaka et al. 2018a, b) on various behaviors in diverse organisms. Neurophysiological aspects are integrated in the studies of Corral-López et al. (2017) on visual acuity in guppies (*Poecilia reticulata*), of Cummings (2018) on sexual conflict in poeciliid fishes and of Dürr et al. (2018) on limb coordination in insects. Cognitive processes as a link between sensory input and behavior are addressed in the studies of Cummings (2018) on poeciliid fishes, of Eccard et al. (2018) on bank voles *Myodes glareolus*, of Gierszewski et al. (2018) on sailfin mollies *Poecilia latipinna*, and of Schluessel et al. (2018) on Malawi cichlids *Pseudotropheus zebra*. The papers of Dürr et al. (2018) and Wöhr (2018) focus rather on sensory input for generating behavior in insects and rats *Rattus norvegicus*, respectively.

Progress will be expected from studies that integrate the different levels in which sensory information shapes behavior: from sensory perception via information processing to the evolutionary context. We hope that the rich bouquet of papers of this Topical Collection will stimulate further research and integration of (neuro)physiology and behavioral ecology.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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This article is a contribution to the Topical Collection From Sensory Perception to Behavior — Guest Editors: Theo C. M. Bakker, Horst Bleckmann, Joachim Mogdans, Vera Schluessel

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