

Poster presentation

How a sand scorpion determines the distance to its prey

Roland Utz* and Leo van Hemmen

Address: Physics Department, Technische Universität München, Munich, Germany

Email: Roland Utz* - Roland.Utz@ph.tum.de

* Corresponding author

from Eighteenth Annual Computational Neuroscience Meeting: CNS*2009
Berlin, Germany. 18–23 July 2009

Published: 13 July 2009

BMC Neuroscience 2009, **10**(Suppl 1):P114 doi:10.1186/1471-2202-10-S1-P114

This abstract is available from: <http://www.biomedcentral.com/1471-2202/10/S1/P114>

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The sand scorpion *Paruroctonus mesaensis* is able to determine the distance to its prey [1]. Experimental data shows that a sand scorpion, which has a diameter of 5 cm, can accurately determine distances up to 15 cm with an error of about 1 cm. For distances exceeding 15 cm, a scorpion must only move approximately 10 centimeters towards the source before receiving another cue. We have identified a mechanism that would allow a scorpion to match a unique pattern to each distance and developed a neuronal model that performs distance determination up to the precision needed. Generalization to other animals is considered.

References

1. Brownell PH: **How the sand scorpion locates its prey.** *Science* 1977, **197**:497-482.