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ABSTRACTS

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Shape discrimination in the jumping spider *Phidippus regius*

In recent years a growing number of studies in animal cognition has focused on minute brains' abilities, especially those of species phylogenetically more distant from primates or even vertebrates. Arthropods species were shown able to navigate complex environments, of a variety of forms of learning, they can communicate, and even do some rudimental counting. We are studying perception and cognition in an arachnid species, the jumping spider Phidippus regius. This family distinguishes itself among spiders, and from the other Arthropoda as well, due to its sophisticated visual system, composed of 4 pairs of simple (single lens) eyes. Receptor size and density in the anterior median eyes in particular allow for an extraordinary visual acuity, though the small visual view of these eyes makes it very probably necessary to scan and then stitch together (in some form of inner representation) multiple images. In spite of extensive investigation of the anatomy and physiology of jumping spiders' visual system, shape perception and discrimination has to our knowledge never been assessed experimentally. We have been trying to work in this direction and will discuss the experimental paradigm and the preliminary data so far obtained.