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Denialism and muddying the water or organized skepticism and clarity? THAT is the question

Commentary on Sneddon et al. on Sentience Denial

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Abstract: The research being commented on here has been criticized and defended in journals. Sneddon et al. (2018) add nothing substantive. We have nothing further to add. Readers are referred to Diggles (2018) and to Browman et al. (2018) for a detailed assessment.

Keywords: anthropomorphism, crustacea, fish, misrepresentation, nociception, pain, skepticism

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"The improver of natural knowledge absolutely refuses to acknowledge authority, as such. For him, scepticism is the highest of duties; blind faith the one unpardonable sin." (T.H. Huxley 1866)

High scientific standards dictate that research is properly designed, implemented without artefact, interpreted conservatively without spin (Boutron and Ravaud 2018) and replicable by others. To ensure that this is the case, all research must be able to withstand close scrutiny, in the form of organized skepticism (Huxley 1866; May 2011). Organized scepticism is a norm of science and should not be misconstrued or misrepresented as anything other than an integral aspect of the scientific method.

The body of research that Sneddon et al. (2018) defend has been subjected to organized skepticism – and defended – in the journals in which the original articles were published. In our view, Sneddon et al. add nothing substantive to those earlier exchanges beyond framing our valid criticisms as denialism and obfuscation (Jacquet 2018). We therefore have nothing further to say about the specifics they raise. Rather, we refer readers to Diggles (2018) for a detailed assessment of the research available to inform aquatic crustacean welfare, and to Browman et al. (2018) for a general treatment of the broader issues surrounding aquatic animal welfare, including the need for organized skepticism.

References

- Boutron, I., & Ravaud, P. (2018). <u>Misrepresentation and distortion of research in biomedical</u> <u>literature</u>. *PNAS*, 115, 2613-2619.
- Browman, H. I., Cooke, S. J., Cowx, I. G., Derbyshire, S. W. G., Kasumyan, A., Key, B., Rose, J. D., Schwab, A., Skiftesvik, A. B., Stevens, E. D., Watson, C. A., & Arlinghaus, R. (2018). <u>Welfare of aquatic animals: Where things are, where they are going, and what it means for research, aquaculture, recreational angling and commercial fishing</u>. *ICES Journal of Marine Science*.
- Diggles, B. K. (2018). <u>Review of some scientific issues related to crustacean welfare</u>. *ICES Journal of Marine Science*.
- Huxley, T. H. (1866). On the advisableness of improving natural knowledge. *Fortnightly Review*, 3, 626-637.
- Jacquet, J. (2018). Defining denial and sentient seafood. Animal Sentience 21(8).
- May, R. M. (2011). Science as organized scepticism. *Philosophical Transactions of The Royal Society*, 369, 4685-4689.
- Sneddon, L. U., Lopez-Luna, J., Wolfenden, D. C. C., Leach, M. C., Valentim, A. M., Steenbergen, P. J., Bardine, N., Currie, A. D., Broom, D. M., & Brown, C. (2018). <u>Fish sentience denial:</u> <u>Muddying the waters</u>. *Animal Sentience* 21(1).



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<u>The Other Minds</u> <u>Problem: Animal</u> Sentience and Cognition

Overview. Since Descartes, philosophers know there is no way to know for sure what — or whether — others feel (not even if they tell you). Science, however, is not about certainty but about probability and evidence. The 7.5 billion individual members of the human species can tell us what they are feeling. But there are 9 million other species on the planet (20 quintillion individuals), from elephants to jellyfish, with which humans share biological and cognitive ancestry, but not one other species can speak: Which of them can feel — and what do they feel? Their human spokespersons — the comparative psychologists, ethologists, evolutionists, and cognitive neurobiologists who are the world's leading experts in "mind-reading" other species — will provide a sweeping panorama of what it feels like to be an elephant, ape, whale, cow, pig, dog, chicken, bat, fish, lizard, lobster, snail: This growing body of facts about nonhuman sentience has profound implications not only for our understanding of human cognition, but for our treatment of other sentient species.

Gregory Berns: Decoding the Dog's Mind with Awake Neuroimaging Gordon Burghardt: Probing the Umwelt of Reptiles Jon Sakata: Audience Effects on Communication Signals **PANEL 1: Reptiles, Birds and Mammals** WORKSHOP 1: Kristin Andrews: The "Other" Problems: Mind, Behavior, and Agency Sarah Brosnan: How Do Primates Feel About Their Social Partners? Alexander Ophir: The Cognitive Ecology of Monogamy Michael Hendricks: Integrating Action and Perception in a Small Nervous System **PANEL 2: Primates, Voles and Worms** WORKSHOP 2: Jonathan Birch: Animal Sentience and the **Precautionary Principle** Malcolm Maclver: How Sentience Changed After Fish Invaded Land 385 Million Years Ago Sarah Woolley: Neural Mechanisms of Preference in Female Songbird Simon Reader: Animal Social Learning: Implications for **Understanding Others** PANEL 3: Sea to Land to Air WORKSHOP 3: Steven M. Wise: Nonhuman Personhood Tomoko Ohyama: Action Selection in a Small Brain (Drosophila Maggot) Mike Ryan: "Crazy Love": Nonlinearity and Irrationality in Mate Choice Louis Lefebvre: Animal Innovation: From Ecology to **Neurotransmitters** PANEL 4: Maggots, Frogs and Birds: Flexibility Evolving PECIAL EVENT: Mario Cyr: Polar Bears Colin Chapman: Why Do We Want to Think People Are Different? Vladimir Pradosudov: Chickadee Spatial Cognition Jonathan Balcombe: The Sentient World of Fishes **PANEL 5: Similarities and Differences** WORKSHOP 5 (part 1): Gary Comstock: A Cow's Concept of Her Future WORKSHOP 5 (part 2): Jean-Jacques Kona-Boun: Physical and Mental Risks to Cattle and Horses in Rodeos

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