

If nonhuman animals can suicide, why don't they?

Commentary on [Peña-Guzmán](#) on *Animal Suicide*

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Abstract: An evolutionary analysis suggests that selection is unlikely to have tolerated the capacity for intentional self-killing in nonhuman animals. The potential to escape pain by suicide would have presented a recurrent and severe adaptive problem for an animal with a reproductive future to protect. If the potential for suicide arose in the evolutionary past, anti-suicide mechanisms may have co-evolved, as we believe they have in adult humans. Peña-Guzmán's (2017) argument that some nonhuman animals can suicide is incomplete without an account of the defences that result in the vast majority opting not to.

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Peña-Guzman (2017) questions whether only humans suicide. (We use “suicide” as a verb, to bypass the morally loaded “commit.”) He argues that nonhuman animals might, if not kill themselves intentionally, behave on a continuum of suicidality. Peña-Guzmán advances this position with evidence from three domains: First, aspects of emotional states and pathologies associated with human suicidality are also found in other species. Second, nonhumans sometimes die as a consequence of self-neglect or self-injury (and there are anecdotal reports of apparently intentional self-killings among diverse fauna). Third, the use of laboratory animals to model neurological and behavioural correlates of human suicidality implies an acceptance that these animals provide valid homologues. Challenging what he views as a premature consensus that suicide is uniquely human, Peña-Guzmán synthesises disparate research sources, and raises important ethical questions for animal welfare.

Peña-Guzmán does not convince us that animals can suicide, for three reasons. First, his definition of suicide – specifically including nonhumans and embracing incidental deaths that arise from risk-taking rather than the intentional self-killing that characterises suicide (Fairbairn, 2003; WHO, 2014) – sets up a circular track to Peña-Guzmán's “continuist”

conclusion. His argument illustrates Baechler's (1975/1979) point that an entire theory of suicide is sometimes contained in the definition of suicide proposed by its author.

Second, although there is not space here for an itemized critique, much of the empirical substance of Peña-Guzmán's position is flawed. For example, he refers to child suicide as if it is a unitary phenomenon, overlooking the emergence of suicide risk in normal development: completed suicide among children under the age of ten years is rare, and under five years virtually unknown (Nock et al., 2013). Peña-Guzmán refers in passing to suicide among people with "severe cognitive disabilities" as if this were well-documented and uncontroversial; yet, although mild to moderate intellectual disability (ID) is linked with suicidality, there is little evidence of suicide among those with severe ID (Merrick, Merrick, Lunsy, & Kandel, 2006).

There is no robust evidence of nonhuman suicides, notwithstanding countless opportunities for such self-killings, if they occurred, to be documented by the world's farmers, animal breeders, naturalists, and scientists (Prete, 2007). We are left with anecdote and fable, including the scorpion's self-sting, proffered by Peña-Guzmán as an example of animal suicide despite clear evidence that scorpions cannot sting themselves to death (Andreotti & Sabatier, 2013).

Scorpions are immune to their own venom, presumably because selection has eliminated the germ lines of scorpions that were not so protected. The ubiquity of such specific, self-preserving adaptations connects to a third, theoretical, problem with animal suicide: the absence of a coherent explanation as to how selection could favour and maintain such a capability. Many organisms sacrifice their soma according to algorithms of inclusive fitness: non-breeding siblings in eusocial colonies – hymenopteran insects, for example – often die defending the colony; other organisms that breed only once have nothing to lose by dying once their reproductive work is done. But neither of these behaviours constitutes suicide in a meaningful sense of the word – and neither reproductive strategy characterises dolphins, scorpions, or most of the other candidates for animal suicide suggested by Peña-Guzmán. Most animals have reproductive futures to defend, and hence have good genetic reason to remain alive.

Suicide is not observed in nonhumans for a straightforward evolutionary reason: any genes that permitted suicide would have been eliminated along with the suicides' bodies. Any animal that, in the absence of restraints, was capable of escaping its pain and suffering by self-killing would be expected to seize the opportunity, because some pain is unavoidable in the Malthusian theatre in which selection plays out, and because pain is designed to motivate action to escape. A suicidal animal, if it appeared, would face a predictable and severe adaptive problem – the kind of problem that selection would expectably and powerfully have addressed in the evolutionary past.

The most parsimonious explanation for the apparent absence of suicide among younger children, the severely cognitively impaired, and nonhuman animals, is that these populations lack the cognitive wherewithal to conceive and enact it (Baechler, 1975/1979). Peña-Guzmán (2017) may be right that the difference in the cognitive abilities of humans compared to other animals is a matter of degree, not kind, but this continuity does not preclude a threshold effect: Humans alone cross a cognitive floor for suicide (Perry, 2014) as the brain matures, usually around puberty. That most adolescent and adult humans can and do endure misery without resorting to suicide points to the existence of powerful anti-suicide defences, evolved mechanisms that emerge in normal mature humans. The possible nature of these defences is the subject of a forthcoming book-length discussion (Soper, 2018). The point

to make here is that Peña-Guzmán's argument that nonhuman animals occasionally suicide to end their suffering is incomplete without an account of the evolved protections that thwart the vast majority from exploiting this supposedly available means of escape.

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