The Missing Link Between Two Related Fields of Science – Wildlife Conservation & Animal Welfare Science

Conservation decisions and practices often come at a cost for animals. That these animals have to bear the burden of attaining conservation aims through their harm or death is, more often than not, disregarded or rationalized by the wider scientific community (Ramp & Bekoff, 2015; Sekar & Shiller, 2020). It is not uncommon for some individuals of a species to be sacrificed for the 'greater good' of their own species or for the 'greater good' of another species, or even in the name of science. Wildlife conservation is rooted in the assessment of species richness and abundance, and protection of ecosystems, but takes for granted an individual's or group's sentience and well-being (Ramp & Bekoff, 2015; Fraser, 2010; Sekar & Shiller, 2020). At what point in time will the value of an individual's life be considered equally important to that of a species or to a human life (Ramp & Bekoff, 2015; Sekar & Shiller, 2020)? This has been a topic of discussion in the past that persists even today mainly because the root of the problem has not been with conservation itself, but the way in which it is practiced augmented by the lack of cooperation between wildlife conservationists and animal welfare scientists (Ramp & Bekoff, 2015).

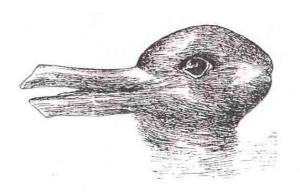


Fig. 1. The Duck-Rabbit Ambiguous figure was published and popularized by Joseph Jastrow in the year 1900, after its creation by an anonymous illustrator in the late 19th century ("Duck-Rabbit - The Illusions Index", 2022).

I always believed that to conserve a species also implied a concern for an individual's or group's well-being. A recent article by Sekar & Shiller (2020) emphasized that leading conservationists are concerned with the conservation of species and their respective populations but not the welfare of individual animals. But if a species consists of individuals, then a species' well-being is not completely different from that of individual's (Harrington *et al.*, 2013), or is it?

In 2015, I read a New York Times article on the divisive nature of religion. Though the contents of the article surpass me, the illustration used to articulate the writer's message still resonates with me – the Duck-Rabbit Ambiguous figure ("Duck-Rabbit - The Illusions Index", 2022), (Fig. 14). Depending on how one views this figure, either a duck or a rabbit can be seen. Could this potentially explain why wildlife conservationists fail to apply concepts from animal welfare within their discipline, when in fact they revolve around the same goal?

As part of a nanopore sequencing workshop conducted during my internship in Ecuador in September, 2022, tissue samples were extracted from a handful of amphibians, including two Rio Coca Robber Frogs (*Pristimanti quaquaversus*)during amplexus. Amplexus is the mating position taken up by amphibians during external fertilization (Kindermann *et al.*, 22014)). After tissue samples were obtained, I enquired if I could release the mating pair a day prior to the planned day. Although I got the permission to release them earlier, releasing them at the site they were obtained from was not a possibility due to time constraints. This is especially important for amphibians as releasing them at an unknown location can negatively impact their chances of survival (Germano & Bishop, 2009). As a result, I decided against releasing them earlier. To this, a researcher at SKIS said "if anything was to happen to these individuals it would not affect the population negatively as this species (*Pristimantis quaquaversus*) is listed as Least Concern by the IUCN" (IUCN, 2022).

While most harm is a result of habitat loss, habitat degradation, and climate change, the inclusion of humans in conservation measures takes the cake for the remainder of the induced harm to animals. Human-induced harm in conservation is a product of crumbling ethical foundations and a lack of attention to an individual's wellbeing, stimulated by human needs, desires and benefits, and an existing notion of human exceptionalism and species exceptionalism (Ramp& Bekoff, 2015; Dubois et al., 2017). Therefore, an end needs to be brought to the long-standing disconnect between wildlife conservation and animal welfare science, with an urgent need to implement more empathetic approaches to study and assess wildlife underpinned by evidence-based animal welfare studies concerning those practices (Ramp & Bekoff, 2015; Fraser-Celin & Hovorka, 2019).

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