Editorial

Working to Supply the Demand: Recent Advances in the Science of Zoo Animal Welfare

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If animal welfare scientists were economists, we would be saying that the demand for knowledge is increasing faster than the supply. The World Association of Zoos and Aquariums (WAZA) has announced that all national and regional associations must have an animal welfare evaluation process in place by 2023 [1]. Regional zoo associations, such as the Association of Zoos and Aquariums (AZA), the British and Irish Association of Zoos and Aquariums (BIAZA), the European Zoo and Aquarium Association (EAZA), and the Zoo and Aquarium Association Australasia (ZAA) have begun requiring member organizations to conduct regular animal welfare assessments [2,3]. Some research on the public perception of zoos and aquariums reveal a lack of trust in zoos in aquariums to meet the emotional needs of animals in their care and to share information about animal welfare [4,5]. Therefore, the demand for welfare knowledge is high, both within the industry and from the general public.

The supply of welfare knowledge is lagging behind the demand. Certainly, there is an increase in information being published [2,6] and applicable knowledge exists outside of the scientific literature as well. However, several systematic literature reviews [2,6,7] have concluded that there is a need for more empirically derived information about how to measure and promote good welfare for many species in zoos and aquariums. Given that zoos and aquariums care for thousands of different species in a myriad of different environments, with varying management approaches, we are in need of a great deal of research to draw strong inferences about how to support good animal welfare.

In a modest attempt to fill the gap between need and knowledge about the welfare of animals in zoos and aquariums, the topic of this Special Issue is "Recent Advances in the Science of Zoo and Aquarium Animal Welfare." Contributors were especially encouraged to share science that could translate into practical applications in zoos and aquariums. In the 15 contributions to this Special Issue, we learn about how to assess welfare in typically understudied species, such as Nile crocodiles [8] and American toads [9]. We consider the shortcomings of some dominant approaches [10,11], the novel application of existing approaches [12,13], and the application of entirely new approaches [14,15] to big questions in zoo and aquarium animal welfare. We also gain knowledge from established approaches applied to new welfare questions regarding effects of enrichment [16,17], seasonality [18], construction disturbances [19], cross-fostering [20], and the return of visitors to zoos post-COVID closures [21].

Some publications in this Special Issue can be applied to both zoo and aquarium populations [10–12,14]; however, contributions for this Special Issue all originated from research conducted at zoological institutions. This unfortunate lack of aquarium representation underscores the need for more research and dissemination on aquatic animal welfare.

This Special Issue supplies new knowledge that can be applied in our efforts to empirically evaluate and enhance the welfare of animals in zoos and aquariums. Although the gap between the demand for welfare science and the supply remains large, we have more knowledge than we did previously, and we should remain vigilant for opportunities to disseminate it and integrate it into practice.

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