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Research with Captive Marine Mammals is Important: An Introduction to the Special Issue

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Although considerable advances have been made in our understanding of marine mammals in the past few decades, there are still many more questions than answers. Attempts to answer these questions will rely on information from both captive and wild populations. The purposes of this special issue and the one to follow it are to: (1) highlight the significance of research with captive animals, (2) emphasize the complementary nature of captive research with that done with wild animals, (3) urge researchers to cooperate, regardless of whether they study captive or wild animals, and (4) encourage facilities with captive marine mammals to allow researchers to conduct meaningful studies that further our understanding of marine mammal anatomy, behavior, cognition, communication, perception, and physiology.

The idea for this special issue resulted from the publication of the Humane Society of America's recent edition of *The Case Against Marine Mammals in Captivity* (Rose, Parsons, & Farinato, 2009). Although the authors of this publication acknowledged the possibility that some research with captive animals might have been important in the past, they also suggested that research with captive marine mammals is no longer necessary. Nothing could be further from the truth. Research with captive marine mammals has been and continues to be instrumental in increasing our understanding of dolphin perceptual and cognitive abilities, dolphin communication, dolphin physiology and reproduction, and dolphin social behavior.

The significance of research with captive marine mammals is evident in the collection of papers in this issue. O'Brien and Robeck report on groundbreaking research on cetacean reproduction, and its significance for conservation efforts. Houser, Finneran, and Ridgway discuss the vast amount of information that has been published by members of the US Navy Marine Mammal Program, and the significance of this research for marine mammal care, conservation, and science. In a slightly different vein, Highfill and Kuczaj point out the importance of studying individual differences among both captive and wild populations, given that such differences are the basis for evolutionary change. Treating all members of a species as identical ignores the richness and diversity that results in the behavioral complexity that has fascinated and perplexed scholars for decades. Vergara, Michaud, and Barrett-Lennard's research on beluga contact calls provides a convincing and compelling example of the ways in which research with captive animals and research with wild animals can complement one another. Our understanding of marine mammal cognition has also benefited greatly from studies with captive animals. Although it is possible and important to study cognition in the wild, controlled studies conducted with captive animals are essential to properly assess the extent of cetacean cognitive capabilities, as demonstrated by the collection of papers by Herman; Harley, Fellner, and Stamper;

Mercado and DeLong; Smith; Tomonaga, Uwano, and Saito; and Yeater and Kuczaj. In fact, arguments against keeping marine mammals in captivity are often based on studies of the cognitive abilities of captive animals (e.g., White, 2007).

Although the richness and diversity of research with captive marine mammals are amply illustrated by the authors of the papers in this special issue, it is clear that much more research could be conducted at facilities that house captive animals than is currently the case. Hill and Lackups examined nine different databases to conduct a meta-analysis on publications involving cetaceans found in both captivity and in the wild. Their examination of 1628 articles revealed many more publications with wild animals than with captive ones, demonstrating the need for more facilities that maintain captive cetaceans to allow researchers to conduct research with their animals and for facilities already conducting research to expand their research programs. In addition to facilitating an increase in our understanding of marine mammals, such research is often beneficial for the participating animals in terms of providing increased stimulation and decreasing the predictability of captive environments (Kuczaj, Lacinak, & Turner, 1998).

Although more research with captive animals is both warranted and needed, the research that has been completed and is currently being done could not be captured in one issue. As a result, a second issue on research with captive marine mammals will be published in the *International Journal of Comparative Psychology* in November of this year, and will contain another set of papers that illustrate why it is important to study animals in captivity as well as in the wild.

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