



## **Future Directions in Comparative Psychology: An Introduction to the Special Issue**

**Lance J. Miller**

*Institute for Conservation Research, San Diego Zoo Global*

**Heather M. Hill**

*St. Mary's University*

The purpose of this special issue is to highlight the publication trends regarding research in today's field of comparative psychology. A survey was conducted to determine the research priorities of institutions and researchers currently pursuing research with animals. Over 200 responses were received from 28 different countries representing scientists from many different backgrounds and institutions. Top priorities for research interests were clearly divided by the setting in which scientists conducted their research with animals. Experts from the fields identified as the most important future research topics on comparative psychology were invited to review their respective fields for publication trends over the last 20 years. The results of their significant efforts and the importance of continuing research in comparative psychology are presented and addressed in this special issue. We hope that this information will not only guide research within these fields but also identify potential overlap between zoos/aquariums and academic institutions to further collaboration within the field.

The International Journal of Comparative Psychology represents a diverse number of disciplines. Studies can be conducted in laboratories, zoos and aquariums or in the field to answer a wide array of questions that further scientific understanding. Each of these different approaches offers a range of pros from large sample sizes to diversity of species and cons from lack of control to limited external validity. Previous authors have suggested that collaboration between zoos/aquariums and academic institutions is minimal (Fernandez & Timberlake, 2008; Hosey, 1997). However, a closer look at each of these types of organizations and their priorities might shed some light on the reasons for this lack of collaboration.

In May 2013, we submitted a survey to a number of distribution lists, including Comparative Cognition, APA Division Six, International Society of Comparative Psychology, Marine Mammal, Primate, International Elephant Foundation, and the Association of Zoos and Aquariums Research and Technology Committee, Animal Welfare Committee and Behavioral Scientific Advisory Group. The survey was oriented around the type of research topics researchers of animal behavior were currently pursuing or thought should be pursued in the future. The questions that were asked included describing the respondent's position (e.g., professor - college/university), country of residence, taxonomic groups currently a focus of research efforts, current field of focus, important topics for the next ten years, types of current collaborations, and contact information. In total, we received 235 responses representing 28 countries with the majority of responses from the United States (70.7%).

The majority (67.9%) of our respondents identified themselves as working as a professor/scientist within a college or university, with 23.3% working in a zoo/aquarium and 8.7% working other (e.g., non-university laboratory). Not surprisingly, the majority of respondents reported working with mammals (86.5%) with the second most common taxonomic group being birds (34.1%), followed by reptiles (10.0%), amphibians (5.2%), ray-finned fish (1.7%), lobe-finned fish (0.9%), and jawless fish (0.4%). Those individuals working in zoos and aquariums typically work with a broader range of taxonomic groups ( $M = 1.65$ ) than did those working in academic institutions ( $M = 1.18$ ). This difference is most likely a result of

We would like to thank Dr. Stan Kuczaj, outgoing editor of *International Journal of Comparative Psychology*, for his helpful comments and suggestions for this special issue and introduction. Correspondence concerning this special issue should be addressed to Lance J. Miller, Institute for Conservation Research, San Diego Zoo Global, Escondido, CA 92027. ([lmiller@sandiegozoo.org](mailto:lmiller@sandiegozoo.org)) or Heather M. Hill, Psychology Department, St. Mary's University, One Camino Santa Maria, San Antonio, TX 78228. ([hhill1@stmarytx.edu](mailto:hhill1@stmarytx.edu)).

zoos and aquariums having a number of different species within their collection. Exploring the differences between the types of institutions further, we find that zoos/aquariums report they commonly collaborate with colleges/universities (68%), however colleges/universities only reported collaborating with zoos intermittently (19%) and aquariums rarely (5%). This difference in collaborative reporting is most likely due to zoos/aquariums collaborating with biology divisions at those colleges/universities or fields other than psychology and 80.7% of our university respondents who supplied that information were from psychology departments. Finally, when identifying the top priorities for the next ten years, zoos/aquariums identified animal welfare (39.6%), conservation (27.5%), cognition (23.1%), human-animal interactions (18.7%), neural-behavioral interactions (14.3%), personality/temperament (14.3%), reproduction (14.3%), social behavior (13.2%), and learning (12.1%). Alternatively, colleges/universities identified cognition (49.0%), neural-behavioral interactions (35.8%), behavior genetics (25.2%), learning (24.5%), animal welfare (21.9%), human-animal interactions (20.5%), social behavior (19.9%), evolution (19.9%), behavior-health interactions (13.9%) and emotion (13.9%) as priorities for the next 10 years. While there is some overlap between the different types of organizations, it is clear that the top priorities are different.

Zoos and aquariums around the world contain a unique resource to further our knowledge and understanding of many species that are conservation dependent (e.g., threatened, endangered, etc.). Only through sound research will we not only gain a better understanding of the basic behavior and intelligence of these animals but also learn more about what it takes to help conserve them in the wild as well as provide optimum care within zoological institutions. Those identified as working in these types of institutions identified their top priorities as animal welfare and conservation. On the other hand, colleges/universities identified their top priorities as cognition and neural-behaviors interactions. To better understand where collaboration between these two types of organizations might be fruitful and possible, we invited experts in the respective fields to review the publication trends of some of the critical fields identified by participants completing the survey. We hope that this information will not only guide research within these fields but also identify potential overlap between zoos/aquariums and academic institutions to further collaboration within the field. While the topics of animal welfare and wildlife conservation are not typically what one would think of in terms of comparative psychology, a comparative approach could be taken to addressing pressing questions within these fields. Working together, zoos/aquariums and academic institutions could continue to further our knowledge while better leveraging resources.

## References

- Fernandez, E. J., & Timberlake, W. (2008). Mutual benefits of research collaborations between zoos and academic institutions. *Zoo Biology*, *27*, 470-487.
- Hosey, G. R. (1997). Behavioral research in zoos: academic perspectives. *Applied Animal Behaviour Science*, *51*, 199-207.