Genetic diversity in times of increasing demand

Kenton Kerns, Smithsonian National Zoo & Conservation Biology Institute

Joanna Malukiewicz, Arizona State University

Yashuhiro Go, National Institute of Physiology, Japan

Jeffrey Rogers, Baylor College of Medicine

Ricardo del Rosario, Broad Institute, MIT
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How much diversity exists in Callithrix populations
  captive
  wild

How much diversity is needed for specific research areas

How to promulgate diversity
  Centralized: Top down
  Dispersed: Bottom up

Infrastructure to foster genetic diversity
  Founders on loan
  Simplified methods

Cooperative methods
Objectives:

• Examine the prospect and application of a Species Survival Plan for marmosets, including its role in the exchange of genetic information (+ small colonies)

• Discuss elements of genetic and microbiological characterization of marmosets
  - Do the provenance and genetic background of marmoset colonies play a role in choosing research questions
  - Maintain marmoset colony genetics

• Discuss the genetic diversity in Japan’s marmoset colonies

• Analyze the need for and role of genetic diversity in marmosets used in biomedical research (genome sequencing)

• Present a chip-based genomic analysis
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• What is the contribution of genetic diversity to marmoset-based animal models?
• What are some of the most common problems encountered in tracking genetic diversity?
• What are some of the potential solutions in maintaining said diversity?
• It appears likely that the US marmoset research population will include a number of breeding colonies that are each relatively small, raising questions as to how to best maintain the overall population to ensure genetic viability.
  
  o What are the specific goals of genetic management of the marmoset population – e.g., outbreeding? Definition of founder populations? Enrichment or elimination of certain lineages based on either genotype or phenotype?
  
  o What can we learn from other institutions that manage numerous, small breeding populations – e.g., zoos?
  
  o What mechanisms can be used to either encourage or enforce broad population genetic management?
  
  o What would be the costs and benefits of plans to genotype or sequence every marmoset in research?