Southwest Fisheries Science Center, NOAA Fisheries
Northwest Fisheries Science Center, NOAA Fisheries
Office of Protected Resources, NOAA Fisheries
U.S. Marine Mammal Commission
Center for Marine Biodiversity and Conservation, SIO

CETACEAN SYSTEMATICS: APPROACHES IN GENETICS, MORPHOLOGY AND BEHAVIOR

Scripps Institution of Oceanography
28 – 29 April 2004

Wednesday, April 28, 2004

8:00-9:00 Registration – Sumner Auditorium Portico

9:00-9:15 WELCOME AND OPENING REMARKS: William F. Perrin (*Southwest Fisheries Science Center and Scripps Institution of Oceanography*) and Nancy Knowlton (*Scripps Institution of Oceanography and Smithsonian Tropical Research Institute*)

SESSION 1: The status of cetacean taxonomy and the interface with conservation
Session Chair: Phillip Clapham, *Northeast Fisheries Science Center*

9:20- 9:45 How the holes in cetacean taxonomy are affecting conservation and management
*(**Barbara L. Taylor**, Southwest Fisheries Science Center)*

9:45-10:10 A review of cetacean taxonomy at the species and subspecies level
*(**William F. Perrin**, Southwest Fisheries Science Center; Randall R. Reeves)*

10:10-10:40 BREAK

10:40-11:05 Species: hard to define, but we know it when we see it…or do we?
*(**Richard G. Le Duc**, Southwest Fisheries Science Center)*

11:05-11:30 www.DNA-surveillance: implementing a comprehensive and validated molecular taxonomy for cetaceans
*(**C. Scott Baker**, Auckland University, New Zealand)*

SESSION 2: Species-level questions
Session Chair: John Heyning, *Los Angeles County Museum of Natural History*

11:30-11:55 Some observations upon the systematics of Tursiops
*(**James G. Mead**, U.S. National Museum of Natural History, Smithsonian Institution)*

11:55-12:20 Does cranial morphology reflect adaptive evolutionary divergence of sympatric killer whale (orcinus orca) ecotypes?
*(**Charissa W. Fung**, University of British Colombia, Canada)*

LUNCH

12:20-1:45 Sumner Auditorium Portico (bring your own) and environs (Snackcropolis, CUPS)

SESSION 2 (continued)

1:45-2:10 Recognition of a new species *Balaenoptera omurai*
*(**Tadasu Yamada**, National Science Museum, Japan)*

2:10-2:35 Low world-wide genetic diversity in the killer whale (orcinus orca): implications for demographic history
*(**A. Rus Hoelzel**, Durham University, U.K; A. Natoli; M. E. Dahlheim, C. Olavarria, R. W. Baird; N. A. Black)*

2:35-3:00 Use of biomarkers as species-level systematic and forensic molecular tools in the detection of cetacean hybrids
*(**Deborah A. Duffield,** Portland State University; H. Zornetzer; E. O. Espinoza; N. B. Barros)*

3:00-3:25 Systematics of coastal tropical small cetaceans: a review
*(**Thomas A. Jefferson**, Southwest Fisheries Science Center)*

3:25-4:10 BREAK AND POSTER SESSION

4:10-4:35 Large inter-ocean genetic differences within *Kogia sima* indicate long-term isolation and possibly a new species
*(**Susan J. Chivers**, Southwest Fisheries Science Center; R. G. Le Duc; K. M. Robertson; N. B. Barros; A. E. Dizon)*

4:35-5:00 Color patterns of the dwarf minke whale and use of coloration in assessing taxonomic relationships of the baleen whales
*(**Peter W. Arnold**, Museum of Tropical Queensland, Australi; A. Birtles; A. Dunstan; V. Lukoschek; M. Matthews)*

5:00-5:25 *Tursiops* in Atlantic South America: is *Tursiops gephyreus* a valid species?
*(**A. S. Barreto**, Vale do Itajaí University)*

5:25-5:40 Geographic variation of the franciscana, *Pontoporia blainvillei* (Gervais & d'Orbigny, 1844) based on skull morphology
*(**Alessandra Higa**, University of São Paulo, Brazil)*

Thursday, April 29, 2004

8:00-8:30 Registration – Sumner Auditorium Portico

SESSION 3: Approaches in genetics and behavior

Session Chair: Lisa Ballance, *Southwest Fisheries Science Center*

8:30-8:55 Genetic distinctiveness, exclusivity and concordance: a molecular taxonomic approach to species identification and discovery
*(**Merel L. Dalebout**, Auckland University, New Zealand)*

8:55-9:20 New methods for measuring gene flow between closely related populations of species
*(**Jody Hey**, Rutgers University)*

9:20-9:45 Incorrect and unresolved phylogenies from mtDNA: cautions for relying on one genetic marker for species designations
*(**Phillip A. Morin**, Southwest Fisheries Science Center)*

9:45-10:10 Combined versus separate analyses of systematic data sets for cetaceans
*(**John E. Gatesy**, University of California, Riverside)*

10:10-10:40 BREAK

10:40-11:05 A rigorous framework for assessing molecular genetic characters as indicators of species level conservation units
*(**Howard C. Rosenbaum**, American Museum of Natural History, New York; G. Amato; R. DeSalle)*

11:05-11:30 Population forecasting and conservation unit definition in cetaceans
*(**J. McDonald**, University of New South Wales, Australia; W. B. Sherwin; J. Mann; M. Krüetzen; R. Connor)*

11:30-11:55 Why Y? Chromosome–specific markers and their use for cetacean systematics
*(**Leila Hatch**, Cornell University, New York; S. M. Bogdanowicz; R. G. Harrison)*

11:55-12:20 Contrasting patterns of mtDNA diversity and molecular taxonomy of cetaceans
*(**Shane Lavery**, Auckland University, New Zealand; M. Dalebout; H. Ross; C. S. Baker)*

LUNCH

12:20-1:45 Sumner Auditorium Portico (bring your own) and environs (Snackropolis, CUPS)

SESSION 3 (continued)

1:45-2:10 Does genetic differentiation imply speciation? Phylogenetic and paternity analyses show that this is not the case in West Australian bottlenose dolphins (*Tursiops sp.)*
*(**Michael Krüetzen**, University of New South Wales, Australia; W. B. Sherwin)*

2:10-2:35 Listen to my song: Bioacoustical insights into cetacean taxonomy
*(**Sarah L. Mesnick,** Southwest Fisheries Science Center and Scripps Institution of Oceanography; Jay P. Barlow)*

SESSION 4: Taxonomy at various hierarchal levels, and perspectives from other taxa
Session Chair: Annalisa Berta, *San Diego State University*

2:35-3:00 Evolutionary relationships and species identification within Delphininae: a comparison of single-locus sequence data and multi-locus anonymous nuclear markers
*(**Patricia E. Rosel**, Southeast Fisheries Science Center, Charleston, S. C.; S. Kingston; A. Westgate; L. Adams)*

3:00-3:25 Using polymorphic data and frequency analysis to infer the phylogenetic relationships and biogeography of porpoises (Cetacea: Phocoenidae)
*(**Liliana Fajardo**, San Diego State University; A. Berta; R. L. Brownell, Jr.; C. C. Boy)*

3:25-4:10 BREAK AND POSTER SESSION

4:10-4:35 Application of alternative ESU concepts to a common problem in applied conservation biology
*(**Robin Waples**, Northwest Fisheries Science Center, Seattle, Washington)*

4:35-5:00 Adaptive genetic variation and units for conservation
*(**Robert Wayne**, University of California, Los Angeles)*

5:00-5:25 The origins and evolutionary history of modern felid species
*(**Warren E. Johnson**, Laboratory of Genomic Diversity, National Cancer Institute; Eduardo Eizirik, William J. Murphy, Jill Pecon-Slattery, Agostinho Antunes, and Stephen J. O'Brien)*

5:25-5:50 Applications of ESU and subspecies concepts in birds
*(**Robert Fleischer**, U.S. Museum of Natural History, Smithsonian Institution)*

6:30-8:00 **PUBLIC FORUM – BIRCH AQUARIUM**
Are there new species of killer whales in the Antarctic?
(***Robert L. Pitman,*** *Southwest Fisheries Science Center*)