

## The Twelfth Symposium of the European Association for Aquatic Mammals—Nice, France, March 1984

The twelfth annual Symposium of the European Association for Aquatic Mammals was held in Nice in March 1984 and was attended by over 110 persons. There were representatives from 16 countries including seventeen from the USA. Two specialist sessions were held—on Marine Mammal Ophthalmology and Reproduction—and 38 papers were presented covering pathology, medicine, sound reproduction, behaviour in the wild and standards in captivity. The following is a list of the speakers with short summaries of the papers. Fuller abstracts may be obtained from Dr van Foreest at van Lennepweg 7, 6862 BK Oosterbeek, The Netherlands, on payment of 10 guilders or the authors may be contacted direct.

**Dr Stoskopf**, introducing the session on Ophthalmology, stressed the importance of maintaining healthy eyes in captive mammals. He hoped the session would define the problems, review current knowledge and indicate future steps to be taken to improve the ability to guard the health of the marine mammal eye.

**M. K. Stoskopf, DVM**  
*National Aquarium in Baltimore, Pier 3, 501 E. Pratt Street, Baltimore, Maryland 21205, USA.*

**Mr Greenwood** reported that, in the examination of 126 pinnipeds, evidence of ocular disease was found in 28. He listed the conditions concerned and attempted to correlate them to environmental factors.

**A. G. Greenwood, MA, VetMB, MRCVS**  
*Hainsworth House, Damems Lane, Keighley, West Yorkshire, GB.*

**Mr Dral** discussed the anatomy and physiology of the retina paying particular attention to colour vision. He pointed out that since the cetacean eye is very sensitive to blue light and nearly insensitive to red, the latter should be used to examine the eye—the pupil not even contracting under red light.

**A. D. G. Dral**  
*Netherlands Institute for Sea Research, Den Burg—Texel, The Netherlands.*

**Dr MacDonald** discussed the types of cataracts he had seen in over 900 pinnipeds and advised operation only if those were bilateral and the animal could not see at all. He listed galactose in seal pups as a cause, together with some Vitamin B deficiencies, emphasizing that any penetration of the lens capsule results in at least a local cataract.

**Michael K. MacDonald, MD**  
*California Marine Mammal Center, Fort Cronkhite, California 94965, USA.*

**Mr Manton** summarized the relationship between Vitamin A and the metabolism of sugars on the one hand and cataracts or opacities of the lens on the other. He emphasised the importance of Vitamin A in the metabolism of normal epithelial cells, especially in relation to the corneal conjunctiva. He concluded by defining an 'adequate' dietary supplement.

**V. J. A. Manton, MRCVS, FIBiol**  
*The Zoological Society of London, Whipsnade Park, Dunstable, Beds, GB.*

**Dr Hirst** reviewed the comparative anatomy of the cornea to man, outlined methods of examination, described the appearance of corneal lesions, detailed surgical and medical therapy and looked ahead to the areas of interest for future research.

**L. W. Hirst, MD**  
*Wilmer Eye Institute, John Hopkins School of Medicine, Baltimore, Maryland 21205, USA.*

**Dr Stoskopf** is discussing the relationship between the non veterinarian and the marine mammal eye pointed out how successful management of any animal depended on team work. Here the non veterinarian had a very important role to play in preventative medicine—especially in controlling water quality.

**M. K. Stoskopf, DVM**  
*National Aquarium in Baltimore, Pier 3, 501 E. Pratt Street, Baltimore, Maryland 21205, USA.*

**Dr van Nie** looked closely at the classification of the Harbour Porpoise and Common and Fur Seal as differentiated by the purkinje fibres of the heart.

C. J. van Nie, DVM

*Department of Anatomy and Biomechanics, Free University Amsterdam, The Netherlands.*

**Dr Baker** read his joint paper with Mr Doidge of NERC, Cambridge, classifying the causes of death in Seal pups on South Georgia. The main cause was starvation and 50% of the mortality had occurred by 2 days of age. He explained in detail the reasons for variations in death rates.

J. R. Baker, PhD

*University of Liverpool Veterinary Field Station, Leahurst, Neston, The Wirral, Cheshire, GB.*

**Professor Duguay** surveyed the osseous lesions found in the 296 specimens of bone in the La Rochelle 'Musée Oceanographique'. 68% of the skeletons and 21% of the skulls lesions. He linked a greater frequency of fracture with species having a developed social life as compared with species living more solitary lives.

Prof. R. Duguay

*Musée Oceanographique, Centre National d'étude des Mammifères marins, Porte des Minimes, 17000 la Rochelle, France.*

**Messrs Raga, Raduan, Blanco and Carbonell** listed the Helminth parasites found in a number of Bottle Nosed Dolphins stranded on the Spanish Mediterranean coast which constituted new additions to the parasitic fauna of Spanish waters.

J. A. Raga, M. A. Raduan, C. Blanco and E. Carbonell

*Facultad de Ciencias Biológicas, Dr Moliner 50, Burjasot—Valencia, Spain.*

**Dr Sweeney** discussed the improvement of animal longevity by employing preventative husbandry and the early diagnosis of disease. He summarized new methods of dealing with common health related problems.

Jay C. Sweeney, VMD

*Veterinary Consultant Services, 4467 Saratoga Avenue, San Diego, California, USA.*

**Mr Cadwallader** detailed the requirements and extolled the virtues of a computerised animal records system costing under £400 complete.

C. J. Cadwallader

*Marineland Cote d'Azur, Avenue Mozart, 06600 Antibes, France.*

**Dr Gage** listed the dosages of drugs, anaesthetic and pre anaesthetic techniques used at the California Marine Mammal Centre on three species of pinnipeds (Northern Elephant Seal, Harbour Seal and Californian Sealion). She found diazepam with or without ketamine followed by inhalation halothane a reliable combination.

Laurie J. Gage, DVM

*Dinnes Memorial Veterinary Hospital, c/o Marine World Africa USA, Redwood City, California, USA.*

**Drs Greenwood and Taylor** then summarized the history, longevity, and causes of death of all the Killer Whales in Europe of whom they had had experience.

A. G. Greenwood, MA, VetMB, MRCVS, and D. C. Taylor, BVMS, MRCVS,  
*International Zoo Veterinary Group, Hainsworth House, Damems Lane, Keighley, Yorkshire, GB.*

**Mr Terry** reviewed the history of sound production of Dolphins and gave his experiences in attempting to repeat Dr Purves classic experiment.

P. Terry

*University of Delft, The Netherlands.*

**Dr Palacio** summarized the recent 'Whales Alive' conference on the 'non consumptive use' of Cetaceans. He headed the IWC working group to further examine this point and look at ideas.

Dr F. J. Palacio

*University of Miami, 8730 SW 51 Street, Miami, Florida 33165, USA.*

**Dr di Natale** summarized the mating and calving of the Sperm Whale—a Spring and Autumn occurrence.

Dr di Natale

*Institute for Animal Biology and Marine Ecology, University of Messina, 98100 Messina, Italy.*

**Dr Solangi** described births in *T. truncatus*, all of which took place within two hours of the commencement of labour. One 17 year old female gave birth to consecutive live calves at an interval of 21 months.

M. Solangi

*Marine Life, 150 Debuys Road, Biloxi, Mississippi, USA.*

**Mr Brumsted**, reviewing the American legal position, said that there had been no change in the Marine Mammal Act since he spoke to last year's Symposium.

R. B. Brumsted

*National Marine Fisheries Service, Washington DC, USA.*

**Dr Crawford** specified the standards for the care, housing, handling and transportation of Marine Mammals in captivity as laid down in the US Code of Federal Regulations. He tabled copies of the standards for those in the audience who were interested.

R. L. Crawford, DVM

*Chief Staff Veterinarian, Animal Care Staff, USDA, Aphis, VS, Room 763, Federal Center Building, 6505 Belcrest Road, Hyattsville, Maryland 20782, USA.*

**Dr van Haften** drew the attention of his audience to a tragic import into Holland of 25 Baikal seal pups which went wrong due to basic misunderstanding of the breeding physiology which he then detailed at length.

Dr J. L. van Haften

*Research Institute for Nature Management, Kemberbergerweg 67, Arnhem, The Netherlands.*

J. S. van der Kamp

*Gezondheidsdienst voor Dieren, Postbus 30014, 9700 RH Groningen, The Netherlands.*

**Mr Aguilar** showed data on the increase of pesticide remnants in both Pinnipeds and odontocete cetaceans. He postulated that an equilibrium might be reached at the beginning of the 21st Century provided that no further input of DDT into the North Atlantic takes place.

A. Aguilar

*Department of Zoology, Faculty of Biology, University of Barcelona, Barcelona 28, Spain.*

**Dr Ungerechts** threw a new light on the interpretation of water flow past a dolphin body. He pointed out that the flow of water past a flexible body is very different to that past a rigid one.

Dr B. Ungerechts

*Universität Bielefeld, Fak für Biologie, 4800 Bielefeld 1, Postfach 8640, BRD.*

**Mr Renjum**, in co-authorship with Dr Klinowska and Professor Harrison, detailed the behaviour of the Chinese freshwater dolphins (*Lipotes vexillifer* and *Neophocaena phocaenoides*) both in the Changjiang river and in captivity. He had seen young *Neophocaena* being carried on the backs of their nursing mothers in the river.

L. Renjum

*Institute of Hydrobiology, Academia Sinica, Wuhan, China.*

Dr M. Klinowska and Professor R. J. Harrison  
*Anatomy School, University of Cambridge, Downing Street, Cambridge CB2 3DY, GB.*

**Professor Harrison** then explained in detail the anatomy of the skin of *Neophocaena*, pointing out that, since the mucus coating granules were to be found very deep in the skin, the animal was unlikely ever to go to sea and was therefore a relict form.

Professor R. J. Harrison

*Anatomy School, University of Cambridge, Downing Street, Cambridge CB2 3DY, GB.*

L. Renjum

*Institute of Hydrobiology; Academia Sinica, Wuhan, China.*

**Dr Klinowska** showed the marked and regular diurnal patterns of behaviour giving evidence of an important cue for timing behaviour. She also presented evidence linking the frequency of live strandings with the occurrence of magnetic storms.

Dr M. Klinowska

*Anatomy School, University of Cambridge, Downing Street, Cambridge CB2 3DY, GB.*

**Mr Riddell** presented an illustrated introduction to the life cycle, behaviour and habitat of Pinnipeds on the Kerguelen Islands in the Southern Indian Ocean (Elephant, Fur and Leopard Seals).

M. Riddell

*Marineland Cote d'Azur, Avenue Mozart, 06600 Antibes, France.*

**Dr Taverne** listed the similarities and differences between parturition in Cetacea and Pinnipedia and domestic mammals and pleaded for more information on the physiological control during gestation.

Dr M. Taverne

*Dept of Veterinary Obstetrics, University of Utrecht, The Netherlands.*

**Miss Muukki** reported on the three dolphin births within 3 weeks at K lmardens. She showed film of the behaviour of the calves and discussed the differences between them.

L. Muukki  
*K lmardens Djurpark, S-61800 K lmardens, Sweden.*

**Mr Huigen** presented detailed information on the three births at M nster and the mother-infant behaviour observed.

M. Huigen  
*Delphinarium M nster, West Germany.*

**Dr R ken** reported some medical details both leading up to and following the three dolphin births at K lmardens. He listed the varying hormonal levels in both the male and the female and the treatments given post partum.

B. O. R ken, DVM  
*K lmardens Djurpark, S61023 K lmardens, Sweden.*

**Miss Couver & Mr Schroeder** summarized the return from collection of dolphin breeding data throughout the world and commented on the continuing percentage of stillbirths occurring. They speculated on the reasons for this and asked for continued co-operation in obtaining data internationally.

R. L. Couver and J. P. Schroeder  
*Naval Ocean System Center, Kailua, Hawaii 96734, USA.*

**Dr Taverne** gave an interesting commentary on a film of a Beluga birth.

Dr M. Taverne  
*Department of Veterinary Obstetrics, University of Utrecht, The Netherlands.*

**Mr Huigen** listed the details of the seven Sealion births at M nster including their social behaviour both as between mother and infant and between the Sealions and the Dolphins, the formulae for hand rearing, and the results of post mortem examinations.

M. Huigen  
*Delphinarium M nster, W. Germany.*

**Mr Riddell** presented details of the Kerguelen Fur seals giving evidence of differences both in behaviour and structure from other Fur seals. He was pleased to report that although the species was reported extinct 15 years ago, the one specimen observed in 1976 had become between 200–300 in 1984.

M. Riddell  
*Marineland Cote d'Azur, Avenue Mozart, 06600 Antibes, France.*

**Dr Dinnes** discussed in great detail what he considered to be the important facts concerning the rearing of Pinnipeds—especially the Californian Sealion (*Zalophus californianus*). He extolled the virtues of Dr Gage's formula for replacement milk and commented on the long weaning periods.

M. R. Dinnes, DVM  
*16133 Ventura Boulevard, Suite 653, Encino, California 91436, USA.*

**Miss Johann** summarized previous birth experiences and dealt in depth with the hand rearing of a Californian sealion pup.

P. Johann  
*Marineland Mallorca, Costa del Blanes, Palma Nova, Spain.*