

The Fourteenth Symposium of the European Association for Aquatic Mammals—Barcelona, Spain, March 1986

The fourteenth annual symposium of the European Association for Aquatic Mammals was held in Barcelona, Spain in March 1986, and was attended by nearly 200 people—a record. There were representatives from many countries again, and this year two specialist sessions were held—the first on the Skin of Marine Mammals, and the second on the Mediterranean Monk Seal. There was a total of 36 papers given and below is a summary of the individual papers, together with the full names and addresses of authors, from whom further information on their papers may be obtained.

The first session on the skin of marine mammals was chaired by **Dr Michael Stoskopf**, who also presented the first paper in which he laid emphasis on accurate diagnosis, and recommended punch biopsy as a rewarding technique. Lesions, he emphasized, could not be diagnosed from a distance.

M. K. Stoskopf, DVM
National Aquarium, 2742 N. Calvert Street, Baltimore, 21218 Maryland, USA.

C. Knospe compared the skin of the dolphin and the harbour porpoise by histological and histochemical techniques to the skin of land mammals, and emphasized its excellent adaptation to an aquatic mode of life. The histology confirmed the resistance of the cetacean's skin to water and pressure.

C. Knospe,
Department of Histology, Veterinary Faculty, Free University, Koserstrasse 20, Berlin.

Denise Viale's paper was read by **M. A. Pierson**, and with the help of slides, showed the development of the skin of the common rorqual (*Balaenoptera physalus*) under a scanning electron microscope.

Denise Viale,
University of Corsica, BP24, 20250 Corte.

Mrs A. Seacat then presented a trainer's guide to the monitoring of skin problems. She emphasized the use of some training procedures to allow the animal to become accustomed to handling for medical reasons, which greatly assisted in maintaining skin care, and

focused on the value of monitoring the physical health by accurately recording on a daily basis.

Mrs A. Seacat,
New York Aquarium, Broadwalk and West 8th Street, Brooklyn, New York 10304, USA.

Dr L. Gage reviewed skin problems specific to the elephant seal. She recommended the use of high-pressure hoses for wound cleaning which, if used every morning, seemed to relate to faster wound healing. She recommended the usefulness of monitoring T-cell function and a study of the secretory function of the skin as indicators of good skin health. She had also found *Leptospira pomona* plus a calici virus in sea-lions, but no skin problems in Northern fur-seals, whose skins appeared to have an extra keratinized layer.

Dr L. Gage
Marine World Africa USA, 101 Marine World Pky, Redwood City, California 94056, USA.

Dr S. Kennedy-Stoskopf summarized the viruses associated with the skin of Pinnipeds pointing out that many of these were so often found as to be regarded as commensals. However, under conditions of stress they could, and do, become associated with disease and sickness.

Dr S. Kennedy-Stoskopf, *Johns Hopkins University, Baltimore, Maryland, USA.*

Senor E. Abril presented a joint Franco/Spanish paper on work he had carried out with Senors Almor and Raga and Dr Duguay describing the first record of *Anisakis typica* in the striped dolphin (*Stenella caeruleoalba*). They comment that since this parasite is typical of warm waters (between latitudes 40°N and 36°S) it would appear that the host individual had itself extended its range beyond its usual warm habitat.

E. Abril
Departamento de Zoologia, Facultad de CC. Biologicas, Univesidad de Valencia, Dr Moliner 50, Burjasot (Valencia), Spain.

Senor J. Raga reported, and described, the first record of a new species of trematode worm, *Leuca-siella delamurai*, in a pilot whale (*Globicephala melaena*) found on the Mediterranean coast of Spain.

J. A. Raga

Departamento de Zoologia, Facultad de CC. Biologicas, Dr Moliner 50, Burjasot (Valencia), Spain.

Dr D. J. Needham discussed the collation of reports of sightings of the southern right whale (*Eubalena glacialis*) mentioning the individual patterns of callosities on the rostrum for identification. Much effort was put into improving the public relations through school children.

Dr D. J. Needham

655 Lower N.E. Road, Paradise, 5075 South Australia.

The next session on the Mediterranean Monk Seal was chaired by **Dr van Haften**. The Chairman, in introducing the session, reminded members that three years previously at the Rhenen Symposium, the problem was first raised. The Association responded by writing to the Government of Portugal, and to the President of Madeira, but despite this, the numbers have dwindled from 12 to 8.

J. Maigret reviewed the history of the Monk Seal on the Mauritanian coast since 1923. Despite a build up to reasonable numbers, in the mid 70's, a collapse of the caves resulted in a drastic reduction so that the three colonies consist of single figure numbers, at the present time.

J. Maigret

Musee Oceanographique de Monaco, Monaco Ville, MC Monaco.

D. Marchessaux reported on the current status of the Monk Seal on the Mauritanian coast. In this paper, various slides of the three areas referred to earlier, were shown, and the author was optimistic about the future since fishermen are no longer slaughtering the seals, as in previous years.

D. Marchessaux

Villa Tsarouki, Ch. des 3 Moulins, 13100 Aix en Provence, France.

F. J. Avella spoke on the plan for the re-introduction of the Monk Seal in the Cabreras archipelago. This archipelago, which consists of about 21 islands, contains several colonies of sea birds, but unfortunately no longer any Monk seals. He felt this was a useful site to release young, once captive-breeding programmes have become successful. He stressed the

importance of observation on any animals that are re-introduced.

F. J. Avella

c/o Marineland S.A., Costa de'n Blanes, Palma Nova, Mallorca.

M. Riddell spoke on the Mediterranean Monk Seal project. He summarized the situation of the setting up of a breeding centre for Monk Seals in Antibes, where a special pool is being built for this purpose. Once an initial breeding unit of animals is established, Marchessaux is the biologist who will carry out the project of releasing to the wild, in combination with Zoo Marins in Antibes.

M. Riddell

358 Avenue Mozart, 06600 Antibes, France.

Mrs Lenie t' Hart spoke of the efforts made to rear a young monk seal stranded on Rhodes, which subject she illustrated with slides. Unfortunately, the animal was already so exhausted, that it died after some days despite all efforts to save it.

Mrs Lenie t' Hart

Seal Sanctuary Pieterburen, Hoofdstraat 94a, 9968 AG Pieterburen, The Netherlands.

Miss Petra Deima reported on the Monk Seals of Madeira where from the 21st March 1986, the Desiertas Islands and their immediate surroundings, will become a protected reserve totally forbidden to tourists and fishermen.

Miss Petra Deima

Gesellschaft zum Schutz der Meeressaugetiere, Germany.

Dr C. Hagenbeck took the chair of the second morning session on 'Physiological Aspects of Marine Mammals'.

Dr C. J. van Nie introducing his paper entitled 'A Biomechanical Approach to the Function of the Skin, Blubber layer and Muscles of the Dolphin in Diving' analysed the external and internal shape of the thorax of the dolphin, and postulated that the air pressure within the respiratory system during diving does not exceed 1.5 atmospheres. He, therefore, concluded that adaptation of the structure of the lung to high pressure is not necessary.

Dr C. J. van Nie

Department of Anatomy and Biomechanics, Free University, Amsterdam, Holland.

C. Kamminga and co-workers (**T. Kataoka** and **F. J. Engelsma**) described underwater sounds of four captive *Neophocaena phocaenoides*, which clearly demonstrated individual features. No frequency modulation was detected.

C. Kamminga

Information Theory Group, Delft University of Technology, P.O. Box 5031, 2600 GA Delft, Holland.

Dr Nachtigall discussed dolphin short-term memory in 'matching-to-sample' tasks. He demonstrated that, under the conditions of the experiment, echolocating dolphins could remember matching objects for up to two minutes.

Dr Paul Nachtigall

Naval Ocean Systems Centre, P.O. Box 997, Kailua, Hawaii, USA.

Dr M. R. Dinnes introduced the session on captive-breeding of cetacea, and emphasized how important this was for participants, and that successful results resulted from closer co-operation between all concerned. He showed video-tapes of the births of a Commerson's dolphin in San Diego, and a Killer Whale in Orlando, Florida.

Dr M. R. Dinnes

Dinnes Memorial Veterinary Hospital, 23655 San Fernando Road, Newall, California 91321, USA.

F. Costa gave a review on the breeding of dolphins in Barcelona Zoo considering each of the six cases separately. He, then, summarized the main conclusions arising out of this experience, which he felt were necessary for the successful rearing of youngsters.

F. Costa

Zoo Barcelona, Parque de la Gudadela, 08003 Barcelona, Spain.

D. C. T. Lindsay reported on the facilities, and the recent history of the Windsor Dolphinarium relating these to the recent successes in the breeding and rearing of *Tursiops truncatus*.

D. C. T. Lindsay

Windsor Safari Park, Winkfield Road, Windsor, Berks, England.

A. Eastcott described the different types of behaviour monitored in a pregnant dolphin towards the end of pregnancy, and the behaviour of mother and baby after birth. He also described the general behaviour between the mother and the two other adult animals

in the same pool, and described the reforming of the social groups three weeks after birth.

A. Eastcott

Curator, Aquarium Entertainments Limited, Marine Parade, Madeira Drive, Brighton BN2 1TB, England.

Dr J. Sweeney speaking on problems with rearing neo-natal cetaceans pointed out that preparation for rearing should start with determination of pregnancies by ultrasound techniques. He gave suggestions for hand-rearing formulas for milk replacers, pointing out, amongst other things, that milk whey is a protective against necrotising enteritis. He felt, perhaps, that immunoglobulins should be considered, and reported one case where the giving of purified immunoglobulins, obtained from the father's blood, gave a rise in the youngsters' serum levels.

Dr J. Sweeney

Veterinary Consultant Services, 4467 Saratoga Avenue, San Diego, California 92107, USA.

J. Smolders presented a paper on Pre and Post-natal Behaviour Problems of a Wild-caught Pregnant *Tursiops truncatus*, in which he reported on the careful day by day observations of her behaviour, prior to birth, and later after the loss of the baby.

J. Smolders

Dolphinarium, Antwerp Zoo, Koningen Astridplein 26, 2000 Antwerp, Belgium.

B. M. Hobson's paper on hormonal pregnancy diagnosis in dolphins was read by **Dr A. G. Greenwood**. In it, he summarized the progesterone levels in 73 sera taken, and reported that there was no seasonal variation apparent. The levels, between plasma progesterone concentrations in pregnant and non-pregnant dolphins, which was up to 10 times as much, was highly significant. From the work he had done, he suggested that increased plasma progesterone levels were very useful in diagnosing pregnancy, and might be related to the onset of parturition.

B. M. Hobson

Reproductive Endocrinology Lab., University of Edinburgh, 37, Chalmers Street, Edinburgh EH3 9EW, Scotland.

Dr J. Pete Schroeder's paper entitled 'Artificial Insemination of a Bottlenosed Dolphin' was read by **Dr Paul Nachtigall**. He summarized how far the Naval Ocean Systems Centre in the States had gone, having developed techniques for conditioning the animals for artificial manipulation, working out the baseline for reproductive hormone levels, the induction of ovulation, the collection, freezing and thawing of dolphin semen on a regular basis, and early pregnancy diagnosis following artificial insemination.

nation. The results on three dolphins showed that two had ovulated, and were artificially inseminated, became pregnant, but aborted at four and five months of gestation.

Dr J. Pete Schroeder
Naval Ocean Systems Centre, Hawaii Laboratory,
Kailua 96734-0097, Hawaii, USA.

The next session was chaired by **R. P. Terry** on the educational value of captive marine mammals. He gave a very stimulating and thought-provoking introduction to members as to what they should be doing in this field. He pointed out that the knowledge and desire to inform the public was only half the battle, and successful education involved accurate scientific information, innovative approaches to convey this information, and commitment by institution to educational efforts, and a recognition of them of their value. This eventually will lead toward a positive image of keeping these animals in captivity.

R. P. Terry
Information Theory Group, Delft University of
Technology, P.O. Box 5031, 2600 GA Delft, Holland.

J. van der Toorn from Finland Dolphinarium presented a short paper about the educational programmes being carried out in his dolphinarium, and the Chairman summarized the proceedings discussing how the management of dolphinarium can stimulate the curiosity of the visitors, and hence raise their interest in this subject.

J. van der Toorn
Tampereen Dolfiraayo, Sarkanniemi oy Tampere,
Finland.

The next session was chaired by **Dr van Foreest**, and covered medicine and pathology.

The first paper from **J. R. Baker** summarized the causes of morbidity in apparently normal grey seals, which were caught and drowned as a result of fishing operations. Most of these animals were pups or juveniles, but although apparently healthy, each had an average of five diseases or abnormality on detailed post-mortem examinations. These included significant levels of parasitism, arterial wall calcification, pneumonia, gastric ulceration, skin lesions, and hepatic changes.

J. R. Baker
University of Liverpool, Veterinary Field Station,
Leahurst, Neston, Wirral, Cheshire, England.

Dr J. S. van der Kamp reported further on the outbreak of a herpes virus infection which he had mentioned at the Duisburg meeting in 1985, and which resulted in the death of nine seals from which the seal herpes virus was isolated.

Dr J. S. van der Kamp
H. Muntinglaan 11, 9751 PT Haren, The Netherlands.

P. Almor and colleagues reported on the occurrence of verminous pneumonia in dolphins in the Western Mediterranean, which apparently was caused by the same parasite—*Skrjabinalius guevarai*—which caused severe lesions in the parenchyma of the lungs, and a fibrotic capsular reaction to this.

P. Almor
Departamento de Zoología, Facultad de CC. Biológicas,
Dr Moliner 50, Burjassot (Valencia), Spain.

P. Pierson described a case report of pleurisy in a young *Tursiops truncatus*.

P. Pierson
c/o Denise Viale, University of Corsica, BP24, 20250
Corte.

R. S. Turner presented a paper on a further observation of the morphology of the cetacean's red blood cell, and asked colleagues at the meeting to send him as many samples as possible for examination.

Professor R. S. Turner
University of Bradford, Bradford, England.

Dr D. J. Needham described his efforts using fluoroscopy to examine the swallowing process in an artificially reared young sea-lion (*Neophoca cinerea*). The successful video-taping of this led to further studies using up to ten fish (*Arripis georgianus*) injected with barium sulphate prior to feeding. He showed that solid and liquid feed was dealt with differently.

Dr D. J. Needham
655 Lower N. E. Road, Paradise, 5075 South
Australia.

Dr D. Taylor summarized the use of ultrasonic imaging in both dolphins and killer whales, and pointed out the areas in which they might be useful. He felt that one of the main objectives was in the determination of abscesses.

Dr D. C. Taylor
2 Withy Close, Lightwater, Surrey, England.

The final session of the Symposium was given over to the research value of captive marine animals with **Dr B. Powell** from the States chairing and opening what turned out to be a very interesting discussion in which a leading part was played by **Cees Kamminga** from Delft.

Dr Powell gave a brief description of the value of, and opportunity for, marine mammal research in public display facilities. Examples of the successful collaboration of researchers and display facilities in acquiring knowledge of marine mammal social behaviour, physiology, medicine, reproduction, echolocation and communication were given. He

mentioned various display facilities around the world that were involved in such research support.

Dr B. A. Powell
Naval Ocean Systems Centre, San Diego, California
92152-5000, USA.

The Editor would like to thank Drs A. G. Greenwood, A. van Foreest, J. van Haften and Robert Bennett most sincerely for their kind help in summarizing the above papers in his unavoidable absence from the Symposium.

V. J. A. Manton, MRCVS., FIBiol
Editor, Aquatic Mammals.