Data collection on live and dead marine mammals in the S-H stranding network

Dr. Kristina Lehnert, Prof. Prof. h. c. Dr. Ursula Siebert and colleagues

Institute for Terrestrial and Aquatic Wildlife Research, University of Veterinary Medicine Hannover, Germany
Monitoring of marine mammals

Post mortem investigations on live and dead-stranded animals

Medical exams on life captured and bycaught individuals

Examination of marine mammals in human care for rehabilitation
Stranding network Schleswig-Holstein, Germany

1,200 to 1,500 dead harbour and grey seals per year

250-300 dead cetaceans per year
Investigations on dead marine mammals

- Necropsy
- Histology
- Microbiology
- Virology
- Parasitology
- Age structure
- Reproduction biology
- Genetics
- Feeding ecology
- Anthropogenic effects

By-caught porpoises

Pleuritis

Foreign bodies

Pulmonary parasites
Metabarcoding digesta of aquatic top predators
Molecular tools to complement hard part analyses

Talk on Tuesday 12.30: Heße et al.: Hidden gems? multi-method approach to study diet of harbour porpoises

- 46 Unique OTUs identified to species level
- 29 families

- Thirty-three species in Harbour seals
- Twenty-six species in Grey seals
- Seventeen species in Otters

Boyí et al. 2022 Molecular Ecology
Population structure of female harbour porpoises from German waters

Average age at death of females from the Baltic Sea: 3.67 (± 0.30) yrs.
North Sea: 5.7 (± 0.27) yrs.

Sample years 1990-2016 (n=526)

Age at sexual maturity: 2-5 years

POSTER 154: Schmidt et al.: Three decades of harbour porpoise reproduction on the German coast
Bacteriology

Potentially pathogenic bacteria:

- Brucella pinnipedialis/ceti
- Clostridium perfringens
- Erysipelothrix rhusiopathiae
- Escherichia coli
- Salmonella spp.
- Staphylococcus aureus
- α-/β-haemolytic Streptococci

Associated with: bronchopneumonia, abscessation, septicemia

So far 182 different bacterial and fungal species were isolated.

Gross et al. 2022 Antibiotics
Influenza H5N8 in 2021

- Influenza regularly found in wild birds
- Occurrence of H5N8 in three harbour seals from SH in 2021
- Virus found in the brain
Noise

Blast injury in harbour porpoises from the Baltic Sea

Typical: fracture and dislocation of middle ear bones

Microfracture of the malleus

Dislocation of middle ear bones
Blast injury / acoustic trauma in harbour porpoises from the Baltic Sea

Bleedings/hemorrhages in the acoustic organs including melon, acoustic fat of the lower jaw and peribullar acoustic fat

Bleedings/hemorrhages in the melon

Bleedings/hemorrhages in the peribullar acoustic fat

Siebert et al. 2022 Environment International
Gene transcription effect biomarkers - immunology

- 16 ringed seals 2018-2019
- Blood collected in RNAlater within 24hrs pm
- Tissue–specific gene transcript profiles

- HSP70 transcripts highest in liver & inversely correlated to PCB concentrations
  - improve study design by selecting optimal tissue sampling for targeted biomarker approach

Boyi et al. 2021 Aquatic Toxicology
Input of data into the database according to ECS/ACOBANS/ACCOBAMS protocol 2019 (e.g. date and location where animal was found, length, weight, sex)

Pathological data and causes of death only after agreeing on interpretation among the examining pathologists

Coming: CIBBRiNA EU Life Project - Collating data on strandings & developing best practice to assess bycatch