



Copyright S. Heimlich
Heimlich



Copyright S. Heimlich



Copyright S. Heimlich



Copyright S. Heimlich



Copyright S. Heimlich



Copyright S.

SARA L. HEIMLICH

Hatfield Marine Science Center, Newport, OR 97365 (541) 867-0328 Sara.Heimlich@oregonstate.edu
momZbo deSIGN, 511 NW Lee St., Newport, OR 97365 (541) 961-1737 sara.heimlich@gmail.com

Armed with a B.A. in Art and Biology, and an M.S. in Marine Sciences, I have been employed in marine research and education, and graphics production. While my science specialty is the biology and behavior of cetaceans, I have also undertaken projects involving conservation biology, marine management policy, and science communication. My free-lance graphics have included logos, signage, posters, museum exhibits, and programs for art shows, music festivals and science; I formerly developed, owned and operated a small ceramics business. I currently work as a data analyst in the field of marine acoustics. I occasionally conduct public outreach programs and design graphics for my group: this includes materials for an international conference on Animal Communication that I organized in 2008.



Antarctica



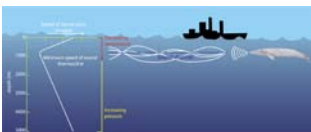
Business Card



Power Point Presentation Slide



Large Format Poster



Multi-purpose graphic

EDUCATION

- M.S.** 1988 Marine Sciences, Moss Landing Marine Labs/SJSU, CA
- B.A.** 1976 Biology & Art, The Evergreen State College, Olympia, WA

EMPLOYMENT HISTORY

Current

Research Assistant, Cooperative Institute for Marine Resources Studies, OSU. Jul 01.

NOAA sub-contractor with the bio-acoustics sub-unit of the NOAA/PMEL VENTS program at Hatfield Marine Science Center in Newport, Oregon. Bio-acoustic data processing and analysis. Includes handling classified data sources which require security clearance; scrolling spectrograms to identify and locate seismic activity and cetacean vocalizations for data base development; analyzing data bases for cetacean vocalization; producing scientific papers. Duties also include preparation of written and graphic materials for professional and public presentations; public education via tours, seminars and workshops for all age and skill levels; web page development; and occasional periods at sea on acoustic surveys.

Previous

Small Business Co-Owner and operator. Tsunami Ceramics, Newport, Oregon. MAY 99 to MAY 01

Created and operated a make-your-own/paint-your-own ceramics studio. Duties included hiring employees, contracting goods and services, running kilns, accounting, advertising, inventory control, customer service, organizing and teaching classes, and development of promotional materials including the business logo and brochures.

Faculty Research Assistant. OSU/Hatfield Marine Science Center. OCT 96 to JUL 98

Administrative assistant to Dr. Bruce Mate and the Marine Mammal Program. Primarily functioned as an information officer and public liaison. Prepared graphics for conference presentations, gathered information for grants, video editing.

Higher Scientific Officer. Sea Mammal Research Unit, Cambridge, UK. OCT 92 to SEP 96

Various positions, starting from data analyst, moving to Administrative Assitant for SCANS (Survey of Small Cetaceans in the North Sea) to Administrative Head for ASCOBANS in April, 1996.

Principle Investigator: Short-Finned Pilot Whales off the Canary Islands. SEP 89 to OCT 92

Zoology Department, Cambridge Univ., England. Conducted research on the behavioral ecology of short-finned pilot whales off Tenerife: acoustic tracking, photo-identification and cluster analyses of associations for population profiling; and mapping movements with theodolite, GPS-computer interface.

WHEN	WHAT	WHERE
ALL DAY	Open House: 10:00 AM - 5:00 PM. Free admission. Refreshments available. Exhibits, demonstrations, and activities for all ages.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
10:00 AM	OPENING CEREMONIES: with Hon. Mark Mallory, State Rep. for 1st & 2nd Districts. Opening Remarks by Dr. Peter DeRuiter, Director of the Hatfield Marine Science Center.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
10:30 AM	10:30 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
11:00 AM	11:00 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
11:30 AM	11:30 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
12:00 PM	12:00 PM - 1:00 PM: Lunch. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
1:00 PM	1:00 PM - 2:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
1:30 PM	1:30 PM - 2:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
2:00 PM	2:00 PM - 3:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
3:00 PM	3:00 PM - 4:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040
4:00 PM	4:00 PM - 5:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.	Hatfield Marine Science Center, 1000 Water Street, Hatfield, MA 01040

WHERE	WHAT
1000 Water Street, Hatfield, MA 01040	Open House: 10:00 AM - 5:00 PM. Free admission. Refreshments available. Exhibits, demonstrations, and activities for all ages.
1000 Water Street, Hatfield, MA 01040	OPENING CEREMONIES: with Hon. Mark Mallory, State Rep. for 1st & 2nd Districts. Opening Remarks by Dr. Peter DeRuiter, Director of the Hatfield Marine Science Center.
1000 Water Street, Hatfield, MA 01040	10:30 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	11:00 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	11:30 AM - 12:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	12:00 PM - 1:00 PM: Lunch. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	1:00 PM - 2:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	1:30 PM - 2:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	2:00 PM - 3:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	3:00 PM - 4:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.
1000 Water Street, Hatfield, MA 01040	4:00 PM - 5:00 PM: Exhibits, Demonstrations, and Activities. Free admission. Refreshments available.

Festival Program

Poster

web pages

Field Research

Small Cetacean Atlantic North Sea Survey (SCANS). Sea Mammal Research Unit, Cambridge, England. Scientific Officer/Administrative Co-ordination and Cruise Leader, January 1993- October 1995 for an EC/LIFE program-funded, 4 million ECU, multi-national cetacean survey of the North Sea. Acoustic surveys and Line transects conducted by six vessels carrying 76 observer personnel; using methodology designed by D. Borchers and S. Buckland at Aberdeen University.

Acoustic tracking of seals in Norwegian waters. Sea Mammal Research Unit, Cambridge, England. Scientific Officer. October -December 1992. Data entry and map production.

Distribution and Seasonal Occurrence of Marine Mammals in the Hebrides, Scotland. Assistant Investigator, June and August, 1992; July 1993. Sea Watch Foundation, Oxford, England. Conducted line-transect surveys off the north-west of Scotland to the islands of the Outer Hebrides aboard the 86' gaff-rigged schooner, "Marguerite Explorer".

Photo-identification and Behavioral Ecology of Bottlenose Dolphins in Mobile Bay, Alabama. Senior Investigator, June 1986. Boat & shore observations collected during two months, using standardized behavioral data correlated with habitat use patterns. School for Field Studies, Boston, Mass.

Harbour Porpoise Distribution along the California West Coast. Research Biologist, March-April 1986. Ship-board observer for Dr. J. Barlow. NMFS, SWFC, La Jolla, California.

Social Ecology of Short-finned Pilot whales off Catalina Island. Research Biologist, April-May 1985. Conducted photo-id work for Dr. Susan Shane, UCSC, Santa Cruz, California.

Elephant Seal Distribution along the Pacific Northwest Coast. Research Biologist, June-July 1982. Ship-board observer for Dr. Bernie LeBoeuf and Dr. Leo Ortiz, UCSC, Santa Cruz, California.

Photo-identification and Behavioral Ecology of Killer Whales in Greater Puget Sound. Research Biologist, October 1977-December 1983. Orca Survey, Friday Harbor, WA. Included a rotational position as Research Director. Conducted research on the biology and behavior of killer whales in Washington, begun under contract to the National Marine Fisheries Service and Marine Mammal Commission. Methods included photo-identification and cluster analyses of association for population profiling; mapping movements via theodolite, compass triangulation and GPS-computer interface and acoustic tracking and analysis of underwater sounds.

Photo-Identification of Humpback Whales and short-finned pilot whales, Hawaii. Research Biologist, March 1979-APR 1979. . Conducted research with Mr. Dan McSweeney off Hawaii.

Conservation

'Integrating Conservation with Eco-Tourism on the Island of Dominica'. Desk-top designer. April-October 1996. Design and production of 7 booklets written by Dr. Peter Evans, and one tourist map, for use in Eco-Tourism in Dominica. An EC-funded project.

Age Determination of Harbour Porpoises occurring as By-catch in Danish Fisheries. Laboratory Biologist. June- August 1995, Sea Mammal Research Unit, Cambridge, England. Prepared and analysed teeth for age determination, working with Dr. Christina Lockyer. Sub-contract to Dr. Bjarne Clausen, Danish Environmental Ministry.

Fisheries Biologist. Ocean Salmon Project, Calif. Dept. of Fish and Game, Menlo Park, CA: May 1987- October 1987. Seasonal aide collecting catch data on the salmon fisheries of Monterey Bay, CA.

Fisheries Biologist. Pacific Marine Fisheries Commission, Portland, OR: June-September 1984. Seasonal aide collecting data on salmon and albacore fisheries of Monterey Bay, CA.

Fisheries Biologist. Ocean Salmon Project, Calif. Dept. of Fish and Game, Menlo Park, CA: May-June 1984. Collecting catch data on the salmon fisheries of Monterey Bay, CA.

Aquaculture Technician. Webb Camp Sea Farm, Friday Harbor, WA: July 1980-December 1981. Involved in all aspects of oyster and clam grow-out, harvesting, and marketing.

Teaching and Education

Film Researcher/Scientific Consultant. Bomford Productions/BBC Natural History Unit, Bristol, England. May 1992-May 1993. Production team for "Little Leviathan" on BBC Wildlife on One, and on-call researcher for cetacean-oriented films.

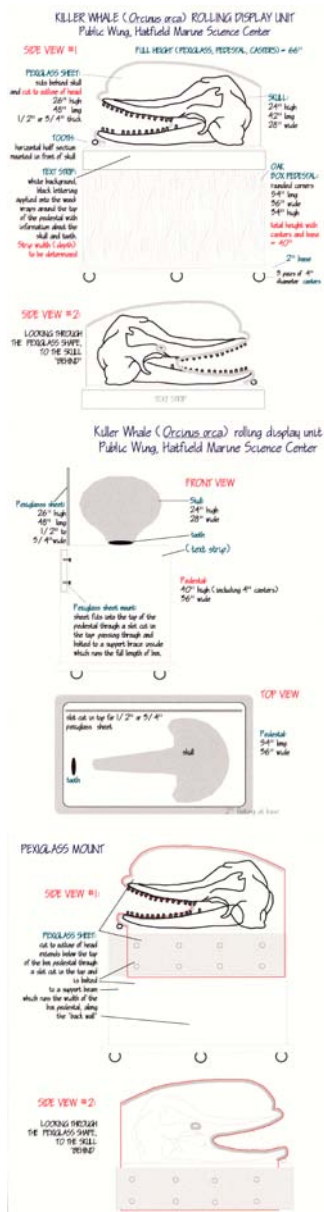
Team Leader. Earthwatch, The Center for Field Research, Boston, MA: July-September 1990 & APR-June 1991. Training teams of 5-8 people during 10-day sessions for field research on "Canary Island Dolphins". Lectured on dolphin behavior, database design and statistics.

Exhibits Researcher. The Monterey Bay Aquarium, Monterey, CA. August- October 1987. Researched and procured various artefacts for use in a temporary exhibit for "Whale Fest".

Senior Faculty. School for Field Studies, Cambridge, MA: May-June 1986. Taught accredited field courses on The Biology and Behavior of the Bottlenose Dolphin in Mobile Bay, Alabama.



Publicity Poster



Schematics for museum display

Teaching Assistant. Moss Landing Marine Labs, CA: January 1983-June 1985. Assisting Dr. Bernd Würsig in teaching graduate-level courses in general Marine Animal Behavior and an advanced topics course in Marine Mammal Behavior; also acted as reprint librarian.

Assistant Curator. The Whale Museum, Friday Harbor, WA: January 1978-January 1980. Designed exhibits, educational programmes; supervised personnel and assisted in administration of a public museum on the biology of whales and dolphins.

Faculty. The Whale School, Friday Harbor, WA: June 1978-August 1983. Taught summer extension courses in marine mammal biology through Western Washington Univ.

Faculty, Programs Staff. The Seattle Aquarium, Seattle, Washington State, USA. 1976 to 1978. Planned, developed and supervised natural science interpretative programs. Specifically: designed and produced classes in marine biology for grades 1-6; taught educational programs to grades 1-12; designed and implemented specialized programs and lecture series; supervised volunteer staff, including Youth Services Program members (an inter-city and minority job core) and Eagle Scouts.

PUBLICATIONS: Partial List

Heimlich, S.L., Mellinger, D.K., Niekirk, S.L., Fox, C. 2005. Types, distribution, and seasonal occurrence of sounds attributed to Bryde's whales (*Balaenoptera edeni*) in the eastern tropical Pacific, 1999-2001. *JASA* Vol 118, No.3, Pt.1 pp.1830-1837

Heimlich, S.L. & JR. Boran. 1999. Social learning in cetaceans: Hunting, hearing and hierarchies. IN *Mammalian Social Learning: Comparative and Ecological Perspectives*. H.O Box and K.R. Gibson, eds. Cambridge University Press.

Heimlich-Boran S.L. 1996. Cetaceans. IN *SeaLife: A Complete Guide to the Marine Environment*. G. Waller, ed. P 395-412. Pica Press, Sussex.

Hammond, P.S., Benke, H., Berggren, P., Collet, A., Heide-Jorgensen, M.P., **Heimlich-Boran S.,** Leopold, M.F. & Oien, N. 1996. Distribution and Abundance of the Harbour Porpoise and other small cetaceans in the North Sea and Adjacent waters. 1996. *LIFE* 92-2/UK/027.

Heimlich-Boran S.L. & JR. Heimlich-Boran. 1994. Killer Whales. Colin Baxter Ltd. 72pp

Heimlich-Boran S.L. 1992. Short Fins, Long Lives. *BBC Wildlife Magazine*. March

Heimlich-Boran S.L. 1990. Pilot Study. *Sonar*. No. 4, Autumn.

Heimlich-Boran JR & **SL Heimlich-Boran.** 1989. Socializing behavior of killer whales in Greater Puget Sound. *Whalewatcher* 23:15-17.

Heimlich-Boran S.L. 1988. Association Patterns and Social Dynamics of Killer Whales (*Orcinus orca*) in Greater Puget Sound. MA thesis. Moss Landing Marine Labs, Moss Landing, CA.

Heimlich-Boran S.L. 1986. Cohesive Relationships Among Puget Sound Killer Whales. pp.251-283 IN: BC Kirkevold & JS Lockard (eds). *Behavioral Biology of Killer Whales*. NY:AR Liss.

Balcomb KC, JR Boran & **S.L Heimlich.** 1982. Killer whales in greater Puget Sound. *Rep Int Whal Comm* 32:681-685.

Osborne RW & **S.L Heimlich.** 1981. Deciphering the Behavioral Patterns of Puget Sound Orca. *Cetus* 1:5-8.

Boran JR, **S.L Heimlich** & N Quester. 1980. Cetacean Sighting Report: November 1979-November 1980. *Moclips Cetological Society Report* No. 1-80. 42 pp.

Boran JR, NJ Haenel & **SL Heimlich.** 1979. Cetacean Sighting Report for Greater Puget Sound, October 1978-October 1979. Report to NMFS, Seattle, WA.

Heimlich SL. 1978. Marine Mammals of Puget Sound: Notes for the beginning Naturalist. *The Journal of The Seattle Aquarium*, Spring, 1978.

CONFERENCE PRESENTATIONS & ABSTRACTS: Partial List

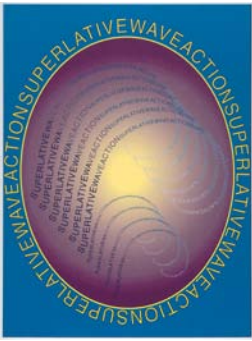
Heimlich, S.L., Mellinger, D.K., Niekirk, S.L. 2005. Sounds of Bryde's Whales in the Eastern Tropical Pacific. 16th Biennial Conference on the Biology of Marine Mammals. San Deigo, CA

Nieukirk, S., K. Stafford, D. Mellinger **S. Heimlich** C. Fox, J. Haxel, M. Fowler, H. Matsumoto, R.

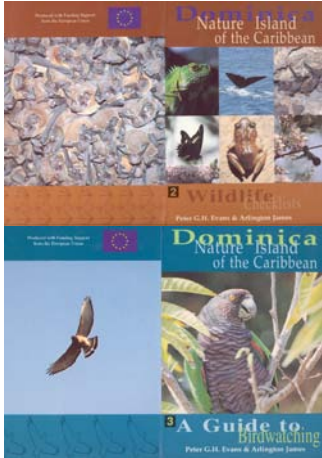
Bento. 2002. Low-frequency sounds recorded on hydrophones moored along the mid-Atlantic ridge. *European Cetacean Society Annual Meeting*, Gran Canaria, Canary Islands.

Heimlich-Boran JR, **SL Heimlich-Boran**, R Montero & V Martin. 1996. Status of the Social ecology of short-finned pilot whales off Tenerife, Canary Islands. 2nd Symp. of the Flora & Fauna of the Atlantic Islands, February 12-16, University of Las Palmas de Gran Canaria, Canary Islands.

Heimlich-Boran SL. 1994 Acoustic research on the Pilot Whale. *Underwater Animal Sounds Database Seminar* 31 January - 1 February. UK Defense Research Agency, Farnborough, UK.



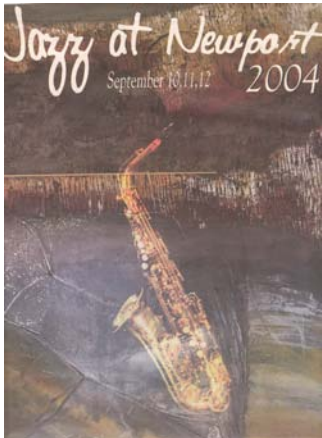
Surf Sticker



Series of 7 Natural History Guides



Art Show Program : "Human Form"



Jazz Festival Program

- Heimlich-Boran JR, **SL Heimlich-Boran**, R Montero & V Martin. 1994. An overview of whale-watching in the Canary Islands. 8th Ann Conf European Cetacean Society, 2-5 Mar, Montpellier, France.
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1993. Why are male *Orcinus* and *Globicephala* "Mama's Boys"? 10th Bienn Conf on the Biology of Marine Mammals, 11-15 Nov., Galveston, TX, USA.
- Heimlich-Boran SL**. 1993. Canary Island Cetacean Sightings: Tourist-based data to Love or Leave? 7th Ann Conf of the European Cetacean Society, 18-21 Feb, Inverness, Scotland.
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1993. Pilot whale pods: breeding groups or feeding groups? 7th Ann Conf of the European Cetacean Society, 18-21 Feb, Inverness, Scotland.
- Evans, PGH, C Swann, E Lewis, E Parsons, **SL Heimlich-Boran** & JR Heimlich-Boran 1993. Survey of cetaceans in the Minches and Sea of Hebrides, Scotland. 7th Ann Conf of the European Cetacean Society, 18-21 Feb, Inverness, Scotland.
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1991. Social structure and behavioral ecology of short-finned pilot whales (*Globicephala macrorhynchus*) off Tenerife, Canary Islands. 9th Bienn Conf on the Biology of Marine Mammals, 5-9 Dec, Chicago, IL.
- Heimlich-Boran SL** 1990. Social dynamics in a community of whales. 3rd Intl Orca Symp, 9-12 Mar, Victoria, BC, Canada
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1989. Socializing behavior of killer whales in Greater Puget Sound. 3rd Ann Conf of the European Cetacean Society, 24-26 Feb, La Rochelle, France.
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1989. Bottlenose dolphins of Alabama. 3rd Ann Conf of the European Cetacean Society, 24-26 Feb, La Rochelle, France.
- Heimlich-Boran JR & **SL Heimlich-Boran**. 1987. Population estimation and seasonal habitat use of bottlenose dolphins (*Tursiops truncatus*) off the Gulf Coast of Alabama. 7th Conf on the Biology of Marine Mammals, 5 Dec-9 December, Miami, FL.
- Heimlich-Boran SL**. 1984. Social Organization of Puget Sound Killer Whales and Impact of Capture Operations. 1st Bienn Conf of the American Cetacean Society, 30 Aug-3 Sep, Monterey, CA.
- Heimlich SL**. 1981. Cohesive Relationships among Puget Sound Killer Whales. 4th Bienn Conf on the Biology of Marine Mammals, 8-15 Dec, San Francisco, CA.
- Heimlich SL**. 1980. Surfacing Associations in Puget Sound Killer Whales. ORCA Symposium, College of Fisheries, Univ. of Washington and the American Cetacean Society (sponsors), Seattle, WA.

AWARDS

- | | |
|--|--|
| Center for Field Research (Earthwatch) | Cetacean Society International |
| American Cetacean Society | The Whale and Dolphin Conservation Society |
| The Packard Foundation | Sigma Xi Grants-in-Aid (The Scientific Research Society) |
| The Gelperin Trust | Lerner-Gray Fund for Marine Research (Amer. Mus. Nat. Hist.) |

MEMBERSHIPS

- | | |
|---------------------------------------|---|
| Charter Member, Marine Mammal Society | General Member, European Cetacean Society |
| Research Associate, The Whale Museum | Canary Island Cetacean Research Group |

SKILLS AND EQUIPMENT

- Computers MacIntosh and PC;
- Software: Osprey, Ishamael, IDL, Matlab, Excel, Access, Adobe Illustrator, InDesign, Photoshop, Power Point, Quark Express, I-Movie, Garage Band
- Video Production: camera work, audio, studio editing
- Darkroom Processing & Printing
- Shop Tools
- Small Boat Handling and Navigation
- Fluency in French, competency in spoken Spanish, knowledge of Swedish

REFERENCES

- Dr. David K. Mellinger, Hatfield Marine Science Center, Newport, Oregon. Tel: (541) 867-0372
- Sharon Nieu Kirk, Hatfield Marine Science Center, Newport, Oregon. Tel: (541) 867-06282
- Kay Eldon, Assistant Director, Newport Public Library, Newport, Oregon Tel: (541) 574-5450
- Dr. Phil Hammond, Sea Mammal Research Unit, St. Andrew's University, Scotland Tel: 44-1334-462630