

NEWSNOTES AND ANNOUNCEMENTS

Chelonian Research Foundation Linnaeus Fund: 1994 Grant Recipients



Chelonian Research Foundation (CRF), established as a 501(c)(3) nonprofit tax-exempt private operating foundation in 1992, administers a turtle research endowment fund named *The Linnaeus Fund*, for which it invites the submission of chelonian research proposals for its *Annual Turtle Research Awards*. Named after CAROLUS LINNAEUS [1707-1778], the Swedish creator of binomial nomenclature, the Fund honors the first turtle taxonomist and father of all modern systematics.

For its 3rd Annual Linnaeus Fund Awards selection on 30 December 1994, CRF awarded a total of \$2300 divided between four projects. Awards granted were as follows:

DOODY, J. SEAN. A field test of the effect of incubation environment on hatchling performance of softshell turtles (*Apalone spinifera*). Southeastern Louisiana University, Hammond, Louisiana.

FINKLER, MICHAEL S. Impact of egg content on post-hatching size, body composition and performance in the common snapping turtle (*Chelydra serpentina*). Miami University, Oxford, Ohio.

LINDEMAN, PETER V. Habitat associations of five *Graptemys*, including two Federally listed species. University of Louisville and Murray State University, Kentucky.

POSKIN, RICHARD D., AND MOLL, EDWARD O. Systematics of the false map turtles in Illinois: the *Graptemys pseudo-geographica* (Gray, 1831) complex. Eastern Illinois University, Charleston, Illinois.

Linnaeus Fund awards are granted annually to individuals for specific turtle research projects, with either partial or full support as funding allows. Priority is generally given to projects concerning freshwater turtles, but tortoise and marine turtle research proposals are also seriously considered. Priority is given sequentially to the following general research areas: Taxonomy and Systematic Relationships, Distribution and Zoogeography, Ecology and Natural History, and Morphology. Other topics may also be considered.

Priority is given to projects that demonstrate potential relevance to the scientific basis and understanding of Chelonian Diversity and Conservation Biology. Award recipients agree to publish at least partial or summarized results of the supported research in a CRF-sponsored publication, such as *Chelonian Conservation and Biology*.

Awards for 1995 are expected to be in the \$500 to \$1000 range for each project. We anticipate that, with time, there will be increased grant support as the endowment fund grows. The annual application deadline is November 15, with disbursement prior to December 31. Submit applications in formal grant proposal format in triplicate as follows: title page, project objective, background and research rationale, materials and methods, total project expenses, funding requested from CRF, funding available or requested from other organizations, general timetable, literature cited, and curriculum vitae for all key personnel. Awards are granted through an internal review process carried out by the Director and Scientific Advisory Board of CRF, which includes ANDERS G.J. RHODIN, RUSSELL A. MITTERMEIER, PETER C.H. PRITCHARD, JOHN L. BEHLER, and TERRY E. GRAHAM. Submit applications to:

ANDERS G.J. RHODIN, Chelonian Research Foundation, 168 Goodrich Street, Lunenburg, MA 01462 USA; Phone: 508-534-9440, 508-582-9668, Fax: 508-840-8184, E-mail: RhodinCRF@aol.com

Research Activities of the Sea Turtle Research Unit (SEATRU) of Universiti Pertanian Malaysia

The Sea Turtle Research Unit (SEATRU) of Universiti Pertanian Malaysia (UPM) was created in 1984, and has since developed into a multi-disciplinary program aimed at studying all aspects of the biology and ecology of sea turtles, threats to their survival, and how they can be managed in order to restore the various species to stable population levels. The vital information resulting from these studies have formed the basis for many important recommendations made by SEATRU to relevant government agencies for the conservation of sea turtles, particularly within the state of Terengganu in Malaysia.

Telemetry Studies. — These studies employ a combination of radio, ultrasonic, and satellite telemetry techniques, as well as microprocessor controlled data recorders to provide valuable insights into the daily lives of turtles at sea. Thus, researchers are able to locate, observe, and closely monitor the behavior of sea turtles underwater. Habitat requirements, mating and swimming behavior, as well as the diving patterns of sea turtles in Terengganu are systematically being studied.

Radiotelemetry studies have enabled SEATRU to determine with accuracy the location of interesting habitats of leatherback turtles in Rantau Abang, resulting in the legal establishment of an offshore sanctuary for these endangered animals. Green turtles, like the other sea turtles, do not reside near nesting beaches, but undertake long-distance migrations of several thousand kilometers between nesting and feeding grounds. A satellite tracking project using the ARGOS tracking system is currently being undertaken in collaboration with the University of Pisa, Italy, to chart their international migration routes.

SEATRU has developed a technique to study the offshore movements of newly-emerged turtle hatchlings by miniaturization of radiotelemetry techniques. By following the hatchlings at sea, we can gain an understanding of where these hatchlings go, the currents they follow, where, what, and when they feed, and the dangers they face. It is only through such studies that we can provide estimates of survival, and hence a better assessment of the impact of current sea turtle hatchery programs throughout Malaysia.

Tagging and Nesting Research. — A long-term tagging and nesting study of green turtles in Pulau Redang was initiated in 1993. This long-overdue project on the largest aggregation of green turtles in Peninsular Malaysia will provide basic, yet vital information on population sizes, monitor annual population fluctuations, study reproductive and nesting behavior, and determine the success of *in situ* and relocated nests. Tags, when recovered and returned from distant locations, will provide information on feeding grounds and migration routes through international waters.

DNA Profiling of Sea Turtles. — This is a collaborative effort between SEATRU and the University of Florida, USA, aimed at DNA fingerprinting of the various major stocks of sea turtles in Malaysia. Through eventual international cooperation, we will be able to determine whether sea turtles which end up in the slaughterhouses of neighboring countries, or fishing nets of fishermen operating either in international waters, or within the territorial waters of coastal states, can be traced to the Malaysian stocks.

Turtle Watch Project. — This project was first initiated by SEATRU and ESSO to study the associations between sea turtles and offshore oilrigs in Terengganu, with the help of oilrig workers as voluntary observers. The success of this project has paved the way for a large-scale nationwide sea turtle observer program, a collaborative effort between the Fisheries Department and SEATRU. The public, including tourists, divers, fishermen, beach users, coastal inhabitants, etc., will be solicited to provide information on sightings of sea turtles. The eventual accumulation of data on these sightings will enable the researchers to determine important habitats and quantify sea turtle mortalities and strandings with respect to species and size.

Orientation and Behavioral Studies. — Light pollution from night fishing operations, industries, hotels, beach chalets and homes located near or at nesting beaches are known to have adverse effects on the homing of nesting turtles, and

hatchling seaward orientation. Studies at SEATRU explore the extent of disorientation caused by light pollution and their effects on nesting turtles and early hatchling survival.

Hatchery-Related Research. — In many nesting locations, hatcheries offer the only hope for safe incubation of eggs because of the intensity of poaching. Hatcheries, being non-natural, can reduce hatch rates and produce an imbalance in the sex ratio of the hatchlings produced due to high incubation temperatures. Research is hence crucial to develop techniques to produce optimal hatch rates and hatchlings which reflect a balanced and natural sex ratio.

Research and conservation work undertaken by SEATRU of UPM is supported by grants from MPKSN (Majlis Penyelidikan dan Kemajuan Sains Negara), Ministry of Science, Technology and Environment, ESSO Production Malaysia Inc., Redang Island Resort Sdn. Bhd., and the Turtle Sanctuary Advisory Council of Terengganu, with cooperation from the Fisheries Department, Koperasi Setiajaya Pulau Redang, Redang Bay Resort, and WWF Malaysia. For further information, contact:

SEA TURTLE RESEARCH UNIT, Fisheries and Marine Science Centre, Universiti Pertanian Malaysia, 21030 Kuala Terengganu, Malaysia, Tel: 09-896411; Fax: 09-896441

Centre de Reproducció de Tortugues de l'Albera in Spain

The Centre de Reproducció de Tortugues de l'Albera [Center for Reproduction of Tortoises of Albera] (CRT), located in Garriguella, Girona, Spain (near the border of France), comprises specially designed facilities for the maintenance and captive breeding of the Mediterranean tortoise (*Testudo hermanni*), a species threatened with extinction in Spain. The Center is managed by the "Associació Amics de la Tortuga de l'Albera" under the "Programa de Recuperació de la Tortuga Mediterrània a Catalunya" created by the Departament d'Agricultura, Ramaderia i Pesca de la Generalitat de Catalunya in collaboration with the Paratge Natural de l'Albera.

The Center's work is aimed at a program of successful captive breeding of Mediterranean tortoises in order to improve on the high hatchling and juvenile mortality rates found in nature, and then followed by a head-start program of releasing older juveniles back into natural populations in the area.

The Center is open for visitation by researchers, students, and the general public. It is located 500 m outside Garriguella on the road to Vilamaniscle. For further information, contact:

RAMON MASCORT BRUGAROLAS, Centre de Reproducció de Tortugues de l'Albera, 17780 Garriguella, Girona, Spain