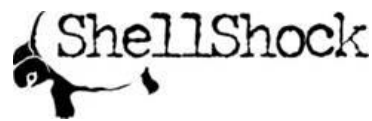
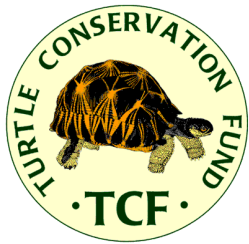


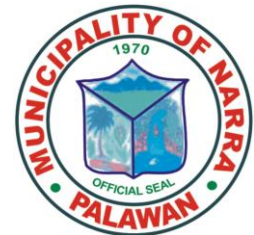
# TCF – 0096

## *Siebenrockiella leytensis* over time - are populations stable?

PROGRESS REPORT



Project Partners



By  
Sabine Schoppe  
Puerto Princesa City, Palawan, Philippines  
September 2008

# TCF – 0096

**PROGRESS REPORT (September 2008)**

**COUNTRY: PHILIPPINES**

**PROJECT TITLE: *SIEBENROCKIELLA LEYTENSIS* OVER TIME –  
ARE POPULATIONS STABLE? (TCF-0096)**

**PROJECT DURATION: November 2007 – April 2009**

**PROJECT SITE: Palawan, Philippines**

**PHILIPPINE PROJECT COOPERATORS:**

**Department of Environment and Natural Resources (DENR)  
Protected Areas and Wildlife Bureau (PAWB)  
Palawan Wildlife Rescue and Conservation Center (PWRCC)  
Palawan Council for Sustainable Development (PCSD)  
Municipal Government of Narra, Palawan, Philippines  
Western Philippines University (WPU)  
Concerned agencies and authorities**

**BY: KATALA FOUNDATION INC. (KFI)**

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# **SIEBENROCKIELLA LEYTENSIS OVER TIME - ARE POPULATIONS STABLE?**

## **PROGRESS REPORT – September 2008**

*Prepared by Sabine Schoppe, KATALA Foundation, P.O. Box 390, Puerto Princesa City 5300, Palawan, Philippines*

### **Background and Research / Conservation Rationale**

Until recently herpetologists believed that the Philippine Forest Turtle – known from only two individuals on which Taylor (1920) had based its description and that were labeled with origin in Leyte – might as well be extinct. Only when Timmerman and Auth (1988) reported on a specimen from Palawan the search for the species started again. It took more than another decade until its existence in Palawan was proven and documented through various studies (Diesmos et al., 2004b; Fidenci, 2004; Gavino and Schoppe, 2004; Lopez and Schoppe, 2004; Widmann et al., 2004; Diesmos et al., 2005; Acosta, 2006, Schoppe, 2006). Finally in 2004, Diesmos et al. (2004a) describe the rediscovery and provide evidence for the species being endemic to the Palawan faunal region. Only then the count-down for the species seems to have started. Its rediscovery had triggered a high demand for the international pet market. Just months after the rediscovery was published the species was available on the international pet markets of Europe, Japan and the USA. Since then prices have steadily increased and are currently at 2,000 Euro per individual in Europe (internet survey).

Recent surveys have shown that the species had been locally common and has always been consumed in Palawan (Acosta, 2006; Matillano, 2008; Schoppe, 2008; Schoppe and Matillano, 2008; Schoppe and Cervancia, in prep.). Unfortunately, the species is facing a combination of threats nowadays. In addition to local consumption, habitat destruction and exploitation for the international pet trade are threatening the survival of the species. Though some first data on population size estimates are available from short-term studies (Acosta, 2006; Schoppe and Matillano, 2008) long term studies are needed to show the population size and composition over time. In view of the urgent need to qualify and quantify the population status and trends the present study intends to conduct long term population studies in selected sites in Palawan.

### **Methodology**

Three sites in Northern Palawan were selected for the study. Two in areas where previous short-term surveys had been conducted and which characterized the sites as heavily exploited and seemingly intact, respectively (Schoppe and Matillano, 2008). A third site was established in a geographic area that – according to confiscation and turn-over records - is source of most individuals in international trade. A brief description of the three sites is provided in Table 1.

**Table 1: Some physical habitat characteristics of survey sites.**

	<b>Site I</b>	<b>Site II</b>	<b>Site III</b>
Nature of water body under study	Perennial stream	Perennial stream with temporary tributary	Perennial stream with temporary tributary
Mean width (m) of stream habitat	6.2	14.5	4.0

Mean water depth (m)	0.7	4.9	0.3
Min.-max. water temperature (°C)	18.0-26.0	23.5-32.0	23.0-28.0
Mean current speed (m/s)	0.03	0.03	0.11
Mean canopy cover (%)	80.0	11.7	14.3
Min.-max. air temperature (°C)	21.1-30.9	20.0-38.0	25.0-27.0
Stream and bank substrate	Sandy-muddy	Sandy-muddy	Mainly sandy-muddy
Shoreline vegetation	Secondary lowland forest with some old growth but also <i>Pandanus</i> , palms, grasses and rice fields.	Few remaining trees, mainly crops (cashew, rice), bamboo and sedges.	Few emergent trees, mainly rice fields, coconut plantation, palms, <i>Pandanus</i> , rattan, bamboo.

Unlike in previous short-term studies where populations of *S. leytensis* were considered closed and the mark-recapture method after Schnabel was applied (Acosta, 2006; Schoppe and Matillano, 2008), the present study considers the populations open and after mark-recapture surveys during two consecutive weeks over five years (2008-2012) data will be analyzed after Peterson, Seber (1973), and Schumacher & Eschmeyer (1943) (see also Krebs, 1998) and results of the three methods will be compared. Present funding (TCF-0096) covers only the first two samplings (2008 and 2009).

*Siebenrockiella leytensis* is collected from visual encounter surveys, pit fall traps and baited funnel traps (Plate 1). Individuals are marked through permanent notches of the marginals (Plate 1). Hatchlings and very small young are marked through toe clipping. All animals are measured and weighed following standard measurements before release to place of capture. The composition of the populations will be analyzed in terms of size and age structure, life history stages and sex ratio. The number of caught animals per year will also be compared. If other turtle species than *S. leytensis* are collected they will be measured and marked as well.



**Plate 1: Preparation of baits (left), marking (center), and measuring (center) during field work.**

## Project Status as of September 2008

The first sampling period had been scheduled for December 2007 until February 2008, but bad weather hampered the conduct of the study and the first survey of the three sites could only be conducted between February and March 2008.

The first site (I) was surveyed from 3-16 February 2008. A total of 79 *S. leytensis* one of which was found dead were caught, measured and released. Once the results from the first survey site were encoded and supplies replenished the second site (II) was surveyed from 26 Feb. to 9 March 2008. At the second site, 21 *S. leytensis* were collected. The third site (III) was surveyed from 15-29 March 2008. At that site only 10 *S. leytensis* were trapped.

The population sizes can only be estimated once mark-recapture data from the upcoming surveys are available. As of now data can only be compared with the number of individuals that were collected after two weeks in the 2007 short-term population surveys (Schoppe and Matillano, 2008). In 2007, 90, 38 and 22 *S. leytensis* were caught in site I, II and III, respectively. For all three sites, the number of individuals caught was higher in 2007 than in 2008. It is however too early to determine whether this represents a declining trend related to ongoing exploitation and or habitat destruction.

A first comparison of some of the morphological data shows that the largest and heaviest individuals were encountered in site I, which is the best preserved site among the three (Table 2). The least number and the smallest mean size and weight was encountered in site III:

**Table 2: Mean  $\pm$  standard deviation and range of median carapace length and body weight of *S. leytensis* captured along three sites in 2008.**

	Median carapace length (mm)	Body weight (g)
<b>Site I</b>	188.0 $\pm$ 53.0 (41.0-297.0)	1116.1 $\pm$ 716.0 (12.0-3440.0)
<b>Site II</b>	177.3 $\pm$ 42.7 (109.0-258.0)	956.2 $\pm$ 627.2 (250.0-2280.0)
<b>Site III</b>	122.4 $\pm$ 71.3 (44.7-255.0)	516.1 $\pm$ 713.3 (15.0-2150.0)

Aside from *S. leytensis* the Southeast Asian Box Turtle *Cuora amboinensis* and the Asian Leaf Turtle *Cyclemys dentata* were encountered in most of the sites. At site I, six *C. dentata* but no *C. amboinensis* were caught. At the second site, two *C. dentata* and six *C. amboinensis* were collected, measured and released. At the third site (III) 17 *C. dentata*, and 11 *C. amboinensis* were captured.

## Photo documentation



**Plate 2: Locals near sampling site I got attracted by the work of the team and readily shared their local knowledge on the species (left). A rice field adjacent to site I was regularly inspected but only yielded once one *S. leytensis* (right).**



**Plate 3: A temperature data logger was left in the water for the entire duration of each fieldwork (left). Taking notes on recaptured individuals during night survey (right)**



**Plate 4: A visual encounter in the middle of the stream is a great challenge for the researcher (left). Some forest fruits that serve as food of *S. leytensis* were collected and germinated for later identification (right).**



**Plate 5: Sand quarrying is one of the causes of habitat destruction in site II (left). At the same site, the researcher retrieved part of a *S. leytensis* shell near a house, whose owners probably discarded the shell after eating the flesh (right).**



**Plate 6: In site III the researcher witnesses the slaughtering of a Monitor lizard, but turtles are eaten here too (left). In all three sites, water buffaloes bath in the stream occupied by *S. leytensis* (right).**

## Issues/Problems encountered

The main proposed research partner Mr. Miguelito Cervancia was offered a permanent position in a government office and had therefore resigned from KIF effective August 1, 2007: He was replaced by Ms. Diverlie Acosta. The curriculum vitae of Ms. Acosta is attached (Annex 1).

Global climate change was very noticeable during the reporting period. Basically rain never stopped after the rainy season of 2007. Rains and tropical storms continued until now and hampered considerably the sampling. Roads became inaccessible and trapping during times of intense rain impossible due to flooding that might easily cause drowning of trapped turtles. Due to the weather conditions the original sampling schedule was delayed by two months.

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- Biodiversity Symposium, Legend Hotel Palawan, Puerto Princesa City, Palawan, April 4-8, 2006.
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## Annex 1: CV of researcher.

### **DIVERLIE D. ACOSTA**

San Manuel, Puerto Princesa City 5300

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#### **PERSONAL DATA**

Date of Birth : December 5, 1978  
Place of Birth : Bgy. Tagumpay, Roxas, Palawan  
Religion : Roman Catholic  
Civil Status : Single  
Father's Name : Antonio Niño Acosta  
Mother's Name : Angustia Dela Cruz Acosta  
Language/Dialect Spoken : English / Tagalog / Cuyono

#### **EDUCATIONAL BACKGROUND**

Baccalaureate : Bachelor of Science in Aquatic Biology  
Major in Resource Conservation  
Western Philippines University  
Puerto Princesa City  
2006

Thesis: Acosta, D.D. 2006. POPULATION STRUCTURE OF THE PHILIPPINE FOREST TURTLE *Siebenrockiella P. leytensis* IN BGY. DUMARAO, ROXAS, PALAWAN, PHILIPPINES. Undergraduate Thesis, BS Aquatic Biology, Western Philippines University Puerto Princesa Campus, Puerto Princesa City Palawan. 41 pp.

Secondary : Palawan National School-San Jose  
Puerto Princesa City, Palawan  
1995

Elementary : Francisco Ubay Memorial Elementary School  
Puerto Princesa City, Palawan  
1991

#### **FIELD OF INTEREST**

- Herpetology
- Mangrove, Seagrass and Coral Assessment

#### **SPECIAL SKILLS**

- Biodiversity Research/Assessment
- Snorkeling/skin diving

#### **TRAININGS AND CONFERENCES ATTENDED**

Participant - 4th Philippine Zookeeper Training Workshop, Royal Oberoi, Santa Monica, Puerto Princesa City, Palawan, Philippines. Sponsored by Chester Zoo. September 8-12, 2008.

- Presenter - Population structure of the Philippine Forest Turtle *Siebenrockiella P. leytensis* (Taylor, 1920) in Brgy. Dumarao, Roxas, Palawan, Philippines. Oral presentation, 15<sup>th</sup> WCSP Annual Philippine Biodiversity Symposium, “Red Lists as Tool Conservation Planning”, Legend Hotel, Puerto Princesa City, Palawan, April 4-8, 2006. Sponsored by Wildlife Conservation Society of the Philippines.
- Participant - Seminar-Workshop on Coastal Resource Management (CRM) and Vetiver grass planting Riverbank Rehabilitation Project - FRMP Bgy. Tagburos, Puerto Princesa City. August 2005
- Participant - Filipino – Japanese joint field training in Honda Bay and Puerto Princesa Bay, Puerto Princesa City, Palawan. March 22-April 4, 2004.
- Participant - Seminar on Coastal Resource Management Program (CRMP) and Vetiver planting along the river banks of Tagburos River in Bgy. Tagburos, Puerto Princesa City, Palawan. August 2005
- Participant - 36<sup>th</sup> Annual Convention of the Federations of Institutions for Marine and Freshwater Sciences “Western Philippines University Puerto Princesa Campus, Puerto Princesa City. October 13-15, 2004
- Volunteer - World Wildlife Fund for Nature (WWF) Dugong Research and Conservation Project (DRCP) in Roxas, Palawan. April 30 - May 14, 2003

## **WORK EXPERIENCE**

- Zookeeper and Research Assistant – Katala Institute for Ecology and Biodiversity Conservation (KIEBC), Katala Foundation Inc., Philippine Freshwater Turtle Conservation Program. Responsibilities: turtle quarantine, captive care, Information Education Campaigns (IEC), captive breeding, populations surveys in selected sites. August 1, 2007 – ongoing.
- Volunteer – Katala Institute for Ecology and Biodiversity Conservation, Katala Foundation. Captive Breeding and Quarantine Facilities for Freshwater Turtles. Responsibilities: turtle quarantine, captive care. July 1 to 31, 2007.
- Research Assistant – “Status and Dynamics of Trade of *Siebenrockiella leytensis*” a CEPF funded project of the Western Philippines University - Puerto Princesa Campus, Responsibilities: Population survey of *Siebenrockiella leytensis* in selected areas of Palawan; conduct IEC/species identification of traded wildlife to relevant enforcement authorities; organize and assist in the conduct of training on identification of traded wildlife as well as provide logistics and technical support on field surveys of *S. leytensis* population. January 15-June 15, 2007.
- Enumerator - Katala Foundation Inc., Interview Survey Dumarao, Palawan. Responsibilities: Conducted interviews regarding the critically endangered Philippine Cockatoo (*Cacatua haematuropygia*). November 2004 and January 2005.