TCF – 0096

*Siebenrockiella leytensis* over time - are populations stable?

PROGRESS REPORT

By

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Puerto Princesa City, Palawan, Philippines

September 2008
PROGRESS REPORT (September 2008)

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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 turnover 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.

<table>
<thead>
<tr>
<th></th>
<th>Site I</th>
<th>Site II</th>
<th>Site III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of water body under study</td>
<td>Perennial stream</td>
<td>Perennial stream with temporary tributary</td>
<td>Perennial stream with temporary tributary</td>
</tr>
<tr>
<td>Mean width (m) of stream habitat</td>
<td>6.2</td>
<td>14.5</td>
<td>4.0</td>
</tr>
</tbody>
</table>
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

Unlike in previous short-terms studies were 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.](image)
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 ± standard deviation and range of median carapace length and body weight of *S. leytensis* captured along three sites in 2008.

<table>
<thead>
<tr>
<th></th>
<th>Median carapace length (mm)</th>
<th>Body weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site I</td>
<td>188.0±53.0 (41.0-297.0)</td>
<td>1116.1±716.0 (12.0-3440.0)</td>
</tr>
<tr>
<td>Site II</td>
<td>177.3±42.7 (109.0-258.0)</td>
<td>956.2±627.2 (250.0-2280.0)</td>
</tr>
<tr>
<td>Site III</td>
<td>122.4±71.3 (44.7-255.0)</td>
<td>516.1±713.3 (15.0-2150.0)</td>
</tr>
</tbody>
</table>

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 buffalos 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.

Literature cited


Annex 1: CV of researcher.

**DIVERLIE D. ACOSTA**
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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

                *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

Participant - Seminar-Workshop on Coastal Resource Management (CRM) and Vetiver grass planting Riverbank Rehabilitation Project - FRMP Bgy. Tagbueros, Puerto Princesa City. August 2005


Participant - Seminar on Coastal Resource Management Program (CRMP) and Vetiver planting along the river banks of Tagbueros River in Bgy. Tagbueros, Puerto Princesa City, Palawan. August 2005

Participant - 36th 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


**WORK EXPERIENCE**


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.