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## Analysis of a Live Stranded Leatherback, *Dermochelys coriacea*, in Brazil

Max R. Werneck<sup>1</sup>, Gustavo H.P. Dutra<sup>2</sup> & Berenice M.G. Gallo<sup>1</sup>

<sup>1</sup>Fundação Pró-Tamar, Rua Antônio Athanasio da Silva n.º 273, Bairro Itagua, Ubatuba, São Paulo, 11680-000 Brazil (E-mail: max@tamar.org.br); <sup>2</sup>Aquário Municipal de Santos, Avenida Bartolomeu de Gusmão s/n.º, Ponta da Praia, Santos, São Paulo, 11035-500 Brazil (E-mail: dutra@kingnet.com.br)

Although leatherback sea turtles (*Dermochelys coriacea*) regularly occur along the Brazilian coast (Barata *et al.* 2006; Lima *et al.* 2007), few of these animals have been examined by veterinarians. On 16 November 2007, a live leatherback (*Dermochelys coriacea*) was found stranded in Jardim Alice beach, Praia Grande county, south shore of the state of São Paulo (24.0536°S, 46.5311°W). The turtle measured 137 cm curved carapace length (CCL) and 100 cm curved carapace width, with a mass of 330 kg. The turtle had no visible tags or tag scars (no scanner was available to check for subcutaneous PIT tags), and the turtle exhibited injuries on its flippers and was transferred to the Santos Aquarium for evaluation and veterinarian care.

Closer inspection revealed that the leatherback had a deep ulcerative injury on the front left flipper near the shoulder joint, and the entire limb was swollen. No other visible anomalies were observed. The turtle was kept in a 4000 liter pool with 3 water changes/day. The turtle was given prophylactic antibiotic injections (IM) of benzathine penicillin, dose = 10000 UI/kg, every 24 hours for 3 days. The injured area was also abraded daily and treated with Alantol® (active ingredients: allantoin, chlorohexidine, zinc oxide, and citronella). Within the first 24 hours of stranding, blood was collected from the interdigital blood vessel of the rear flipper (Wallace & George 2007), and stored in sodium heparin tubes for hemogram analyses and a dry tube for biochemistry. The biochemistry serum was analysed in a Bioplus 200 S® with the use of a commercially available kit (Labtest Diagnostic®). The hemogram was made by manual counting in the Neubauer chamber with Natt & Herrick satin (Tables 1 and 2).

After two days into the treatment pool, fresh abrasions were observed near the nostrils, edges of the front flippers, and along the sides of the carapace, caused by the turtle bumping against the

pool walls. It was decided to release the turtle as soon as possible, to avoid further injury in the pool, and antibiotic treatment was stopped after the third injection.

Prior to release, the leatherback was tagged using Inconel flipper tags (National Band and Tag Co., USA, model 681) numbered BR 52752 and BR 52751, placed on the rear flippers (Eckert & Beggs 2007). The turtle was released 20 November 2007, on the water near “Lage de Santos” (24.1110°S, 46.3269°W); the turtle was observed at the surface for a short period, subsequently diving out of sight.

We suspect that the flipper injury was caused by entanglement with fishing line or some other gear. Injuries caused by interactions with fishing gear have been reported previously in stranded leatherbacks in Brazil (Lima *et al.* 2007) as well as other marine turtle species elsewhere (e.g. Calabuig 1999). In the present case, the prognosis for recovery from the limb injury was favorable.

In terms of hematology, this individual turtle appeared to be within the normal range reported for leatherbacks from Gabon (Deem *et al.* 2006), except for higher heterophil levels (Table 1), possibly related to the injury observed on the flipper. There were no major differences observed in the blood biochemistry results of this stranded turtle compared to the nesting turtles in Gabon (Table 2). However, more blood chemistry work on leatherback turtles in Brazil is needed to develop baseline values.

We suspect that this individual was a female, because its tail did not extend beyond the carapace. Although Stewart *et al.* (2007) reported various cases of adult leatherback females with CCL <145 cm, we could not determine conclusively if this individual was a mature female.

The tank-related injuries observed on this turtle’s head, flippers and carapace are apparently common for leatherbacks kept in captivity (Jones *et al.* 2000), and present a challenge to treatment

	This note	Deem et al. (2006)
RBC (X106)	0.34	0.17-0.78
Hemoglobin (g/dl)	11.6	-
PCV (%)	38	28-56
MCV (fL)	1,101	-
MCHC (g/dl)	30.52	-
WBC (x 103/ $\mu$ l)	9.5	1.5 - 14.6
Heterophils (x 103/ $\mu$ l)	7.88	0.0 - 5.1
Lymphocytes (x 103/ $\mu$ l)	1.14	0.0 - 3.3
Monocytes (x 103/ $\mu$ l)	0.19	0 - 0.8
Eosinophils (x 103/ $\mu$ l)	0.28	0 - 0.5

**Table 1.** Hemogram values from a stranded *Dermochelys coriacea* found in Sao Paulo, Brazil. RBC = red blood cells, PCV = packed cell volume, MCV = mean corpuscular volume, MCHC = mean corpuscular hemoglobin concentration, WBC = white blood cells

of injured leatherbacks. Tethering the animal and/or lining the tank with soft material may help reduce tank-related injuries. Interestingly, we observed reduced swimming activity of the leatherback during night hours. Perhaps alteration of the light:dark cycle, in favor of more dark hours, may help reduce the likelihood of tank-related injuries.

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	This note	Deem et al. (2006)
AST (U/L)	151	159 $\pm$ 49 (94-234)
Uric acid (mg/dL)	1.1	11.9 $\pm$ 0.0 (11.9)
CK (U/L)	607	1,228 $\pm$ 2,390 (20-7,086)
TP (g/dL)	3.8	4.6 $\pm$ 1.0 (3.2-6.0)
Albumin (g/dL)	1.7	1.81 $\pm$ 0.37 (1.07-2.39)
Glucose (mg/dL)	95	78 $\pm$ 13 (55-92)

**Table 2.** Blood biochemistry values for a live leatherback found in Sao Paulo, Brazil. AST = aspartate aminotransferase, CK = creatine kinase, TP = total protein. Data from Deem et al. 2006 are presented as mean  $\pm$  SD and range in parentheses.

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