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FENACAM & LACQUA/SARA (WAS) '15
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NOVEMBER 16-19, 2015
CEARA CONVENTION CENTER
FORTALEZA, BRAZIL

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SURGERY IN ADULT PIRARUCU _Arapaima gigas_ FOR INSERTION OF TELEMETRY TAG

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Telemetry equipment is largely used in behavioral and fish migration studies in lakes, rivers and oceans. The application of this technology in aquaculture is recent and is being tested to evaluate pirarucu reproduction behavior in ponds. The equipment is composed by receivers and transmitters, including a range test tag (13 mm width, 36 mm length), that allows to identify the fish movement at 3 seconds intervals. This tag needs to be inserted in the fish coelomic cavity. In January of 2015, three animals (total length 1.39 m; 1.36 m; and 1.35 m) were submitted to a surgery in order to receive the tag and have their movement monitored. Fish were caught in ponds, transported with a special net to a shaded place, where they were placed in the left lateral position on a damp surface. The animals were anesthetized using gill aspersion of MS222 solution (200 mg/L) before starting the surgery and during all procedure, when signs of recovery from anesthesia were observed. The region where the tag was implanted was the final third of the body, four scales above the left pelvic fin, where was previously observed lesser risk to affect an important organ. It was necessary to remove five scales to clean the incision area and access the skin, which was disinfected using iodized alcohol. The incision had a length of 3 cm and a depth of approximately 4 cm to access the coelomic cavity where the tag was introduced. The Wolf suture was used to close the incision, using an absorbable suture wire (catgut 4.0 0.75 cm). In the end of the surgical procedure, a healing and antibiotic ointment (Ganadol®) was applied in suture area. Fish were recovered from anesthesia by water aspersion at the gills. When the complete recovery was observed, the fish were returned to the ponds carefully in order to avoid drowning. Fifteen days after the surgery, the fish were eating normally, and were caught to evaluate the incision healing process (Figure 1). The performed procedure was safe, allowing the complete recovery of fish and the continuity of the telemetry research.

**FIGURE 1.** Surgery in pirarucu to implant a telemetry tag. (A) Anaesthetic procedure using gill aspersion of MS222 solution (200mg/L); (B) Incision area; (C) Tag. (1) Incision with a length of 3 cm; (2) Suture with 3 or 4 Wolf stitches; (3) Healing process in the incision area 15 days after surgery.