

# Dolphin hunt in the central Brazilian Amazon

## A Report to Duisburg Zoo

Dr. Vera M. F. da Silva

Nivia do Carmo, M.Sc.

Sannie Brum, M. Sc.

Instituto Nacional de Pesquisas da Amazônia - INPA

Laboratório de Mamíferos Aquáticos – LMA

Amazon, Brazil.

**(1) Interviewing fishermen and other local people** To gauge the level and geographical extent of the hunt in a much larger area than hitherto, we propose to mount 3 x 2 week boat trips, visiting communities along the major rivers of the central Amazon. The crew will carry out structured interviews with fishers and other people, designed to reveal the number of botos killed by that community in the past year and the recent history of the hunt. They will search for direct and indirect evidence of the fishery, the latter principally being the large wooden boxes which hold the captured fish and are difficult to hide. They will also learn whether other types of bait are used by that community and, if so, what the ratio is of dolphin flesh to other bait. Each trip will set out from the town of Tefé in a different direction, visiting communities on one bank during the outward voyage, and on the other bank during the return. Each trip should reach areas 300-400 km from Tefé. The dolphin hunt is carried out year-round, but peaks between June and September. A good time for the community surveys would be during this peak period.

During the period of the Project two strategies were used to gather information on the killing of botos. The first one was around Manacapuru area, a large city in front of Manaus, where the largest freeze plant of the region is established. In this area fisherman are killing botos and no estimation exists on the volume of piracatinga being caught. Two visits to the freeze plant were

made to get permission to collect information on the volume of fish landed. The data is being collected by a student as part of her graduation thesis.

In one occasion the Environmental Police of the Amazon State in collaboration with AMPA team caught a boat with 4 fisherman catching botos. From the 6 animals caught, four were released while still encircled by the net, one was tied with a rope in a tree trunk and also released, and the last one which was harpooned died short time later. As a consequence of this operation, we gave a course to the Military agents of the Environmental brigade about the Aquatic Mammals of the region and how to handle them in case of injured or health captive animals, rescue and first aid.

A new environmental education program was established by AMPA in the schools and communities of that area, aiming to teach children and local fisherman through the “Colonia de Pescadores” about the existing legislation protecting the botos, the importance of the aquatic mammals to the aquatic ecosystem of the Amazon, and the basic principles of conservation. This program is part of a large project involving the translocation and monitoring of Amazonian manatees and is programmed to last for two years. Didactic material will be produced to be distributed to the children.

The other approach of Projeto Boto was to collect the stomach contents of piracatinga being cleaned by fisherman in different communities to find out through genetic analysis the type of bait being used (Cunha et al., in prep). Parallel to this study we were also analyzing genetically some species of catfish found in the markets of Manaus and other cities of Brazil. A new species of fish appeared with the fantasia name of “Douradinha” in several markets and supermarkets of different capitals of Brazil. This fish is sold cleaned, in filets of 1kg sealed packed. We went to several markets and supermarkets in Manaus, Rio de Janeiro and Brasilia buying samples of this fish (Fig. 1). Genetic analysis revealed that four species of different catfishes are being sold under the name of Douradinha, of which the piracatinga is the most common and abundant (Cunha et al., in prep.), confirming our findings that the volume of this fishery is increasing and consequently the number of botos (and caimans) killed for bait.

Table 1- Rivers and Communities visited during one trip around the Japura/Solimões Rivers showing the number of boxes in each community used to catch the piracatinga.

River	Communities	Box	%	Locality
Solimões	5	3	60	Porto Praia, Comunidade do Ferro
Japura	12	5	41.7	
Capivara	5	3	60	
Cubuá	3	3	100	
Aranapu	4	3	75	
Aranapu/Solimoes	1	1	100	Aranapu
Boca do Aranapu	1	1	100	Ponto X
Panauá	1	1	100	
<b>Total</b>	<b>32</b>	<b>20</b>	<b>62.5</b>	

The other main activity related to this project was part of a Master Thesis, developed by Sannie Brum and supervised by V. da Silva. Sannie's worked in one of the most intense hunting of botos area, between the city of Tefé and Fonte Boa, along the margins of the Amazon river and around the RDS Mamirauá. Part of the thesis was to visit markets, fishing places and communities and interview not only fisherman, but also people involved in the fishing activities.



Fig.1 - Piracatinga filet sold in the Manaus supermarket as Douradinha or “Piratinga”. Although the packet says “Filé de douradinha”, the label on the top of

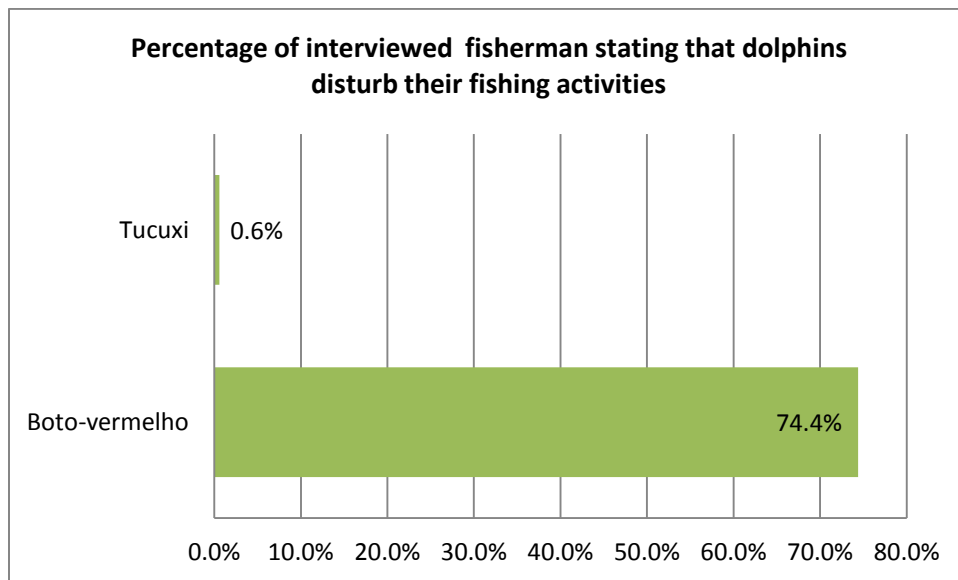
the freezer says “File de Piratinga” giving the price of R\$ 16,79 to 800g of the fish.

LOCALITY: Tefé, Alvarães & Uarini (Amazon, Brazil)

FISHERMAN INTERVIEWED AGE: 26 TO 79 years

<b>NUMBER OF FISHERMAN AND PEOPLE INTERVIEWED = 180</b>					
<b>Nº Community Local people</b>	<b>Nº City People</b>	<b>Communities visited</b>	<b>Communities w/ collection of data</b>	<b>Fishing Areas visited</b>	<b>Nº meetings</b>
117	63	28	15	14	6

- To 53,1% of interviewed people the fishery are the main source of income.
- . A total of 28 communities were visited and 180 people interviewed.



The main interactions with dolphins mentioned by the fisherman and their fishing activities are: Boto: Damage to the fishing gear (46%); Scaring the fish away from the net (14%); Entanglement (8.3%).

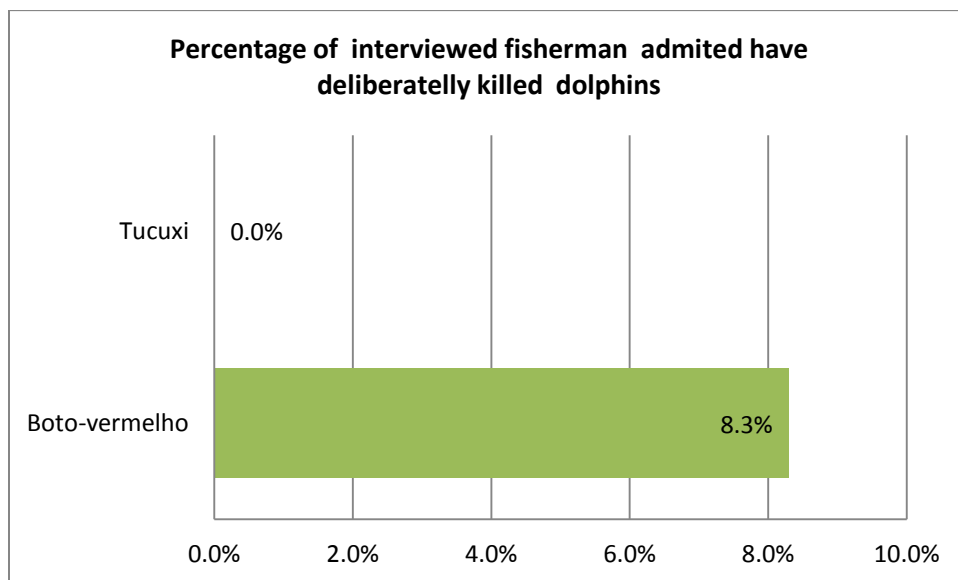
Tucuxi: Do not damage the fishing gear; But can scare the fish from the net (29%); Help the fisherman to catch fish (29%); Entanglement 25.8%

The perception of the fisherman concerning the conservation status of the dolphins populations are that 16% cannot give information about the status of boto population, while 35.8% didn't know about the tucuxi population conditions. However 83.3% and 63.6% of fisherman reported that they think the population of boto and tucuxi are increasing respectively. Only 0.6% believes that both species are decreasing in numbers.

Concerning direct interaction, not a single fisherman declared having fear of tucuxis, but 15% reported fear of botos. This result probably reflects reminiscences of the legends and stories about this species.

When asked about the necessity of conservation programs and research on river dolphins, the percentage of fisherman responded that:

- 1- Studies on river dolphin species are important : 78.4%
- 2- They don't know if these dolphins need to be protected: 20%
- 3- The dolphins need to be protected: 37.1%
- 4- Dolphins don't need protection: 42.9%



- The consumption of dolphin meat by the locals was rejected by all people interviewed.
- No dolphin meat was found in markets of the visited cities.

- Not a single organ was seen or reported being sold in the visited markets. There is no market for dry parts of dolphin organs as reported by Gravena et al 2008 to other areas of the Amazon region. None of interviewed fisherman mentioned about different use of dolphins parts.
- 1,7% of interviewed fisherman use dead dolphins as bait or sell dolphin carcass to the fisherman engaged in the piracatinga fisheries.

### Main Conclusions

The main causes of the population reduction of the two species of the river dolphins in the Amazon in the central Amazon are: Incidental mortality due to the mortality in fishing gear and the direct catching to use the carcass of the boto as bait to fish the piracatinga.

The fisherman believe they are in economic trouble, since the interaction with the dolphins causes financial problems when damaging nets and fishing gear, consequently generating conflicts.

Although illegal, the fisherman found justification in killing botos since the dolphins destroy their fishing gear. This views can influence the use of botos as a bait as a replacement to their expenses.

- There is an increasingly conflict among fisherman and dolphins in the studied area. Dolphins are being killed deliberately to avoid damage of their fishing gear.
- Local fisherman do not believe in overfishing, but believe that the fish stocks are infinite, seeing dolphins in the same way, in which dolphin population is increasing and competing with them for the fish.
- Fisherman believes that to study dolphins is important, mainly concerning the existing conflicts and to find a way to make them to avoid the nets. However the fisherman are divided regarding the need to establish conservation programs for the species.
- The Amazon river dolphin or the tucuxi are not used as food by the locals, or for magic purposes, however they are heavily hunted to be used as bait to fish the catfish piracatinga (*Calophysus macropterus*).



Fig.2- Piracatinga being sold mixed with other catfishes in one of the main fish market in Manaus. The piracatinga is the catfish with black spots on the body.

**(2) Monitoring the abundance of botos before and after the beginning of the hunt.**

Projeto Boto has been carrying out standardised surveys of dolphins along the same 24km stretch of waterway at least monthly since 1994, i.e. fortuitously for some 6 years before the hunt started and some 10 years subsequently. The resulting data provide a unique record of the numbers of animals occupying a typical flooded forest lake system throughout this period. Simultaneously, annual capture/release campaigns have provided a window onto the boto world, allowing close examination of tens of live dolphins each year. These programmes have revealed the level of anthropogenic wounding and abuse in survivors of the hunt. The analysis proposed would provide clear, statistically robust information about trends in abundance and anthropogenic harm.

The analysis of the standardised surveys of dolphins along the same 24km stretch of waterway during the last 16 years are under analysis and we hope to be able to write a paper and submit to a peer review journal in the next 3 month.

In 18<sup>th</sup> of October 2011, one day meeting was organized by AMPA, WSPA and Inpa/LMA with the aim to draw goals to stop this killing of botos. Several government and non-

government organizations, from environmental and conservation agencies were invited. A total of 26 people attended the meeting. Political and conservationist Strategies were established and few actions proposed:

- 1] Work in close collaboration with the Environmental Brigade of the Military Police to inhibit the killing of the botos at least near the cities of the Amazon state in this first trimester.
- 2] Get the collaboration and participation of IBAMA to reinforce the environmental Federal law that protects dolphins in Brazil.
- 3] Establish a petition in Spanish, English and Portuguese to be launched in the media to collect signatures and be sent to the Ministry of Fisheries and the Environmental Ministry in Brazil, requesting action from the Brazilian Government to reinforce the law and protect this dolphin.
- 4] Start a intensive campaign using the national and international media (TV, Radio and newspaper) to inform the population about the marked of piracatinga that is being sold as “douradinha”, fooling the consumers that do not know what they are buying.
- 5] Start a process to find an alternative type of bait that can be attractive to the fisherman, easy to store and effective to catch piracatinga.
- 6] Meeting again in the 19<sup>th</sup> of January 2012 to see the advance on the goals proposed and established new actions.

### **The Project and it future**

The propose fieldwork was completed in August 2011, and the report proposed to be submitted to this organization by October of 2011 is being send now, in November 2011.

We seek the support of YAQU-PACHA to continue the surveys of different areas of the Amazon were fisherman are killing botos, to help with the material used in the Environmental Education to be distributed in the schools and “Colonia dos Pescadores”, and in the studies to find an alternative to replace the meat of dolphins with a different type of bait.

### **Activities and requirement involved**

Long boat trips to visit communities; Trips to cities and communities around Manaus and Manacapuru with freezing plants and fish markets; Analysis of extant data to provide info on population decline; Salaries, Food, Fuel, Boat hire, Airfares, Boat fares, Accommodation/food in town, taxis outside Manaus and Manacapuru.



## References

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Cunha, H., V.M.F. da Silva, N. do Carmo, Solé-Cava. In Prep. Molecular forensics of piracatinga guts to identification of bait and douradinha filet being sold in the markets in Brazil.