

LOOKING FOR THE FAT CATFISH

(*Rhizosomichthys totae*)



Oase



FIELD_{WORK} REPORT

APRIL 1st- 9th

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Picture taken in San Pedro Island**





To explore and address complex research of the Fat Catfish (*Rhizosomichthys totae*), true collaborative, interdisciplinary research at the interface of ichthyology and social science was necessary. Ichthyologist around the world are increasingly working with social sciences and becoming involved in fieldwork with participants as a new strategy to answer questions that natural sciences cannot answer.

With the overarching aim of facilitating collaboration and interdisciplinary field research, the present report combines theories and experiences from anthropology, sociology, history and social communication sciences. In it we would like to share our experience during our fieldwork in Lake Tota's region, adding important considerations about the field work with local communities, our collaborative work with the Association of Fishermen of Lake Tota, our methodology, results and a brief proposal to give continuity to the social team's work with potential local partnership.

Rising concerns about sustainability, endangered species and increasing complexity of societal challenges often require an understanding of local fisheries, local and historical relationship between people, wetlands, landscapes and freshwater fishes. For this purpose, the study of anthropology, sociology and history should be expanded within ichthyology alongside the ecosystem of Lake Tota basin.

The human dimension is an umbrella term for the complex web of human processes and it is captured by disciplines from the social sciences. Consequently, capturing and synthesizing the variety of disciplines involved in the human dimension, and integrating them into the study of freshwater fishes, requires an interdisciplinary approach. In this research, we understand interdisciplinarity as an attempt at mutual interaction between disciplinary components that involves crossing the boundaries of several academic disciplines with contrasting research paradigms in order to create new theories and knowledge.

In order to address our research questions, we employed a systematic literature review approach that consisted of two consecutive steps: 1 relevant literature was collected and selected in a systematic, reproducible manner; 2 the selected literature was analyzed in a qualitative way through content analysis and hierarchical coding, which was followed by the field work.

Ethical principles should always underpin all research with participants; however, from our experiences, planning and conducting good ethical practice may be an unfamiliar process for a researcher with a natural science background or limited interdisciplinary research experience. The purpose of ethical principles is to ensure the excellence and integrity of research and to protect both research participants and researchers themselves. These ethical principles include three foundations: 1 respect for individuals; 2 acting in people's best interests and; 3 being fair with the environment.

In terms of respect for individuals, researchers have a duty to inform in plain language about the purpose of the research and how their input will be used, and they should know what to expect from the research process. Written consent is generally considered best practice, but oral consent may be more appropriate if participants have low literacy, the oral consent could be record with a sound recorder, a camera or a phone. Complementary to informed consent, researchers need to consider gaining the president of the Association of Artisanal Fishermen of Lake Tota approval. That was the process that the social team applied during the field work not only with the association but with every person involved in the research.

Acting in people's best interests, refers to the principle that the research being undertaken will do no harm to either the participants, and the researchers. Researchers should consider the impacts of their research on participants, communities and their environment. Being fair with the environment means that research should not harm the wetlands, the landscape and the plants and animals. The ichthyologist team should follow the council animal care and explain it to the local partners what is it about.

About communication science in field it is important to keep on mind that when interacting with participants, several communication barriers may exist, these barricades should be considered throughout the research, and potential strategies should be planned to overcome the barriers. Our experiences have shown during the field work that it is important to be aware of potential miscommunications. We found where our communication of information to participants were challenging and it was in the differences between culture and specialized language. These allowed us to identify the vocabulary that might not translate directly as intended with the participants thus, it is essential to use a simple language. In the process, we also identified the high interest of the participants in knowing more about the biogeography of fishes that belong to the Orinoco ecoregion, as well as the importance to protect wetlands through freshwater fishes conservation. It would be ideal if the ichthyologists team could give a talk about the mentioned topics.

When communicating science to participants, visual aids can be extremely useful in some situations for addressing communication and information barriers. Within the framework of our interdisciplinary presentation during the concertation meeting with the Association of Artisanal Fishermen of Lake Tota a model was developed to provide visual insights into the results we were sharing.



Researchers who work with local participants in the field tend to generate local knowledge through their research. To overcome issues with lack of trust by research participants, researchers can be instrumental in making sure that the issues facing could be communicated to actors with power, or to the general public, to create awareness of the issues. During field work, we suggest that researchers should ideally keep a field diary to reflect upon their experiences and impressions, even if those go beyond the research questions and data collection methods. It would also ideal if they could take pictures, and videos of the process of the collect. This methodology will enrich the final results of the whole research of the Fat Catfish.

Collaborative discussions and research between the social and natural sciences can significantly enhance the research design and process, producing holistic outputs. A lack of integration and collaboration may be due to a lack of time and consideration in the initial scoping phase, which can be key to encouraging integration whilst developing the research ideas and and a lack of experience and awareness of the other discipline. However, we are aware that working in an interdisciplinary collaboration bring enormous challenge, especially in a country like Colombia where the lack of tolerance increases violence between people that arises between natural and social scientists, as well as local partners and project participants. A possible answer to it could be their different scientific philosophies, which can be a barrier to understanding each other's practices and ways of working.

Different disciplines have different positions on ontology which may be in tension with each other. Furthermore, there may also be power dynamics among the researchers themselves, and partner organizations, based upon personal values, experiences and backgrounds, which might impact upon shared vision and collaboration.

Barriers to truly collaborative working, such as the ones expose here, often require time to overcome and the openness of researchers to learning about other disciplines. It must be remembered that over this projects we did not bring disciplines together, but we also brought people together, along with their knowledge and experiences from a lifetime with fish fauna in Lake Tota's basin.

The information compiled in this report is the final result of our research work. The findings are historically located and recreated with the subjectivities and perspectives of people's biographies and testimonies. Reflect on the diverse representations that are marked by the common experience of being part of Lake Tota and its great significance to local people who interact daily with this mysterious wetland mightbe surprising. We hope that our work in the research for the Fat Catfish, enriched by having a participatory approach by involving local knowledge that revealed recent contact with the fish, will bring hope and a new perspective to the neotropical ichthyology to find el Pez Graso.



FIELD WORK

objetives

1. Set up a concertation meeting with the Association of Artisanal Fishermen of Lake Tota to reach their support and approval to carry out the biological sampling and ethnography research of the social team.

2. Data collection of empirical knowlege from local people in order to identify clues that could point information about the Fat Catfish adding the social dynamics of the communities of Lake Tota region in order to provide a current overview of the relationships around the lake that can be compared with the historical information collected in phase 1 and 2 of the social research.

3. Record the development of the field work of the social team.

4. Advance in the production of the video of the song composed by Paloma Aguilar "The Fatcat fish".

5. Create a list of possible new locations where the biologist team could also look for the Fat Catfish.

6. Recreate the invisible path of the Fat Catfish in Lake Tota's basin.

7. Create a list of advices for the ichtiologist team.

8. Establish partnerships with local partners.

9. Project positioning.

10. Conclude the final phase of the research project.



METHODOLOGY

The fieldwork was a form of inquiry that required the team to be immersed personally in the ongoing social activities of individuals and group carrying out the research. It meant the total immersion of the team in the field setting 24 hours per day, during 9 days. In this way we not only became familiar with the spatial dimensions of the lake, and its socio cultural environmental dynamics, but also with the reality that lake Tota has nowadays. Fieldwork placed us in the real world of the communities and villages where we were able to find cultural phenomena that is meaningful to the host communities regarding the Fat Catfish.

The team had the roles of participants, observers, facilitators, change agents and narrators. We considered the use of participant observation, with interviews and ordinary "informal" conversations. The observation was complemented with the use of a diary.

Nine semi-structured interviews were carried out, which were recorded in audio and video for the documentary. In turn, **53** people were asked, including passers-by from the urban area of the different municipalities (Tota, Cuitiva and Aquitania) and people from the villages, the main question was if they had seen the Fat Catfish. This was complemented by a visual strategy, we showed the printed image of the Fat Catfish and we would ask about it. If the person had seen it or if she/he had heard of him. In addition, the image of the captain of the savannah was shown to contrast it with that of the Fat Catfish in case there was confusion between the two of them. For all kind of encounters, people gave us permission to use their data to be studied in the present research. The data recollection was recored on the fieldwork, in diary form, and it is embraced by the following order: Primary observations (date, time of day, location, events actors information: name, age, origin, etc); Secondary observations in the form of any statements by others about what we observed; Experiential data related to emotions, reflections and conclusions;

and background data about the organizations, associations we met, social conflicts, key roles of people, gender problems, socio-environmental problems, opportunities and disadvantages of the field work. Nights during the fieldwork were the best time for the team to meet in order to discuss, analyze and structure the data collected during the day.

ITINERARY

Saturday April 2. The team arrived in Aquitania. A lunch with Germán López, the president of the Association of Fishermen of Lake Tota was shared. In the night the team set up the events room for the concertation meeting the next day.

Sunday. April 3 Agreement was held with members of the Lake Tota Fishermen's Association from 9:00 a.m. to 12:30 p.m. First shots for the documentary were shot in Playa Blanca and the town of Tota.

Monday April 4. Aquitania. The team asked two ladies about Fat Catfish in the main park of Aquitania, Marta Chaparro and Flor Uribe. They claim to have seen him on the sidewalk of Hato Viejo in a ravine when they were little. One of them affirms that there are fish that get stuck in the hoses of the houses. They were captains of the savannah but they also said they had seen the fatty fish in their childhood. in a ravine on the path Hato viejo. The team interviewed Mr. Hernán Martínez, a fisherman from the municipality of Aquitania who also made the artisanal boats used by most fishermen. Don Hernan assured that his father-in-law, already deceased he had seen the Fat Catfish. Afterwards, the team visited the Lake Tota Museum where they met Javier Acevedo who guided them to the "Los Pozos" Ichthyological Station and share what happened there through the years. A visit to the Virgen de la Peña viewpoint was made. The day ended up with a visit of the church of Aquitania.

Tuesday April 5. Visit to Lake Tota Museum where Javier Acevedo shared a pedagogical exercise with the team, the main objective was to show in a that illustrated way the culture of Boyacá. That same day, the team met retired teacher Rafael Chaparro.

Wednesday April 6. The team made a tour by boat directed by Mr. Efraín, whom we interviewed. The tour went to San Pedro Island. Later that day, the municipality of Tota was visited in order to keep on doing interviews. Doña Alicia, an 85-year-old woman who was spinning wool, shared about life in Tota and her work as a woman weaver. Later that day Paloma entered the Tota Cultural House where Professor Julio Mesa was giving guitar and country music lessons to his students. She went over to ask them about fishes including the Fat Catfish Song that she had composed. Professor Julio Mesa liked the song and said that the team should put it together with the children of the school the next day.

Thursday April 7. Visit to Cuitiva. Interviews were made. That day the team met Mr. Erasmo Rojas and his wife María, who was part of the Association of Weavers of Cuitiva "Asojetidos". They shared their experience as a weaver. Later, the team returned to Tota where they had an appointment with Professor Julio to record the song of the Fat Catfish. The team rehearsed the song with a guitar, a requinto, a tiple, two guacharacas, a ukulele and the voice. The video was made with the children from the school, Professor Julio and Paloma in the central park of Tota.

Friday April 8. Visit to Lake Tota and la Puerta Village was made. The team interviewed Mr. Fidel Trujillo in the morning who talked about the Fat Catfish and the possibility of having seen it on a sidewalk by the church next to the Desaguadero sector. In the afternoon the team interviewed Mr. Ernesto Torres, the owner of the Santa Inés hotel and who had also witnessed a navigation that took place on the lake more than 20 years ago. In that navigation, the Fat Catfish was discussed and he shared his memories of such an event. Later that day, the team interviewed people from the the village of La Puerta, a village where the fishermen live.

Saturday April 9. The team toured the town of Tota for the last time. Visit to the Archaeological Museum of Sogamoso unsuccessfully since the team needed a special permission to enter. Finally the team returned to Bogotá.

Fat Catfish Mural in Aquitania municipality.



DESCRIPTIONS OF MUNICIPALITIES VISITED

AQUITANIA, BOYACÁ

Aquitania is the largest municipality of the three that has the lake. It is located at 3,030 meters above sea level and has approximately 16,087 inhabitants. Of the three, this town is undoubtedly the one that most encourages tourism and offers different options for visitors such as the sanctuary of the Peña de la Virgen, the viewpoint of the summit, boat rides on the lake to the different islands and the various restaurants whose specialty is trout (*Oncorhynchus mykiss*) in its different preparations. In addition, in this municipality the main economic activity is the cultivation of long onions, for which the water from the lake is used as irrigation and its inhabitants are mostly dedicated to work around the onion.

In the jurisdiction of the municipality is 75% of Lake Tota and its urban area is the one that is located closest to the lake among the three municipalities (Aquitania, Cuitiva and Tota) due to its location, the inhabitants of the municipality have a greater relationship with the lake. There, people even from the urban area recognize the fish that inhabit the region. On the contrary, in the towns of Tota and Cuitiva, since they are located further from the lake, the relationship between people and the lake, and therefore, with their fish, is not as close. In the central park of Aquitania there is a water fountain that represents Lake Tota with a sculpture in the middle that represents fishermen and farmers. The municipal church has in its upper part a saint who is standing on a boat, as if he were the patron saint of the town.

In addition, in another park located a few blocks near the center, there is a giant sculpture of a trout. To all leagues Aquitania is a municipality in which trout is of the utmost importance, as well as the municipality is represented as a sailing and fishing municipality and the lake is the protagonist. In Aquitania we did much of the fieldwork. We visited the village of **Hato Viejo**, the **Daitó Peninsula** and the **Susacá Peninsula**, as well as the **Isla de San Pedro**, the largest island in Lake Tota located in the municipality of Aquitania.



TOTA, BOYACÁ

Tota is located at 2,864 meters above sea level and has approximately 5,531 inhabitants. This is a small, very quiet municipality and its main economic activity is agriculture. Unlike Aquitania, in this municipality, potatoes, cubios, ibias, peas, broad beans, and other tubers are grown, not just long onions. There is also livestock. In this town, trout (*Oncorhynchus mykiss*) is not the main tourist attraction in the urban area. In restaurants it is very common to find beef or chicken protein more than trout, which suggests that trout is not necessarily part of the daily diet of the population and is not the main economic income of the municipality.

On the contrary, the main tourist attraction in Tota is a giant “Cedazo” or sieve located in the main park which was recognized by the Guinness records as the largest sieve in the world. The sieve is a kitchen utensil with which flour and other foods were previously sifted. The sieve was the forerunner of the plastic strainer, which is currently used in colombian homes. This utensil was made with horsehair or donkey tail hair. The largest sieve in the world, in the town's central park, was made by a group of approximately 5 artisans who still preserve the knowledge of its elaboration. In addition to the sieve, in the park you can find several statues alluding to agriculture and weaving.

In addition to visiting the urban center of the municipality of Tota, we visited the village of La Puerta, where the majority of fishermen from the lake and peasants live. This village is located very close to the lake, on the sides of “Playa Blanca”.



CUÍTIVA, BOYACÁ

Cuítiva is located at 2,734 meters above sea level. Its population is approximately 1,969 inhabitants so it is a very small town and also very quiet. Although it is the municipality that is located furthest from Lake Tota, in its central park there is a monument that exalts the lake and pays homage to the Muisca chief Bachué. In Cuitiva, as well as in Tota, agriculture is not only long onion but different crops as well as livestock.

In Cuitiva, people were not so related to the fish in the lake, and even several people did not recognize the captain of the savannah (*Eremophilus mutisii*) either, something that did happen in the rest of the municipalities, since the captain of the savannah is a benchmark for fish of the region and the lake as is the trout.





La Puerta village.

CONCERTATION MEETING

On Sunday, April 3, a meeting was held in the Municipality of Aquitania with some members of the Lake Tota Fishermen's Association. **28** members attended this agreement, **14** from the municipality of Tota and **14** from the municipality of Aquitania. Members ranged in age from 17 to 70, though most were over the age of 36.

The objective of this meeting was to tell the fishermen what the "Research for the Fat Catfish" project was about and present them with the main findings obtained in the social component of the research. This in order to obtain permission from this association to interview some of its members and the communities where they belong to. Last but not less important, we seek to get their permission for the future expedition that is going to place in Lake Tota and other locations.

The concertation meeting started at 9:30. In the first place, the presentation was carried out by Mariana Moscoso who presented the project and the team. Next was Paloma Aguilar who presented the anthropological component and the main findings, and last Diego Peña presented the findings of the history component. This exercise turned out to have great pedagogical value since we were able to share with these people the work we had done in recent months and provide them with the knowledge we had acquired about the region and its history since the pre-Columbian period. It was very gratifying to see the way in which the fishermen paid attention to us and were very interested in the information that we were sharing with them, although they were natives of the region, not all of them knew what had happened around the Lake since the Muisca era, they did not know the history of the introduction of the rainbow trout either and they were very

very interested in knowing the process through which their work as fishermen in the lake had arisen. Relevant aspects for the investigation emerged from this consultation:

1. In the first place, their constant concern about the future of artisanal fishing in the lake and with it, the future of so many families that live from this practice in the fishing municipalities. Several, remember that a few years ago former Senator Juan Lozano sentenced rainbow trout as an invasive species and for this reason its cultivation was prohibited in Lake Tota. Therefore, the occupation of fishermen, which in most cases is inherited from past generations, came to be persecuted and penalized by state authorities such as the **CAR**. The environmental protection of the lake has not taken into account the social consequences that it brings to the people who live from this practice and has not offered economic alternatives for their daily sustenance. On the contrary, the cultivation of trout in private farms does not seem to be persecuted by the institutions and, on the contrary, they are the ones who increasingly supply the trout market in the region.

2. Secondly, we were able to note the concern of the fishermen about the projects carried out in the territory, especially those connected to an environmental component. They fear that our intervention will further affect their trade as artisanal trout fishermen. Therefore, so that they could be calm and endorse our presence in the Lake, they had to be sure that our research was not going to incriminate the trout or end it in the lake and therefore it was not intended to encourage the end of artisanal fishing in the same.

3. The disputes that exist between artisanal fishermen and private trout farmers are very large. Trout farmers breed and feed them with concentrate in cages that can be observed from the lake shore. They have said that the fishermen open their cages and break them, although the fishermen say they

have not done so. It is a rivalry around the trout that must be taken into account when making future explorations in the lake.

Of those who attended to the concertation meeting, very few had heard of the Fat Catfish. However, when contemplating the image of the fish, some said they had seen it, although others confused it with the Captain of the Savannah (*Eremophilus mutisii*). During the agreement, little could be deepened into the particular experiences of each one in relation to the lake and the Fat Catfish. However, in later days we were able to interview some of these fishermen and there were better results around the research for the fish. The support provided by the Association of Artisanal Fishermen of Lake Tota, headed by **Germán López**, the president of the association, in the meeting held on Sunday, April 3rd was essential. We got their approval and a promise that the biological team will provide a second concertation meeting with them to talk about the expedition was pacted. The president mentioned that without their permission and support the expedition could not take place in their lake. Thanks to his Mr. **López** approval, we achieved our fieldwork without any inconvenience or fear.

This third report aims to account for the activities, processes, and results resulting from the fieldwork done on the days mentioned. We will present a chronological summary of the tasks carried out in the field, later we will talk about the methodology used in the activities, the information extracted relevant to the search for *Rhizosomichthys totae*, a series of suggestions for future ichthyological collections in the region, and a conclusion about the importance of the exercise developed.

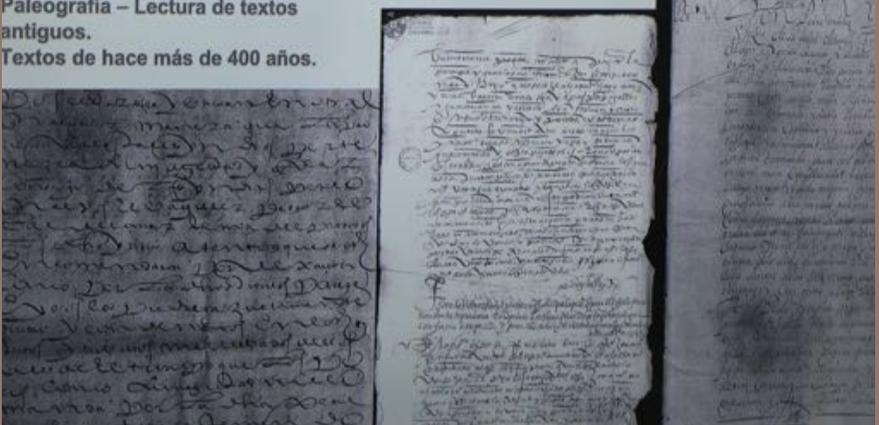






Manuscritos

Paleografía – Lectura de textos antiguos.
Textos de hace más de 400 años.

A presentation slide titled "Manuscritos" (Manuscripts). It features a small image of a dried fish at the top left. Below the title, there is text in Spanish: "Paleografía – Lectura de textos antiguos. Textos de hace más de 400 años." The slide also displays three panels of handwritten text in different historical scripts, illustrating the subject of paleography.

FINDINGS

Fishermen's Association

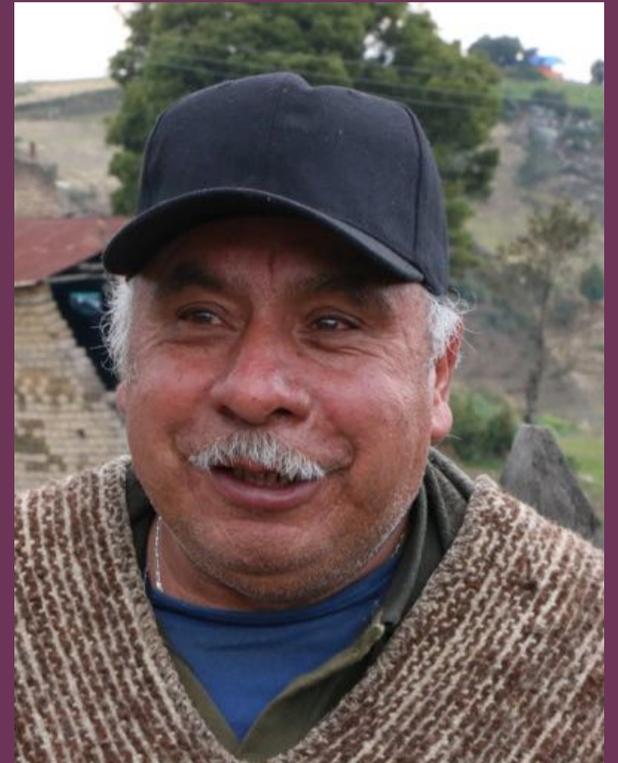
1. Not all fishermen identify themselves as fishermen but as “Trucheros” (trout fishermen or trouters). Although the trout fishermen are dedicated to artisanal fishing, their work is limited to trout fishing, basically because it is the main species that inhabits the lake and because it is the only one that is commercialized and therefore brings them some economic income.

2. The fishermen alternate the activity of fishing with other occupations, mainly agriculture. This is interesting because we can contrast it with the findings found in the bibliographic sources. Since pre-Columbian times, agriculture was the main source of supply. Several interviewees affirm that in these lands “everything is given” they are fertile lands in which abundant food can be grown. The Muisca were farmers par excellence, and this practice is the one that is currently mostly developed in the region, although in the case of Aquitania, it is reduced to the cultivation of long onions. Fishing, on the other hand, was not a practice that existed in Lake Tota before the introduction of rainbow trout in 1939 and although it had a great economic boom, agriculture never ceased to be the main economic activity. So the fishermen are in the vast majority of cases also farmers. However, thanks to artisanal fishing, several people, such as Don Fidel Trujillo, affirm that they have managed to get their children to study thanks to the trout and their trade as a trout fisherman.

3. As Don Germán López, the president of the fishermen's association, told us, the trout fishermen used to fish by placing a very long rope in the lake from which they tied about 30 hooks every few meters. In each of these a trout was crimped. Currently, the fishermen go down to the lake from approximately 5:00 in the afternoon, row their artisanal boats about 100 meters from the shore or a little more and spread their fishing nets that they leave overnight and pick them up in the morning. It is in these nets that some claim to have caught other than the Capitanes de la Sabana trout and some crabs.

4. Unlike other regions of the country where artisanal fishing is practiced, the fishermen of Lake Tota have a particular relationship with the lake mainly due to its cold waters. These fishermen are not the fishermen we know who are expert swimmers or who dive into the water. They also do not sail their boats a long distance from the shore, so they do not need motorized boats, such as speedboats, but instead use wooden boats and oars. They do not need more sophistication because trout are found in abundance in the waters of the lake.

5. Don Hernán Martínez, is the one who has made most of the boats used by trout fishermen. He makes them in cedar wood and it takes approximately three days. Don Hernán makes the boats despite the difficulties in his mobility due to a complication in hip surgery.



**Don Hernán Martínez, fishermen.
Aquitania, Boyacá**



**Boat made by
Don Hernán Martínez.
Aquitania, Boyacá**



Trout monument,
Aquitania, Boyacá

THE TROUT.

(*Oncorhynchus mykiss*)

1. The Trout is very important for the inhabitants of the municipalities of the lake, mainly for the municipality of Aquitania, not only economically and touristically but also because it has been part of their lives directly or indirectly. Therefore, many have memories of trout since childhood. For example, Don Rafael Chaparro told us that when he was a child he would go and fish for trout in the lake and take them home to share with his family. Like Don Rafael, several people told us how in their childhood trout was obtained in abundance in the lake in streams and they collected them.

2. The trout also has a symbolic importance that has caused the reign of the trout to be celebrated in the town of Aquitania for several years. In this reign, several beauty queens from the municipality of Boyacá attend the reign and different cultural activities are carried out, such as music and dance. Of course, the food of the reign is trout in its different preparations.

3. There is a common feeling that trout is not what it used to be. That before very large trout of up to 20 pounds were obtained but that today the trout is very small, they attribute this to the cultivation of trout in cages. They say that it is like chicken coops, in these, they give concentrate and hormones to the chickens while in the field the hen lives free and fed on corn. They say this happens with trout, the culture of trout in cages has deteriorated, according to some of the people interviewed, the quality and size of the trout that are currently available on the market.



THE CAPTAIN OF THE SAVANNAH

(*Eremophilus mutisii*)

The captain of the savannah brought us a pleasant surprise to the research, since being a native fish of the altiplano and having been described by the Muiscas themselves (according to our bibliographic review), it is currently still a species recognized by most of the inhabitants of the municipalities of Aquitania, Cuitiva, and Tota. Apparently, this fish has been frequently seen by the inhabitants of the region in streams and streams of the paths as well as by fishermen in the lake. When we show the image of the Fat Catfish, people were surprised by its morphology. On different occasions the Fat Catfish has been confused with the captain because of its whiskers, however, when we show the image of the captain, people show an expression of relief when they recognize the fish ; many responded “Yes, I have seen that one.”, referring themselves to the captain of the Savannah.

1. The captain of the savannah is known by different names, “**El runcho**” and “**el barbado**”. From the different people we interviewed, I realized that in the Tota municipality, they know him more as “**barbado**” and in Aquitania as “**Runcho**”. A young man in Tota stated that he was also known as “**Porrón**”.

2. People who have eaten the fish or have cooked it, affirm that it is pure fat. That as soon as it is cooked it almost turns into oil. Those who have tried the captain of the savannah assure that it has a good flavor although it is very greasy. Previously, this fish was consumed more, especially in sweets or in broths.

3. The fishermen say they have seen the captain of the savannah in the lake when they fish there, however, several people told us that this fish lived mainly in the creeks and channels, especially in the upper parts of the creeks and near where we stopped.

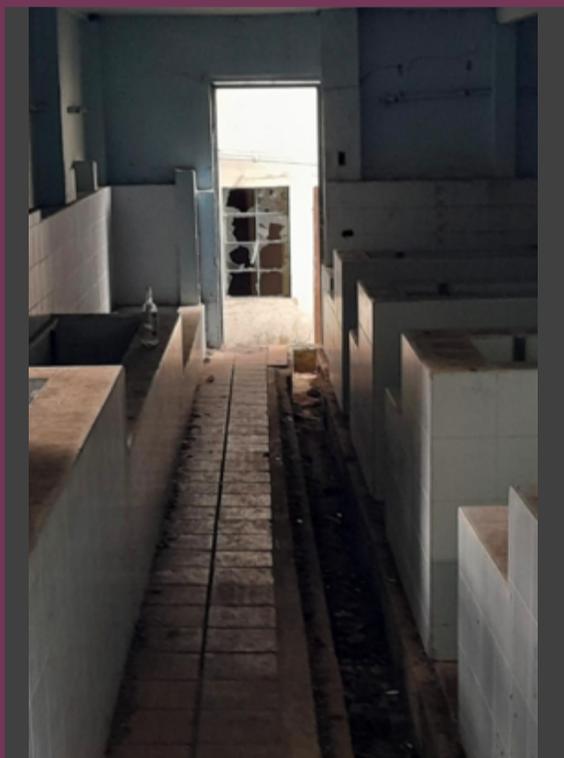




Ichthyological station,
Los Pozos.

ICHTHYOLOGICAL STATION "Los Pozos"

Village of Hato Viejo in the Municipality
of Aquitania.





On Monday, April 4, we met Mr. Javier Acevedo, who is part of the Lake Tota Wetland Defense and Salvation Foundation and who is also the creator of the Tota Lake Museum. Don Javier took us that day to see the Ichthyological Station of "Los Pozos" in the village of Hato Viejo in the Municipality of Aquitania. According to the information Don Javier gave us, this station was founded in 1935 and bears the name of Guillermo Alfredo Escobar, who was a doctor from Boyacá who participated in the bill that would start the cultivation of rainbow trout in the Lake Tota and who also donated money to build this station.

At that time, the station was in charge of **Inderena**, which was the state institution in charge of renewable natural resources. In that station, the cultivation of the first rainbow trout fingerlings was carried out together with the "Las Cintas" fish station, and in 1965 the trout finally adapted completely and began to reproduce in the lake naturally. It was very important to have known that ichthyological station since during the bibliographic review we had read a lot, about it and it is an important part of the history of trout in Lake Tota, that is, this station contributed to an environmental, social and cultural change around Lake Tota with the introduction of trout.

In other words, it existed before and after that ichthyological station for the life of Lake Tota and with it, of the Fat Catfish. This station was one of the most significant places we were able to visit, since it is of great importance in relation to the history of Lake Tota. Unfortunately, the station, which has very large facilities, is abandoned and in danger of being demolished. According to Mr. Javier Acevedo, in 1975 the state stopped giving resources for the maintenance of the Station and progressively it was being abandoned. For us being in that station made us think about all the things that happened there, all the people we read about who had

participated in the introduction of the trout had stepped on the same place that we were passing by at that moment, only that at present those hallways are very close to becoming ruins.

However, Don Javier has a great project to recover the house in order to turn it into an environmental classroom in which different community activities, environmental workshops, a public library and even a part of lodging can be carried out. However, there are different legal problems regarding the ownership of the house, on the one hand the government of Boyacá claims to be the owner of this property and on the other hand **CORPOBOYACA** claims the same, that it is the owner of this property. Javier has filed several protection actions with the state regarding the house and has fought for the non-demolition of the house and its patrimonialization for cultural and environmental purposes in the region.

The work that Javier has done around the ichthyological station is admirable, but also in the Lake Tota Museum, where Javier does different pedagogical exercises to illustrate Boyacá culture. We believe that it is of the most importance to recover a space such as the Ichthyological Station in order to restore it to give it an environmental content without ignoring the history that it has for the life of Lake Tota and the Fat Catfish.

The architectural complex found in this place accounts for a public project supported by national and foreign scientists and technicians to introduce a new economic activity, a decision that, without knowing it, would generate today's environmental problems.



STORIES, MYTHS AND LEGENDS

about Lake Tota.

In our research, myths and legends were very important to understand the Lake Tota region in the Muisca era. We find in the book of **Myths and Legends of Lake Tota by Liliana Montaña** several stories about the formation of the lake, the islands, the deer, the monster, etc. However, we were able to find in the field that the story of the Lake Tota monster is not a story known by all people, although some have heard it, it is not general knowledge, as we thought. In the bibliographic review we found that one of the reasons why Lake Tota was not navigated was because of the fear of said monster, that changed in 1886 when **Edward Malhouse Mark** navigated it for the first time, breaking with that fear that existed. and giving way to navigation as we know it today on the lake. Therefore, if in the 19th century this story was still widely recognized by the lake's inhabitants, it is now a story that is not so widely recognized.

On the contrary, the myth of the origin of Lake Tota is. Mrs. Alicia, an 85-year-old woman in Tota, Mr. Ernesto Torres, 80 in Aquitania, Mr. Javier, 45 in Aquitania, Leydi, 26 in Tota, Mr. Rafael Chaparro in Aquitania, and a few other people remember the story that once, in a family the father and mother of three children gave them a clay vase or "múcura" that was full of water, they told the children not to water that water, the children, restless disobeyed and watered the water thus forming an immense lake, Lake Tota, and as a punishment for it the children and their parents became the 5 islands that are currently in it.

Although the monster was not talked about so much, there were a couple of stories that they told us about mystical events, for example. Don Fidel told us that a bell ringer of his had seen a large animal in the lake that was the size of a whale and then it disappeared. Don German López, meanwhile, told us that a companion of his while sailing had seen a large, bright white wave sticking out of the lake while sailing.

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As for the Fat Catfish, very few people had heard of it or stories related to it. Don Ernesto Torres told us the story that the Fat Catfish was known as the lighting fish, because they made candles with this fish by inserting a lighter or wick in the center. In addition to him, Javier Acevedo was the one who told us that the story that Fat Catfish was burned and used for lighting and fuel had been a story written by Father Alfonso María Navia when he spoke for the first time about Fat Catfish. It is worth finding the source in which Father Navia speaks in such detail about Fat Catfish and locating this history of the use of the fish. Since it is possible that the origin of this story that could become a myth had its origin in an academic text authored by Father Navia.

"CUITIVA" LA ÚLTIMA HUELLA MUISCA

La grandeza de un pueblo se mide por su pasado,
una civilización exaltó un territorio,
Fue la cultura chibcha y nos dejó un legado,
aunque diezmada a la fuerza impuso su señorío.
Una figura impactante con el sol acompañado,
apareció como los Dioses, fugaz y muy activo,
era Bochica, radiante anciano, padre sagrado,
quien civilizó, enseñó y organizó nuestros nativos.
Belleza, mitos, leyendas cautivan el lago de Tota
y de todo el Imperio Muisca, Cuitiva fue elegida,
para despedirse de nuestros indígenas, el gran profeta
Perenne quedó aquí su huella petres. ¡Oh, Bochica!
Delfín Ibáñez Carrero - Escultor

THE FAT CATFISH

(*Rhizosomichthys totae*)

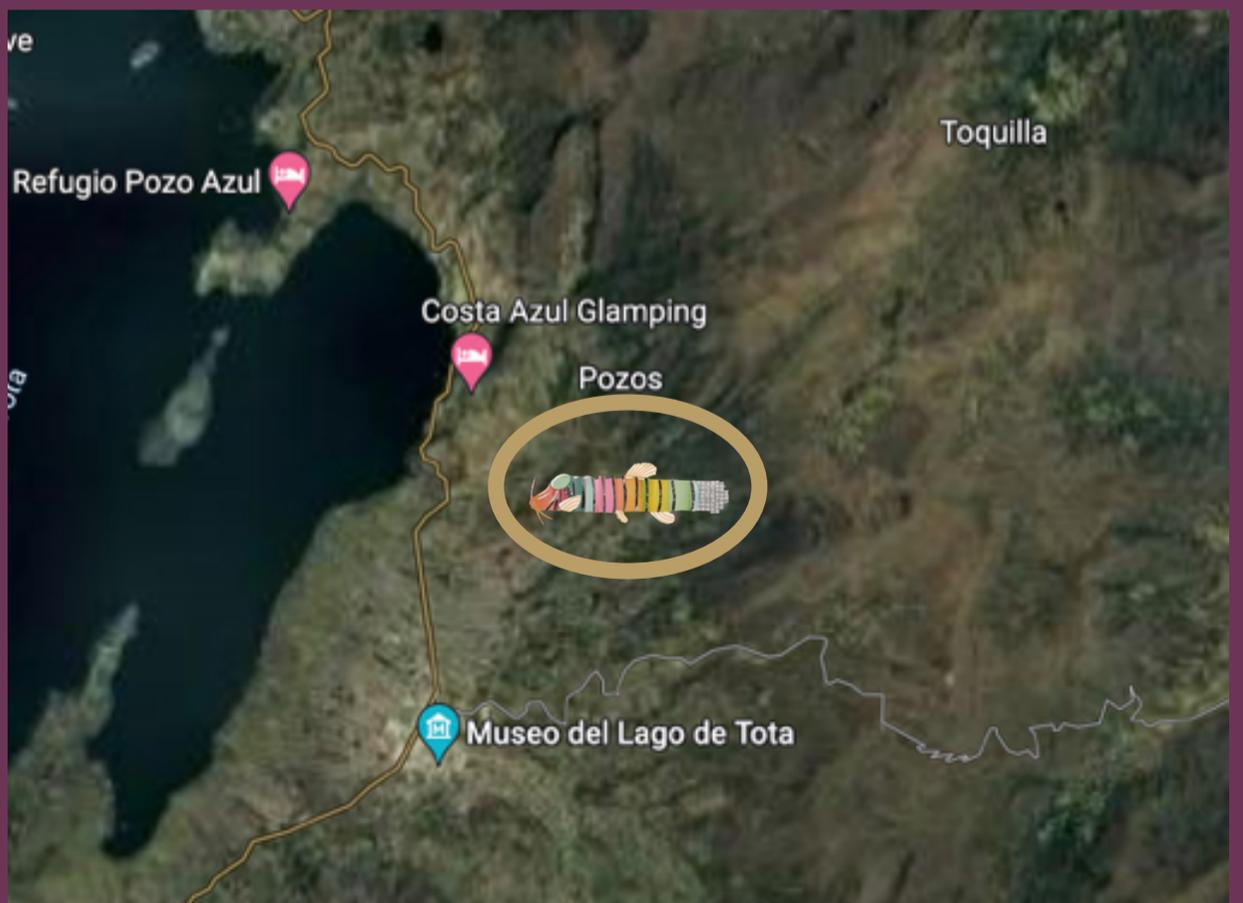
Regarding the protagonist of this research the Fat Catfish, several aspects are worth highlighting. The first is about the general ignorance of the fish. Most of the inhabitants of the municipalities of Aquitania, Tota and Cuitiva, with whom we were able to speak, did not know the fish. They hadn't seen him and hadn't heard of him either. On the contrary, all located the trout and most identified the captain of the savannah.

We talked especially with people over 40 years old. Most were surprised to see the image of the fish and several commented on its resemblance to the "cubio", a tuber typical of the Cundiboyacense highlands. Despite the general ignorance about the fish, some people did claim to have seen it, their statements are of the utmost importance for the investigation and for possible trips with the biological team.

On Monday, April 4th, we spoke with two women from the municipality of Aquitania, Marta Chaparro and Flor Uribe. These two women claimed to have seen the fish in a stream in the village of Hato Viejo in Aquitania, where they had lived since they were children. One of the ladies, Doña Marta, told us that one day about 10 years ago one of the hoses that supplied her house with water got clogged, to uncover it she sucked it in with her mouth and found that it was a fish that was covering it. and she pulled it out of the hose. She kept it for a few weeks in a bucket of water until the fish slipped away. At first, the lady stated that the fish was the equivalent to the image of the Fat Catfish that we were showing her, however, when she saw the image of the captain of the savannah, she assured that it had actually been that one. However, she said that the other one (Fat Catfish) was also found in the pipes of her sidewalk (Hato viejo) when she was a child. The other woman who was older, affirmed the same thing, she said that she saw that fish in her childhood, an afternoon after living school.



Marta Isabel Chaparro Cruz (45 years old) and Flor Darely Uribe (57 years old). Hato Viejo



Hato Viejo

On Friday, April 8th, we interviewed Mr. Fidel Trujillo, 58 years old, in the municipality of Tota in the village of **La Puerta** close to Playa Blanca. Don Fidel is a trout fisherman who had supported his family by fishing. He told us that once he had caught a fish just like the one in the image we had of the Fat Catfish. Don Fidel Trujillo Pérez, after fishing it there, says he fried it and ate it. He affirmed that the taste of the Fat Catfish was similar to the trout, it did not taste like the *Eremophilus mutisii*, he said that its bones, after being fried, it melted and ended it up like oil.

Don Fidel Trujillo was born in La Puerta, he has been a fisherman for about 40 years, he started to fish with hooks, but now he fishes with mesh. Fishing is the main activity he does in order to maintain his family since he does not own any farm or land to develop any agriculture plantation. In 2012, don Fidel, captured the Fat Catfish in a sector known as **Los Arcos**. The Fat Catfish was about half a pound. He said that its color was close to yellow, not green like *Eremophilus mutisii*, it had whiskers and it had rolls, he caught it with a hook during night time. Before he caught it, don Fidel affirmed that no one ever mentioned anything about the fish before and that he really surprised by the fact of that strange fish he had.

In the same year, don Fidel heard that there was a young man who was being paid to fish the Fat Catfish, the young man said that he saw the fish in the **Olarte river**, even though he was after the Fat Catfish, the young man never caught it.



**Mr. Fidel Trujillo (58 years old)
Playa Blanca.**



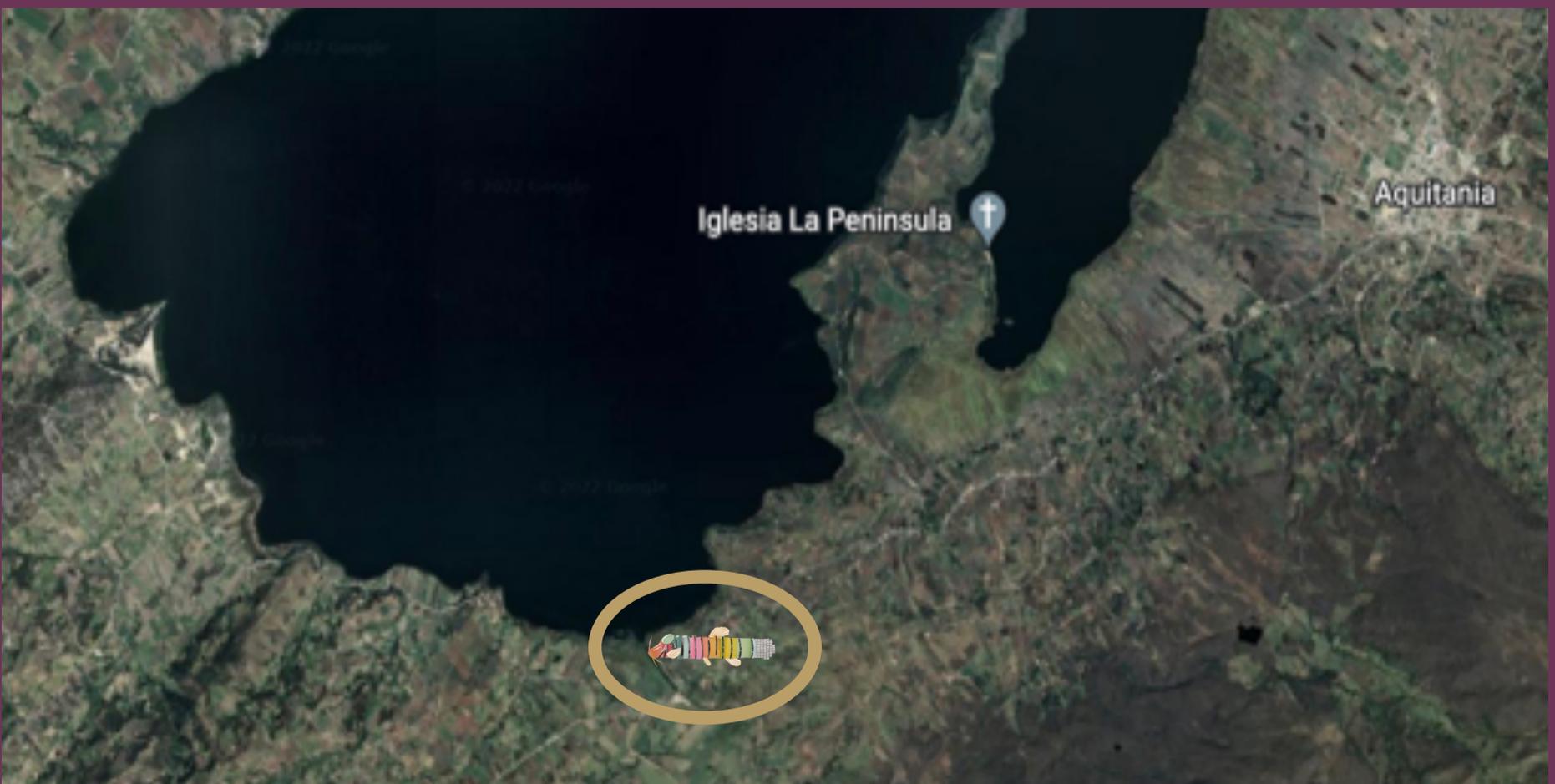
**Mr. Fidel Trujillo affirmed that the Fat Catfish
measure about 12 cm.**



La Puerta sector.



Los Arcos PLaya Blanca sector.



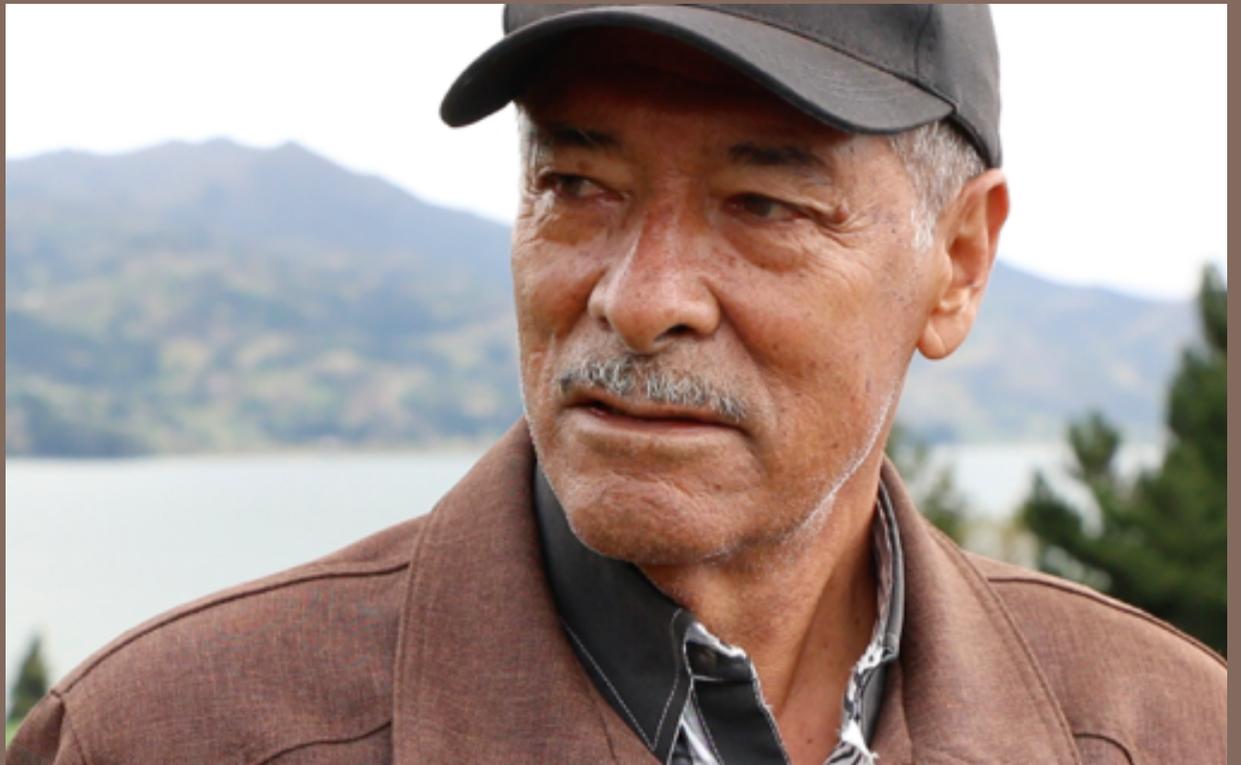
Upia river sector.

On Friday, April 8th, we interviewed Mr. Ernesto Torres, 80 years old, the owner of the Hotel Santa Inés, on the Daitó peninsula in the municipality of Aquitania. Don Ernesto told us that what his grandparents told him about the oily fish was that formerly the fish was known as the **"lighting fish"** since people inserted a candle wick inside the fish and used it as a candle. to light up. He also told us that one day many years ago he found on the shore of the lake a trout that was apparently dead. When Don Ernesto picked it up, he realized that inside was a Fat Catfish that had prevented the trout from breathing, causing it to suffocate. The fish that was being swallowed by the trout was, according to the man, the Fat Catfish.

In addition, Don Ernesto mentioned that we was part of an expedition as a boat driver carried by "Paz Verde" in 1990. This program ran on Saturdays and Sundays at 9:30 a.m. in the 90's and it is based on an excellent idea that included the element of adventure alongside the dissemination of messages for the national consolidation of an ecological awareness. "Paz Verde" was directed by Roberto Tovar Gaitan, the same director of the "Forgotten Archives of Tota Lake" the program we mentioned on the first and second report.

Don Ernesto told us that during the expedition, divers went down to the bottom of the lake, and that they saw yellow and red fish, all the videos and photographs were secretly kept, during the review of the files, he was not allowed to see what they had filmed. He believed that what they kept secretly was somehow the Fat Catfish. Also don Ernesto told us about the craters, and told us where we could find them. After we compared his directions to the pictures taken by United States Air Force plane and it was the same locations.

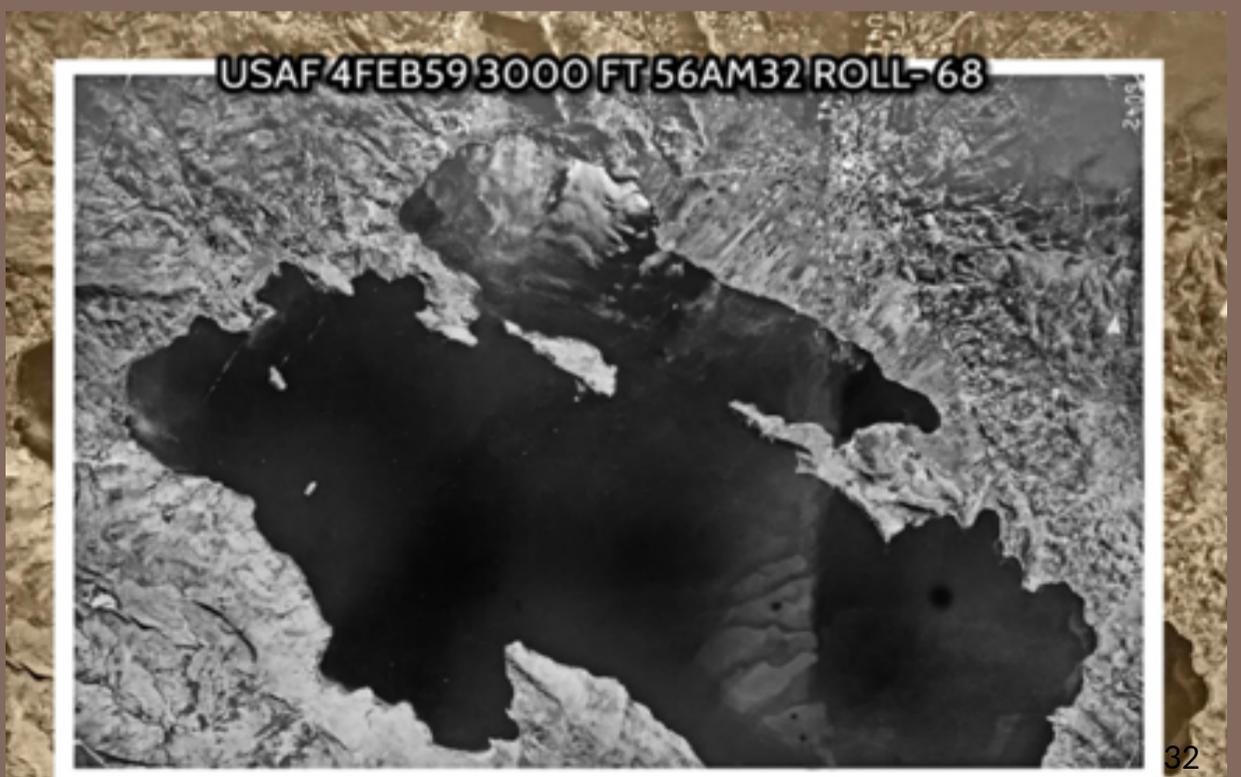
United States Air Force picture of the craters



**Don Ernesto Torres.
Daitó peninsula in the municipality of Aquitania.**



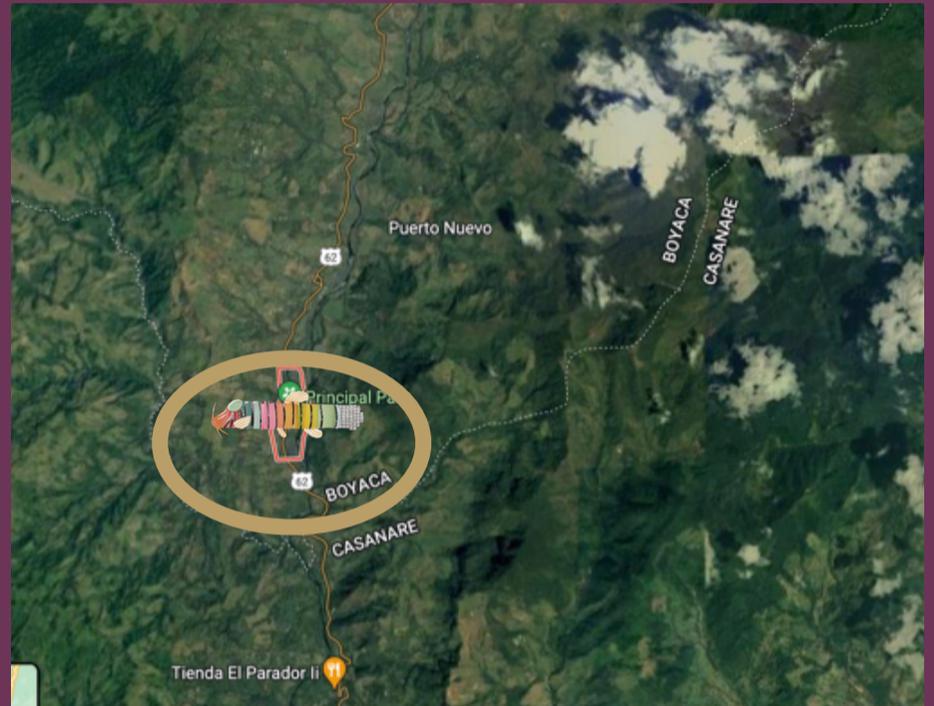
Direction of the indicated craters by don Ernesto



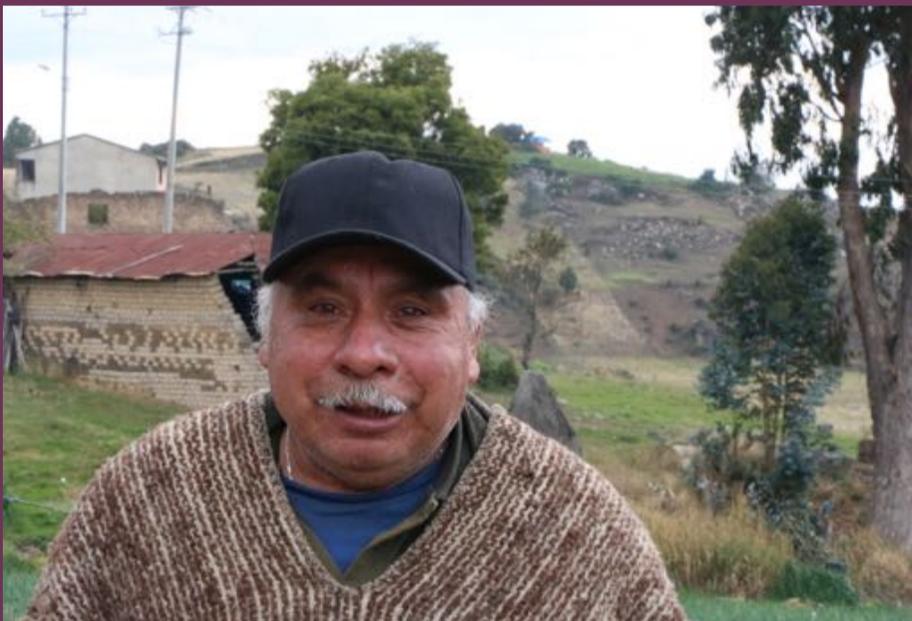
In the Municipality of Tota, we interviewed music teacher Julio Mesa. He told us that he had once seen that fish, the Fat Catfish in a ravine in the village of Ranchería in the municipality of Pajarito. Boyacá, near the Corinto village in a place called La Virgen. The professor also practiced sport fishing so he recognized the captain of the savannah and the trout and apparently recognized the Fat Catfish when we showed him the image of it and he claimed to have seen it in Pajarito. He also mentioned that he saw the Fat Catfish in some creeks in Toquilla Páramo when he was young, he said that we could take us when he saw the Fat Catfish.



Don Julio Mesa.
municipality of Tota.



Municipality
of Pajarito.



Don Hernán Martínez
municipality of Aquitania..

Don Hernán Martínez (68 years old) the boat maker and fisherman, says that he has never seen the fish. However, he claims that his father-in-law, who was also a fisherman, saw the fish while he was still alive.

THE FAT CATFISH

(*Rhizosomichthys totae*)

CARTOGRAPHY

Through interviews conducted during the fieldwork, we would like to highlight the locations indicated by local people who affirmed saw the said they had seen the Fat Catfish.



SUGGESTIONS TO ICHTHIOLOGIST TEAM

Based on the data extracted from the interviews carried out on April 2nd-9th with the farmers and fishers around Lake Tota, the social team of "Looking For Fat Catfish" project remit to the ichthyologists' team in charge to collect samples of fishes in the area and to the directives of Shoal Conservation and Re:wild, the following suggestions and recommendations to exhaust the options of finding any specimen or biological trace of *Rhizosomichthys totae*.

The main recommendation we want to emphasize is to expand the sampling areas; this does not mean stopping taking samples in Lake Tota; but also carrying them out in the surrounding streams and rivers, focusing on their source in the "paramos" located in the high mountain areas. The objective is not exclusively to find out if it is possible to capture any specimen of the Fat Catfish, but also to sample the fish fauna that lives in these water flows that feed the lake. In addition, it is important to make a complete inventory of the water bodies located in the Tota Lake basin, describing the streams, rivers, and, very importantly, the small lagoons located in the moorland area at the east of the lake. Specifically, based on the alleged sightings of fish that look like Fat Catfish, the following points are suggested to be examined:

La Quebrada Hatoviejo, located in the village of the same name, located north of the urban area of Aquitania. The **Quebrada Los Pozos**, the **Tobal River**, located in the urban area of Aquitania, the **Olarte River**, located on the road to Playa Blanca, next to the Desaguadero origin of the **Upía River**, and the streams of the moorland area that borders Lake Tota (particularly, the **Páramo de Toquilla**). Pondering the statements that establish the presence of fish (trout and captain) in the area creeks. This extension of an ichthyological collection will allow us to corroborate if the alleged sightings of the Fat Catfish were, in fact, sightings of other species of fish.



Cúitiva, Boyacá

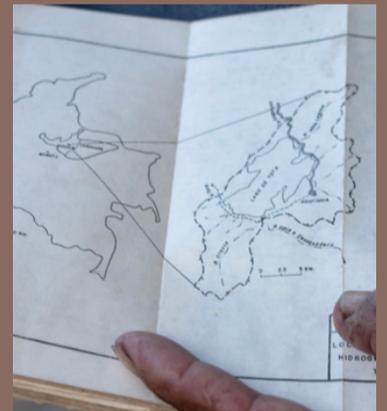
COMMUNICATIONS STRATEGY

The communication strategy had an objective: turn the Fat Catfish into a Totem that will serve as an emblem of Sugamoxi region. To make that happen, first we created an image that would represent and give an identity to the project. Through the first and second phase of research for the Fat Catfish, the social team discovered images, illustrations and pictures related to the research, therefore some of them, were used to create a collage. The collage was used in the field work T-shirts, posters, the research bulletin, and social media post.



Communicating science to participants.

For the concertation meeting with the fishermen association a research bulletin was created. The main objective of it was to give a general view of the project adding important data related with Colombia's freshwater fishes, especially the Fat Catfish, endangered species of the world, an introduction of Ictiología y Cultura, Shoal Conservation and Re:wild.



Social Media

For the social media, a publication was made announcing the beginning of the field work research. This post was made in Facebook and Twitter. We would like to share impact of each publication:



Ictiología y Cultura
Publicado por Mar Dulima Dulima · 7 de abril a las 8:19 ·

#vivimosmigrando La desaparición del Pez Graso (*Rhizosomichthys totae*) es uno de los grandes enigmas de la historia de la ictiofauna alto andina. Junto a Shoal y Re:wild en noviembre del 2021, emprendimos una nueva misión: tejer desde la investigación interdisciplinar y neohumanista la biografía del Pez Graso.

La primera fase de la búsqueda consistió en una aventura etnológica desde esas primeras navegaciones y exploraciones en la Provincia de Sugamuxi a partir del siglo XVI más la relación entre la gente Muisca con el agua, lagos y sus peces; la evolución de la ictiología colombiana, los sueños contemporáneos de una seguridad alimentaria y económica con la entrada de la trucha arco iris, más esos primeros trabajos antropológicos sobre el lago y sus comunidades.

Esta semana iniciamos la segunda fase de la búsqueda: una etnografía intercultural y transnacional apoyada por la Asociación de Pescadores Artesanales del Lago de Tota y las poblaciones de Aquitania, Tota y Cuítiva, tres de las poblaciones que se encuentran bordeando el Lago de Tota, el lago más grande de Colombia. La tercera fase tomara lugar en el lago, donde se llevará a cabo una colecta por parte de nuestros aliados Universidad del Tolima Unibagué Universidad de Antioquia Universidad Nacional de Colombia Paloma Aguilar Forero Diego Peña Acictios

EN BUSCA DEL

Performance for your post

8,026 People Reached

526 Reactions, Comments & Shares

497 Like	485 On Post	12 On Shares
10 Love	10 On Post	0 On Shares
1 Haha	1 On Post	0 On Shares
1 Wow	1 On Post	0 On Shares
7 Comments	3 On Post	4 On Shares
10 Shares	10 On Post	0 On Shares

271 Post Clicks

44 Photo views	46 Link clicks	181 Other clicks
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NEGATIVE FEEDBACK

0 Hide post	0 Hide all posts
0 Report as spam	0 Unlike Page

👍❤️😂 494 3 Comments 10 Shares



Tweet activity

Ictiología & Cultura @Ictioculturas
#vivimosmigrando ¡Felices de anunciar nuestra nueva búsqueda del #PezGraso junto a @Shoal_Org @rewil y la Asociación de Pescadores Artesanales del Lago de Tota en la Provincia de Sugamoxi, altas tierras de la gente #Muisca pic.twitter.com/NBFs1C4VKE

Impressions	3,340
Total engagements	194
Likes	59
Detail expands	46
Media engagements	32
Profile clicks	32
Retweets	14
Hashtag clicks	8
Replies	3

TWEET HIGHLIGHTS

Top Tweet earned 3,335 impressions

#vivimosmigrando ¡Felices de anunciar nuestra nueva búsqueda del #PezGraso junto a @Shoal_Org @rewil y la Asociación de Pescadores Artesanales del Lago de Tota en la Provincia de Sugamoxi, altas tierras de la gente #Muisca pic.twitter.com/NBFs1C4VKE

👍 3 🔄 13 ❤️ 59

[View Tweet activity](#) [View all Tweet activity](#)

The Fat Catfish videoclip.

During the literature review process, we approached to the Fat Catfish thanks to the elaboration of a life history of Lake Tota. We immersed ourselves in the depths of the bibliographical sources until we became knowledgeable about the Cundiboyacense high plateau region, about the sacred relationship of the Muisca with the bodies of water, about the history of the trout in Lake Tota, about the stories surrounding the fat catfish, its possible causes of extinction and its still enigmatic origin. The Fat Catfish was the great pretext to learn about the history of a country, a region and its socio-environmental conditions. This fish was at all times our great protagonist and also our great mystery to solve.

The history of the Fat Catfish is important not only because of the exceptionality of the fish itself, because of its physical characteristics and because it is the only species of fish declared extinct in Colombia, but it is also important because it has been the gateway to understand other socio-environmental aspects of the region. Therefore, it is a story that deserves to be recorded, narrated and disseminated so that fat catfish can have a place beyond ichthyology, can have a place in the culture of the communities of the municipalities of Lake Tota as part of their heritage and so that this fish obtains a symbolic value such as the one that has the same lake.

This is why Paloma Aguilar decided to make a song to this exciting story about Fat Catfish. The musical genre that she chose was the Carranga, a genre that represents the peasant music of the Boyacá region. In this genre the instruments that are used are mainly strings, there is the guitar, the requinto, the tiple and in percussion the guacharaca. The idea of the Fat Catfish song is to tell its story through the universal language that is music. It is well known that academic knowledge has restricted access, since not everyone has the possibility or the privilege of approaching it and therefore, those who have the closest relationship with the lake, such as fishermen, peasants and other inhabitants of the municipalities surrounding the lake deserve to know the history of this fish. Therefore, this song is part of a pedagogical exercise in which music, particularly country music from Boyacá (Carranga), is responsible for disseminating academic knowledge to a general public.

The Fat Catfish song was meant to be the promotional song for the research of The Fat Catfish. On Wednesday, April 6, in the municipality of Tota, Professor Julio Mesa offered to help us with the recording of the song. Professor Julio is an empirical musician from the municipality of Tota, a specialist in Colombian peasant music and boyasence, he is also an arranger, guitar player, treble bass player, among others. He has been working for a year as a teacher at the cultural house of Tota, he teaches to play several instruments especially to children and young people. In addition to being an extraordinary musician, he is a bank of stories, he shared with us different experiences that he lived in his life in which music always occupied an important place in them. The teacher Julio heard the song of the Fat Catfish, and immediately fell in love with it. Afterwards, Paloma sent to him a demo that she had recorded and he made some changes to it. Finally he made the ensemble with the children of the school. The next day, Thursday, April 8, we recorded the video of the song with the children, and posted in Ictiología y Cultura's Youtube channel. That is how the song's video clip became real.





Channel content

Video analytics

Overview Reach Engagement Audience

This video has gotten 1,152 views since it was published

Views	Watch time (hours)	Subscribers
1.2K	40.4	+14

0 3 6 9 12 15 18 days

0 400 800 1,200

Your video
En Busca del Pez Graso (Rhizosomi...)

- Details
- Analytics**
- Editor
- Comments
- Subtitles
- Settings
- Send feedback



National Newspaper.

After posting the announcement of the social research team's field work in social media, a journalist of the Espectador, Juan Pablo Correa Páez contacted us through a message in Twitter. Juan Pablo works for the environmental section of the Espectador, he was familiar with the lost of the Fat CatFish, before he contacted us, he knew that our social and cultural attempt to find the Fat Catfish was the first attempt to find it, that is why he founds the social research so fascinating. After he talked to his editor and made some interviews, he received the approval for publishing it. The story of our research was not only announced in social media, but also in the second print page of the Espectador. This is the first time in Espectador history, that has given the second printed page to tell a story of a neotropical fish. Even though the online version of the story was published only for subscribed audience, the journalist created a strategy from his personal account in Twitter, where he shared a story.



NEW PARTNERSHIPS MADE DURING FIELDWORK



Javier Acevedo Chaparro, is in charge of the Tota Lake Museum, and he is also the cultural manager of the Tota Lake Wetland Defense and Salvation Foundation. Both, museum and foundation, are in charge of protecting the intangible and tangible heritage of Tota Lake. Both have more than 10 years of experience in providing high quality of cultural and environmental education that bring people closer to the life of a peasant Boyacá family, with its customs, knowledge and the generosity that only the countryside, the nature and its endemic ecosystem can provide.

Javier is interested in incorporating the history of Fat catfish into his pedagogical strategy, as well as the history of the Muisca people, and Tota Lake.

Leidy Cruz is the Cultural Manager of the mayoralty of the municipality of Tota. As a leader in the area of culture, Leidy leads processes of social appropriation of knowledge, as well as strategies that stimulate care for the environment.

Leidy is interested in creating a new space in the municipality where the importance of wetlands, freshwater fishes (especially the Fat Catfish), and the natural and cultural history of the Sugamoxi region can be discussed and shared. She has invited the social team to lead these aspects, as well as creating the "Fish Week".

Carlos Andrés Lasso is an is a spanish-venezuelan-colombian ichthyologist, whom works at the Alexander Von Humboldt Institute as a coordinator of biology use and conservation and senior researcher.

Carlos is interested in contributing to the social research team from an archaeological and paleontological perspective. In addition, he would like to participate in the research for the Fat Catfish from the perspective of the ichthyology through creating an alliance between Shoal Conservation, Re:wild, and the Alexander Von Humboldt Institute.

WHAT'S NEXT?

(from a pedagogical strategy)



Once the social team reached the fieldwork mission and went through deep reflections, we would like to present the follow strategies that could expand our work's scope in different dimensions. For this reason, it would be powerful to expand the project on new dimensions, where not only the sciences represented in the research for the Fat Catfish could be applied but also they could contribute to enrich a pedagogical approach where the knowledge gathered in phase 1, 2 and 3 could be used by the region and the communities, especially in the schools of Aquitania, Tota and Cuítiva, generating a greater dissemination of Fat Catfish research at a general level by creating spaces for understanding, and reflecting about ideas that could not only find cultural solutions to find the Fat Catfish but also sought that people can make their own, knowledge such as useful and necessary elements for their benefit and advantage.

The social appropriation of knowledge. After a workshop executed by the members of the social team, we have developed a work strategy with three fundamental components: **First:** “Cultural product design” submerged in the dimension of the result’s delivery to the region; **Second:** “Workshops design” submerged in the dimension of the research of the Cat Fatfish in a collective scale; and **third,** “Digital Interactive platforms design” submerged in social appropriation of knowledge’s dimension for virtual communities also known as virtual heterotopias.

In addition, the team have been invited to be part of a local team lead by Javier Acevedo director of Lake Tota Wetland Defense and Salvation Foundation, with the leadership of Andrea and Magda Wanumen from the Tota Community, In the proposal, they want the Fat Catfish to be a potential candidate for the municipality of Tota. and Leidy Cruz, Cultural Manager of the Municipality of Tota, Boyacá, whom are carrying out a project



THE FAT CATFISH SONG'S LYRICS



"It's been a long time since it was last seen. Close to Toquilla Páramo, a chubby little fish that none knew. So scarce was the species of this fish that after a while didn't exist. It was in lake Tota yes Sir. Oh what a cold water! "

that seeks to consolidate different endemic species "as natural symbols" for Tota, Cuítiva and Aquitania.

In the proposal, they want the Fat Catfish to be a potential candidate for the municipality of Tota.

Potencial products:

1. "Cultural product design". Song of Fat Catfish. In the previous phase, we created a song entitled "The Fat Catfish song" that aimed to narrate the story of the Fat Catfish through local music, promoting its diffusion and understanding at the same time that we bring hope to people. The song belongs to Carranga style (a musical genre of the region of Cundinamarca, Boyacá, and Santander). The song was composed by Paloma Aguilar. The song has catchy lyrics filled up with regional references, and it highlights the myste-



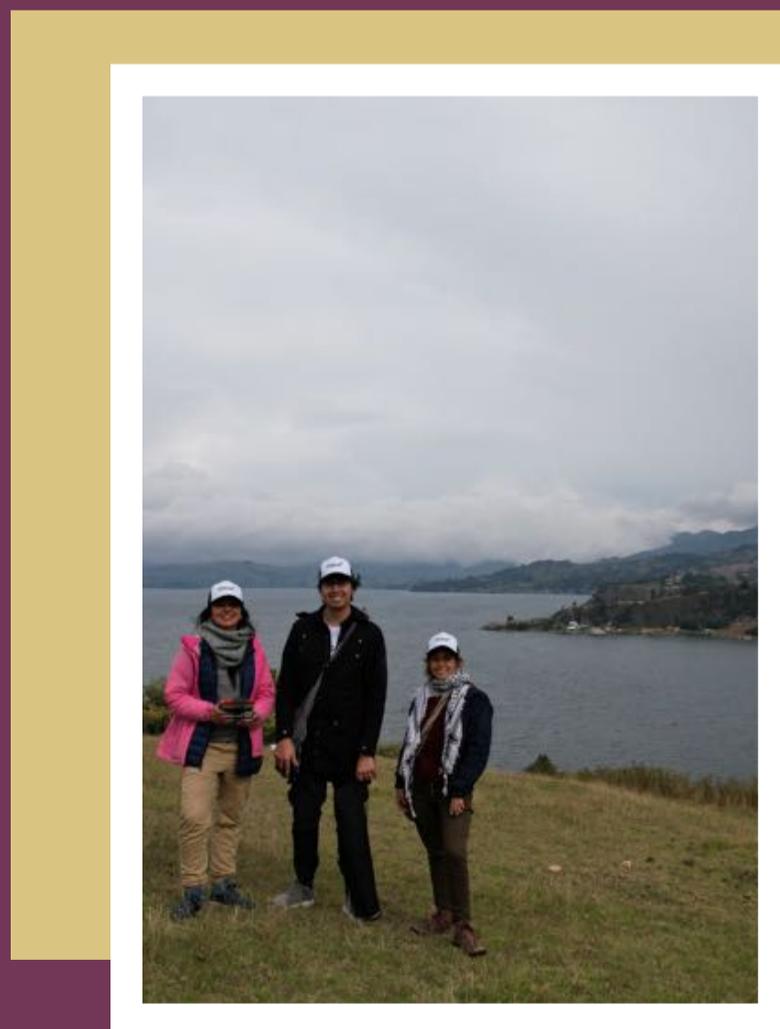
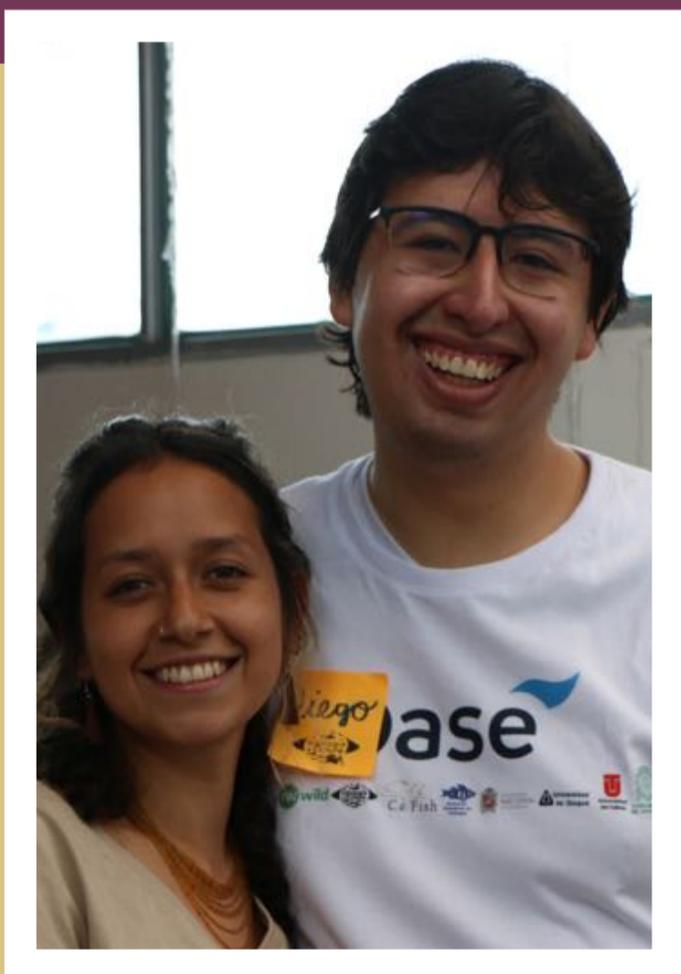
ries of the Fat Catfish lost. The song's videoclip was made in Tota, Municipality. The students and the teacher Julio Mesa of Cultural House of Tota were involved in the production. This experience allowed the social team, to realize that when children become familiar with the song, either by listening to it or by singing it, they get the chance to meet the Fat Catfish, therefore, in a new phase we would like to its diffusion through the following activities: **1.** Use and play the song in workshops given in schools of Aquitania, Tota and Cuítiva; **2.** Spread the song through local radio stations; **3.** Create a choreography an strategy that proposes a reflection on the environment and the use of wetlands and fisheries.

**2. - 1, 2, 3 ¿Dónde está el pez?
(One, two, three... Where the fish is?)**

Publication of a didactic book in physical format named: One, two, three...Where is the Fish? This book consists of a short, illustrated story that teaches the children of the Lake Tota region about Fat Catfish, the research carried out by the social science team and ichthyology's teams, focusing on the preservation and care to prevent fish extinction. Paloma and Diego

(characterized as caricatures) traveled to Playa Blanca (the tourist beach located in the south side of Lake Tota). There, the Capitán de la Sabana (Eremophilus Mutisii) appears and tells them about his "lost friend". The Capitán de la Sabana asks them if they can help to find it. Both, start an extensive research in historical documents where they learn about the Fat Catfish, the relationship of the Muisca people with the fish and their sacred wetland and the history of Lake Tota written since XVI century. The second part of the story is waiting to be written since it depends on the results of the work of the ichthyologists team. The main objective of 1, 2, 3 ¿Dónde está el pez?, is to reveal that through a freshwater fish, people could just not learn about the historical biogeography of the fishes that belong to Orinoco basin but also about their cultural and intangible heritage.

3. Biography of a lost fish: The Fat Catfish. A proposal for a book that could creatively and seriously integrate the historical findings that the team found through phase 1 and 2.



2. Workshops design. These workshops will be designed and carried out in schools of Aquitania, Cuítiva, and Tota. The main purpose of the workshop is to create collectively way to keep on looking for the Fat Catfish, one way that would integrates the intimacy of the homes of the students that will be involved in workshops.

The main subjects of the workshops will integrated the follow content: 1. The Muisca people. 2 The fishes of the Orinoco eco-region. 3. Lake Tota's history. The content development will be structured from the knowledge acquired during the months of rigorous bibliographic research, where we learned extensively about the region, the lake, and the Fat Catfish. Fun activities and games will be also integrate besides the new research for the Fat Catfish. The mentioned actions will seek to encourage student participation in the workshops, generating a meaningful learning-experience though a fish.

With the mentioned workshops we hope to prepare students for carrying out a "community cultural monitoring" to find new information about the Fat Catfish. The final activity for the workshops, will be an interview exercise carry out by the students, the goal is to get them close to their elders family members and register their testimonies.

3. Interactive Platforms design. The development of an interactive digital access platform that will expose the recompiled information about the Fat Catfish, is based on the concept of "the invisible path to find the Fat Catfish". Through it, a wide range of possibilities to find the Fat Catfish will be offered. The prototype will be a scenario created in Mozilla Hubs, a platform for creating immersive rooms. Mozilla Hubs provide multiple tools like interaction with 3D objects, multimedia files (images, audio, video), attaching PDF and PowerPoint files, interaction with other users by video call, websites and other rooms. The platform also gives the opportunity of creating scenarios with numerous 3D models. The mentioned components would allow the design work to have a powerful exhibition with a huge educational intervention.

