

# Yuru and Ara

A story at the Mamore River

Eva Lucía Bayarri and Juvitina Galán



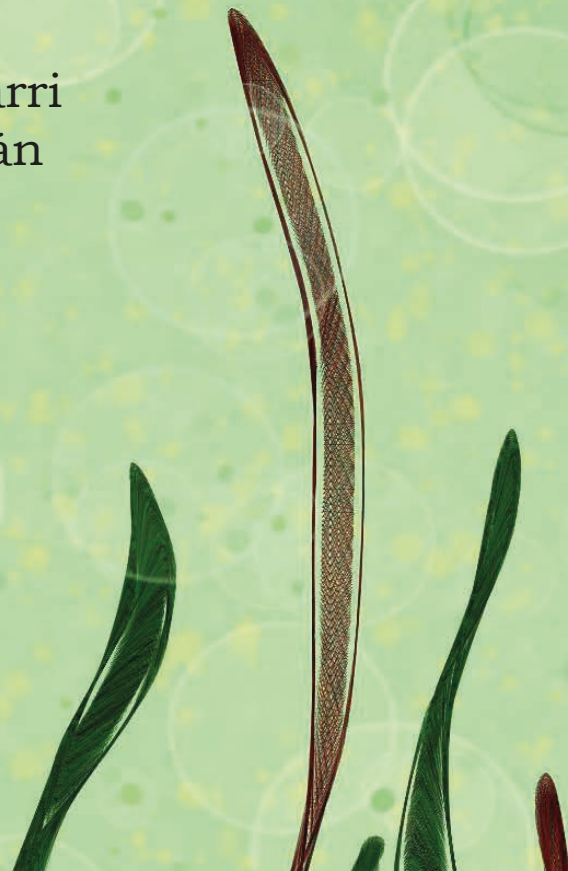
# Yuru and Ara

## A story at the Mamore River

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*To free-flowing rivers*


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This book is written for World Fish Migration Day 2020 WFMD2020 and for free-flowing rivers, joining their cause, hoping that knowledge of our world will help us improve it.

The World Fish Migration Foundation (WFMF) has been the source of inspiration along with all the people passionate about its work that we have met along the way.





Yuru was a scarlet macaw, born and raised in Bolivia. He flew showing off all his feather's colors. He was practicing to impress a hen. He landed on a quinine branch near the Mamore River water.



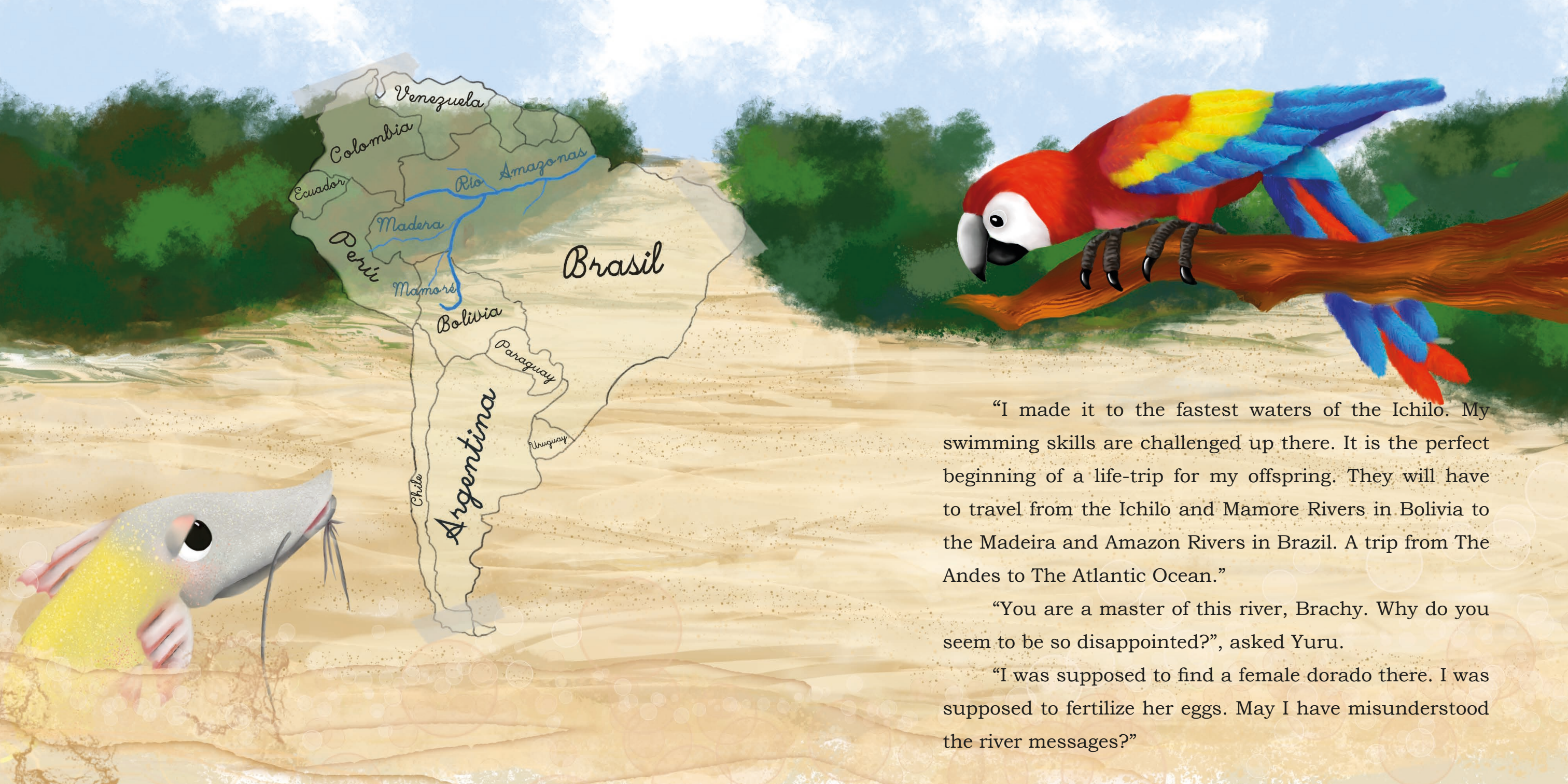
“Hello, macaw”, said the dorado catfish to Yuru.

“Brachy! You are back!”, answered the bird. “You looked so worried the last time I saw you, I didn’t know if you’d come back here”, continued the macaw.

“There was nothing to be worried about. Not even a candiru fish got on my way from the Madeira to the Ichilo.







“I made it to the fastest waters of the Ichilo. My swimming skills are challenged up there. It is the perfect beginning of a life-trip for my offspring. They will have to travel from the Ichilo and Mamore Rivers in Bolivia to the Madeira and Amazon Rivers in Brazil. A trip from The Andes to The Atlantic Ocean.”

“You are a master of this river, Brachy. Why do you seem to be so disappointed?”, asked Yuru.

“I was supposed to find a female dorado there. I was supposed to fertilize her eggs. May I have misunderstood the river messages?”





“What messages are you talking about?”, asked Yuru.

“You know. Every year, when the rain season comes, the river rises and the plain floods. The water brings and carries food and seeds to the mainstream and the plain. We can sense these changes in the water temperature and sediments when it gets to the river mouth. That is our sign to swim upstream to spawn.”, answered Brachy.

“Do you travel across Brazil and Bolivia to fertilize your eggs? What a trip!”, said Yuru.

“It is a more than four thousand kilometers migration to reach the fast waters near the river source. But it is pointless if there are no eggs. This could mean the end of the dorado at the Mamore River.





“Only you have noticed the changes?” Is it possible the fish got the messages but could not attend?”, asked Yuru.

“Sure, now that you say it, I was already upriver. There must be some obstacle from the Amazon to the Mamore.”

“That couldn’t be good. Let me think ... I know someone who sure knows what to do.” And, without further chatter, Yuru flew off.

Helping Brachy was motivating, but having reason to talk to Ara ... that was living.



Ara was a seven-colored macaw, like Yuru. She was adventurous and brave. So she had become friends with a human who helped her after a rough landing. Ara had a leg with just two fingers.

José was an Ichilo fisherman. He lived by the banks of the river.

Ara and Jose were always close.





“Bird requesting permission to land!”, Yuru shouted as he approached the branch where Ara was perched. Ara laughed and moved aside.

“What brings you along this shore of the Mamore, Yuru?”, she said very determinedly and curious.

“The river’s beauties... and a noble mission”, and he told Ara about the catfish problem.

“We have to tell Jose,” Ara said decisively. He complained of not having found catfish upriver.”





Swimming upstream was a three-year-old catfish. Her name was Iara, which means lady of the water. She had a feeling she was getting closer to her destination.

She had swum almost five months upstream: Amazon, Madeira, Mamore, Ichilo, reversing the route she took at birth to the Amazon river mouth. Iara was fortunate to go up the river before the Madeira Dams were finished.

She was no longer at Mamore. She had arrived at Ichilo. The current was strong and it was difficult for her to fight it.







Jose went to his fishing spot, always with Ara hovering nearby. He decided not to use a hook and bait. He didn't want to fish a dorado. He wanted to find one.

He just needed to find a female dorado fish and ask her to meet Brachy upriver.

He laid his net. He waited.

It didn't take long for Iara to reach Jose. She found the net and the fisherman proved himself to be very skillful in bringing her to himself.





“I am Ara,” the macaw said to Iara when Jose stopped her. “I know someone who is looking for you. Jose and I are helping him”, and she sounded a little more nervous than she expected. She wouldn’t have missed the adventure of finding a mate for Brachy. He was the only male upstream.

“What is it that you want from me? I was heading a little farther to lay my eggs”, asked the lady of the water to the strange couple.





“You have to wait for Brachy to come up. It’s just the two of you!”, Ara already sounded desperate and decided to fly to warn Yuru. Yuru would locate Brachy.

After she left, Jose wished Iara a good trip and arranged to meet again on their way back.





“Yuru, scarlet macaw, parrot of seven colors, friend of the catfish, nosy bird...” and thus Ara flew towards the one who, she had already decided, was going to be her life partner.

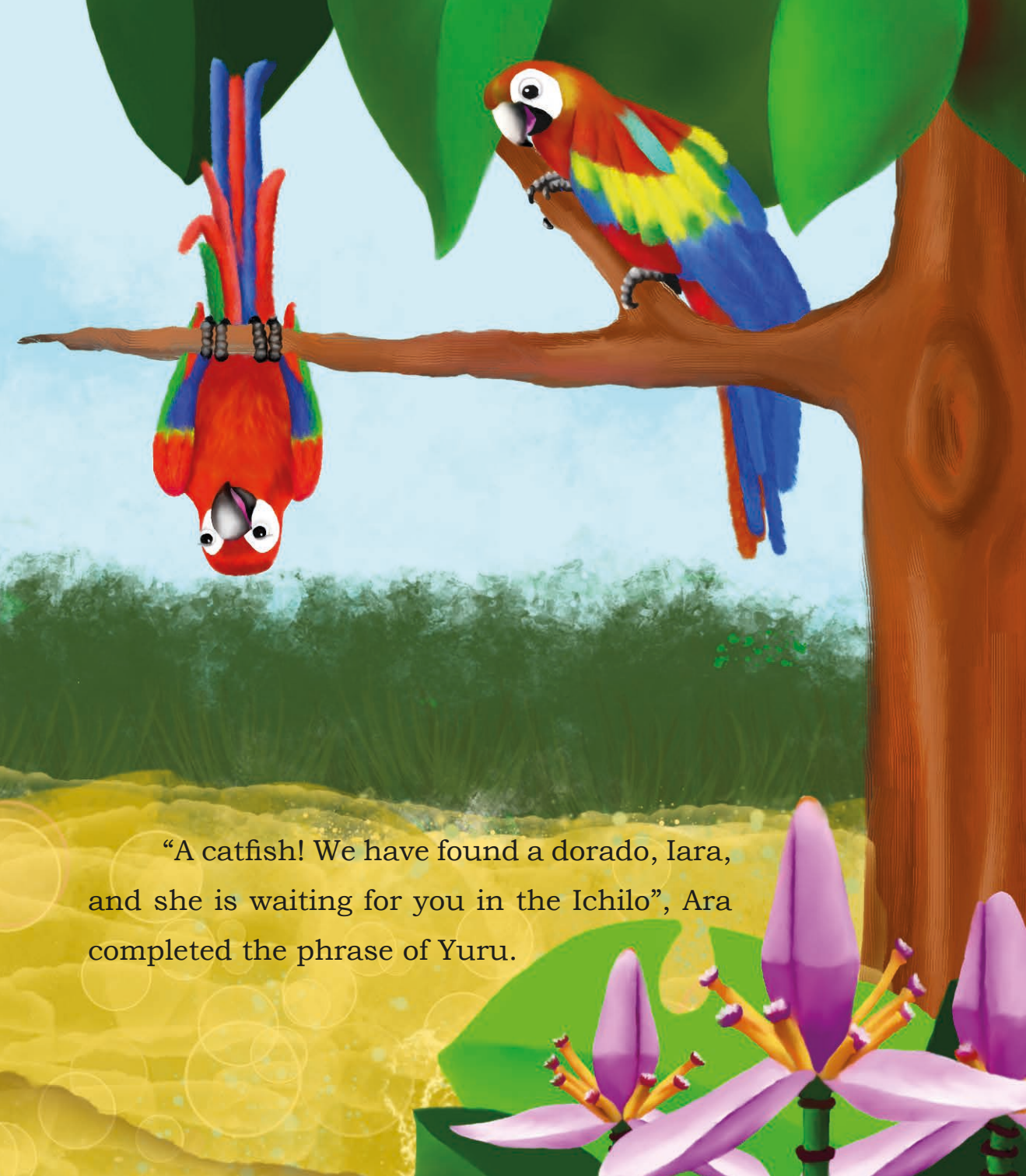
Yuru listened stunned to her friend, nodding, and then they flew together to meet Brachy.





“You won’t believe it, ten kilograms little fish,” Yuru said to Brachy. “What is it I don’t believe, macaw?”

“Well, you have to go back up to Ichilo. Someone is waiting for you ...”, Yuru began to reply.



“A catfish! We have found a dorado, Iara, and she is waiting for you in the Ichilo”, Ara completed the phrase of Yuru.







They reunited after a few days. Yuru and Ara saw the eggs in the water and, later, the little fish in the Mamore. That was the last brood that the Ichilo would bring.

Jose found an assembly to report on the lack of catfish. He was finally able to express his concern and received answers.

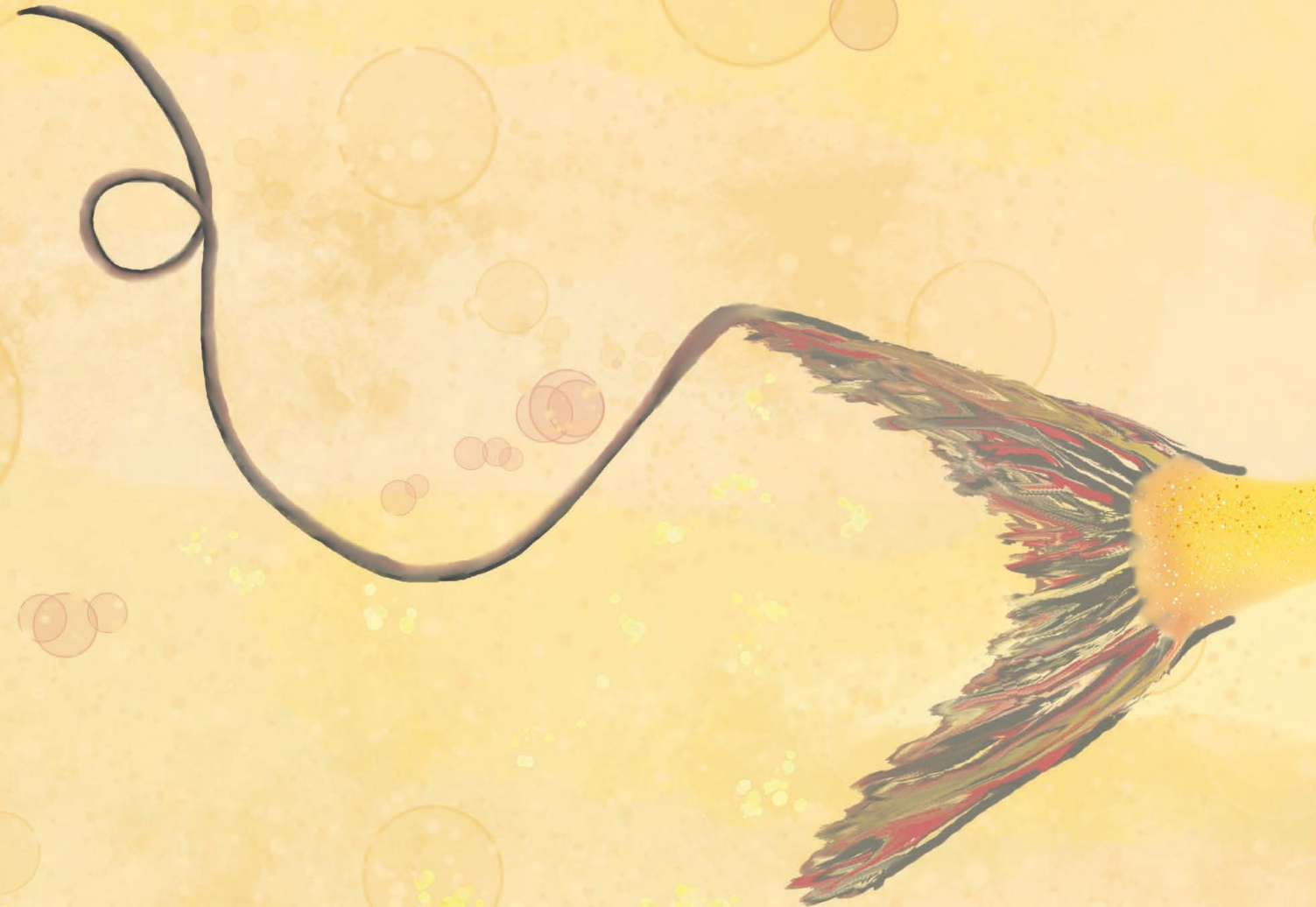




The messages from the Mamore river no longer reach the Amazon river mouth. The fish that attempt to swim upstream the Mamore find the Madeira dikes and they do not succeed.

River connectivity has been lost. The dams do not allow the flow of fish. Dams retain sediment and prevent flooding of the river at the plain.

The last catfish captured in the Ichilo was in 2019. Now that we understand it is when we can do something about it.





# Did you know...

The Yuracarés or **Yurujares**, are an indigenous people that historically inhabited the upper basin of the Ichilo River, in the Bolivian Amazon. The name **Yuru** is a tribute to these people.

***Ara macao*** is the scientific name of the Bolivian seven-colored macaw. Hence the name of our **Ara**.

The scientific name for **dourado** is *Brachyplatystoma rousseauxii*. So ours is called **Brachy**.

# A free-flowing river

It is the one that maintains **connectivity** in four ways:

Connectivity **high course - low course**: Water, nutrients, and sediment flow downstream. The fish flow upstream.

**Lateral** connectivity: The water leaves the channel flooding the plains and fertilizing them and returns to the channel dragging food that is used by the little dorados during their trip downstream.

**Vertical** connectivity: River water seeps into groundwater and supplies aquifers as part of the water cycle.

**Seasonal** connectivity: the river has an annual flood cycle that marks a rhythm on which many living things depend.



# Glossary

**Tributary:** Secondary stream or river that carries its waters to a major or main one.

**Candiru fish:** Parasitic fish, *Vandellia cirrhosa*, that lives in the Amazon basin.

**Connectivity:** Ability to establish or maintain a connection, contact or relationship.

**River mouth:** Place where a river empties or enters another, a lake or the sea.

**Dourado Catfish:** *Brachyplatystoma rousseauxii*. Freshwater migratory fish from the family of the great catfish. He is a long-distance migrant. It is the fish that performs the largest known migration in fresh water: up to almost 12,000 km round trip in some tributaries of Peru (the Ucayali). In the Madeira Basin, where Brachy and Iara meet, it is a ~8000 km round trip.

**Fertilize:** Facilitate the creation of life or its development. Fertilized eggs are eggs laid by a female and inseminated by a male.

**Macaw:** Scarlet Macaw, *Ara macao*. In Bolivia, known as the seven-color paraba.

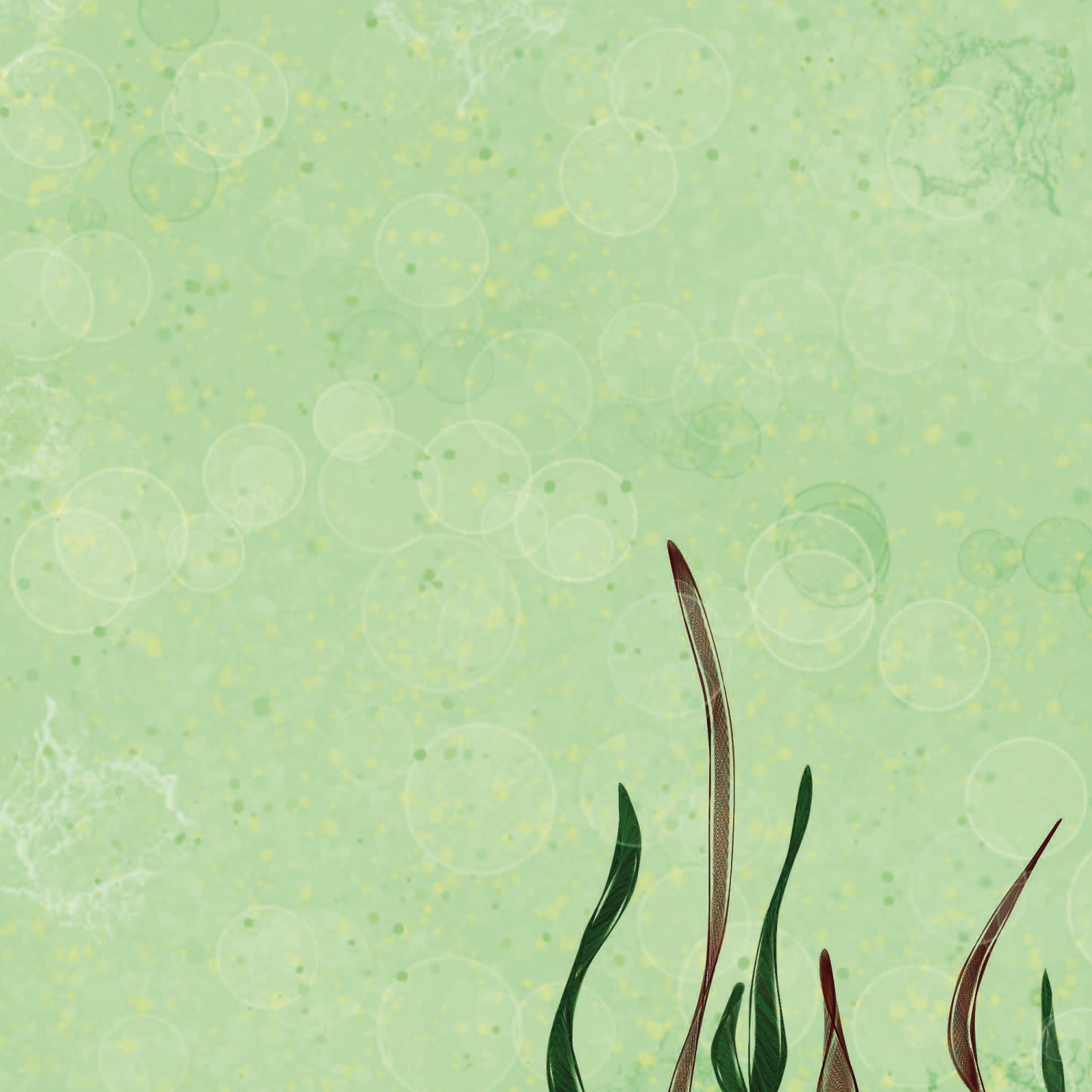
**Brood:** Set of children or offspring. Conjunto de hijos o descendencia.

**Quina:** *Cinchona officinalis*. Andean tree with broad leaves that can exceed fifteen meters in height and is related to coffee. It is its bark that makes it precious, rich in quinine (used as a medicine against malaria). This alkaloid made the tree famous, but also doomed it. It's an almost extinct tree in America.

**Dam:** A concrete barrier constructed to hold back water and raise its level, forming a reservoir used to generate electricity or as a water supply.

**Sediments:** Mud and solid particles that the melt or rain water has incorporated into the course of the river.







River messages don't arrive at the Amazon river mouth from the Mamore River. Two Bolivian scarlet macaws, Yuru and Ara, will help Brachy and Iara, two dourada catfish to meet upstream at the Mamore River.

This story will discover the importance of free-flowing rivers and the mystery of river connectivity. Learn the dourada catfish life cycle and the secrets of the river messages. Life depends on them.

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