



# WaterFlying

A SEAPLANE PILOTS ASSOCIATION PUBLICATION • NO. 220 • \$3.95

MAR/APR 2017

## SPREADING THE JOY OF SEAPLANING FOR SCIENCE



Wilderness Trip  
Cooking

No More Water  
"Landings"

# Super Petrel Provides Amphibious Wings for Science

*An Argentinian adventure gone slightly awry*

By Adrien Normier and Clémentine Bacri

**W**ings for Science is roaming the skies to support local science projects around the world. The team—airline pilot Clémentine Bacri and attorney Adrien Normier—provides the flying, and local scientists support them with food and accommodations. Adrien and Clémentine

The night before a mapping flight over Upsala Glacier in Argentina's Parque Nacional Los Glaciares, the crew set up basecamp on the blue waters of the Lago Argentino. Photos by Clémentine Bacri and Adrien Normier except where noted.

completed their first around-the-world trip in 2012-2013, joining local research missions. In February 2016, *Wings for Science* took off again for another world-sized adventure, this time in a Scoda Aeronautica Super Petrel. The Brazilian-built amphibious Light Sport Aircraft adds to the safety of the project by giving the team landing options, and additional scientific collaboration opportunities such as water sampling and the ability to explore remote places. Following is an account of their visit to Argentina a year into their adventure.

Here is the plan: today we join San Antonio Oeste from Carhué, a refuge city for the people of Villa Epecuén, a small tourist village on the shores of flamingo-covered Lago Epecuén that was completely submerged by the lake in 1985 when a nearby dam and dyke failed. The waters are pink due to the abundance of *Artemia salina*, a species

of brine shrimp. We have been doing an aerial assessment of the flamingo population—some 40,000 of them based on an initial assessment of the photographs.

We then leave behind the whitish remains of the ghost town that was Epecuén and head south for a three-hour flight. The light tailwinds are giving us a gentle 110-kt ground speed. Nice! The music is running in the headphones and we have an idea in mind—to enjoy our first picnic in the wild. Yes, as this is a seaplane we can land on rivers, lakes, lagoons, anywhere... and we will!

A few rheas (a kind of Argentinian ostrich) run away under the wings, and more and more of those flashy pink salted lakes pass by below us. (In every hostel we meet Chinese businessmen looking to somehow buy those little pink shrimp to feed the fish in China's immense fish farms.) The rest of the

landscape is deserted pampa with infinite lines of tracks from mining prospecting in the area.

So, our picnic. Landing on these salinas could be cool, but there are no shadows around, no trees. And even if the aircraft is composite, I am worried about the corrosion because there is a lot of aggressive salt in the water. And the pink water looks so thick...

### THE RIO NEGRO WORM

But, over there, a rather large river! And a small Island, and some trees. From the Dynon display, 10 knots of wind. Should we land upstream or downstream? And what about the wind? Downstream should be better for the velocity against the river current to be the lowest. But then I will have some tailwind, says Clémentine. However, our goal is to have the slowest speed



Photo by Mauricio Lanza/Aeromagazine

A saline lake, north of Chubut, Argentina. These lakes display various shades of pink, due to the abundance of the small crustacean *Artemia salina* in their waters. These are commonly used as a basic feeding product for the fish-farming industry and give the pink color to the flamingos that populate these areas.



On approach to Upsala Glacier, Parque Nacional Los Glaciares, Argentina, for a mapping mission.



Lago Yehuín, Tierra del Fuego, Argentina.



Rio Paraná, Brazil. This time, the crew is flying a wildlife mission for the benefit of the Área de Proteção Ambiental das Ilhas e Várzeas do Rio Paraná.

Mauricio Lanza/Aeromagazine



The Super Petrel's boom-type aft fuselage provides a natural lounge contour for Adrien to take a break from flying and research.



Maneuvering close to the glacier for observation and photography.



Silla del Diablo, Chile. Dozens of sea lions have gathered around the amphibious aircraft, and Clémentine is taking pictures like crazy.



Upsala Glacier, Parque Nacional Los Glaciares, Argentina. The blue color of the "Glacial Milk" comes from the glacier. The ice flowing down the Andes is sanding the rocky valley into extremely small mineral particles that settle in the melted waters, and gives it this very white-blue specific color.



Florentino Ameghino Reservoir, Chubut, Argentina. The Florentino Reservoir is a perfect picnic stop enroute to the next mission: 3D mapping a fossil forest.



The Super Petrel offers good cruise speed and economical operation for the team.



Adrien and Clémentine in the cockpit of the Super Petrel, dressed appropriately for the conditions.

against the river current, which is like a moving runway, after all.

So, the best possible configuration will be with the stream and against the wind. Luckily, I can choose my landing spot as there are a lot of curves in the river with straight lines of about 400-500 meters. Here, the good configuration, and there, the sandy island where we could picnic.

We plan an approach between high trees on the shoreline, but soon realize there is an issue—there is no way we'll be able to row against the current; it is way too strong. So, we touch down behind the island where the current makes a return flow and the waters are calmer. After landing, with the engine at idle, we are not moving. A slight turn to the right, and scritchhhh... the hull slides on the sand.

What do we do now? If I stop the engine, we'll float back in the stream. Let's put in a little more power so the boat gets stuck on the sand. Easy. Now the engine is turned off, the battery is off, and only the birds break the sound of the light wind in the trees. I take off my shoes and jump into the water. So cool!

But with my weight out of the Petrel it is lighter and begins to float away. I yell, Clem holds out a paddle for me to grab, and I somehow manage to keep the boat



Group of Austral Flamingos, low flying over Rio Negro's waters.

in position. We put out the anchor with triple lines to make sure nothing moves, and now the picnic. Well, not really. We forgot the food, and there is no way we dig into the emergency rations we have along. So, we'll enjoy what we have—clear water and fresh sun.

With no bathing suit aboard I disrobe, hop in the gentle stream, and begin to discuss poetry with Clémentine. I try to convince her to join me in the voluptuous waters, when suddenly she says "There is a worm, there! Its dug under my skin—I see the hole it left! I just had my feet in the water one minute or so.

What is this worm? What is it going to do to me? It hurts!"

The wound is dark red now. Are there more worms around? Did I get some too? We check each other closely but no, only one. We are lucky—well, at least I am lucky. We get back in the aircraft quick. "My foot hurts," Clem says. "I cannot put my shoe on."

I push the aircraft off the shore with the paddle and then wonder what to do if the engine does not start. The current is pushing us to a bend in the river with trees on the shore. And the engine does not start. Vroom...yes it does!

Amphibious Floats for **Carbon Cub**  
Aerocet Model 1500

CUBCRAFTERS  
Learn more at [cubcrafters.com](http://cubcrafters.com)

Yakima, WA | 509.248.9491

An hour later we're in a pharmacy getting treatment and an explanation. It was a worm, but it did not enter the skin. It just bites, and retracts itself very quickly. You have two to three days of allergic reaction, but that's all. No big deal. Well, I'm not so sure about "no big deal." Clem cannot walk, and the magic picnic has dissolved.

As for the seaplane flying, we learned three lessons. First, the most important thing isn't how you land, but how you get onshore. Second, when you jump off the aircraft into the water, it immediately floats off in the worse possible direction. So, keep a hand on it! And third is a lesson offered by Clem: when you land in an unknown place be careful with wildlife encounters, and not just the big-game kind.

### CONDUCTING SOME SCIENCE

Assessing the exact bird population on a wide lake is a very difficult task. Based on ground observations, Lago Epecuén is known to be a very prolific location for Austral Flamingo, hosting possibly the world's largest population. The lake provides the best possible growing conditions for the small, pink crustacean that the flamingos feed on, and from which they derive their color. Flamingos grown in captivity on other food types lose their colors.

Usually, the flamingo count is conducted using hundreds of people spread around the shoreline who observe simultaneously. The ornithologist in charge of the bird population survey asked for our support. With an extremely high-resolution camera aboard the aircraft it is easy to fly high enough to avoid spooking the birds, so they stay on their spots. And, we can fly the complete lake in fewer than 20 minutes.

From the pictures, a manual counting can then be made, but the process also can be automated using dedicated software that recognizes a group of pixels as representing a unique bird.

For more information about the Wings for Science project see <http://www.wingsforscience.com> and the Facebook page. Clémentine and Adrien thank their sponsors including SOS Malus, Scoda Aviation, Bose aviation headsets, Dynon, Duc Propeller, WhiteRose Aviation, and Prepare2Go. They welcome new sponsors to support their activities for 2017 and 2018. Contact Adrien at [anormier@gmail.com](mailto:anormier@gmail.com).

## SUPER PETREL PROS AND CONS

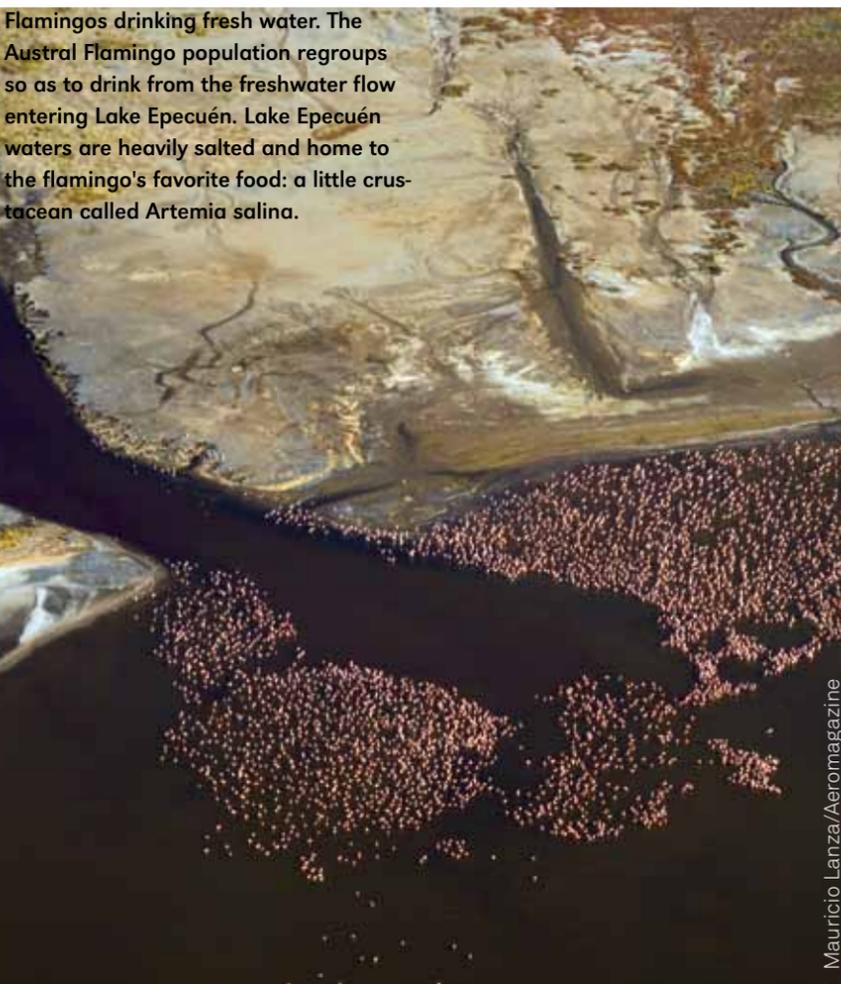
By Adrien Normier

### What I like :

- The amazing outside view
- The comfort and ergonomic interior
- The cruise speed and economy. This is a seaplane with a fixed prop, and with two onboard and all our stuff we are doing a real 90-95 kts with fuel consumption of a little less than 20 liters per hour.
- The ultra-short takeoff and landing distance
- The flight with the doors removed—we're on a magic carpet!
- The twin wings that look cool and attract attention at every single airfield
- The idiot-proof design and general handling characteristics
- The low number of parts, which means you can really check everything before the flight
- The professionalism of the team at SCODA

### What I dislike :

- It is not a jet fighter, and does not have the hyperspace button.
- The cold weather of Patagonia without a heating system



Flamingos drinking fresh water. The Austral Flamingo population regroups so as to drink from the freshwater flow entering Lake Epecuén. Lake Epecuén waters are heavily salted and home to the flamingo's favorite food: a little crustacean called *Artemia salina*.

Mauricio Lanza/Aeromagazine

## Spreading the Wings of Insurance Protection to Seaplane Owners and Operators.

**Non-Owner  
(Rental)  
Insurance  
Now Available!**



Falcon Insurance Agency and the Seaplane Pilots Association have joined forces to spread the wings of insurance protection to Seaplane Owners and Operators. Our new Seaplane Insurance Program offers members the most comprehensive insurance solutions available, with enhanced coverage, a variety of underwriters, and dedicated professional service.

This program is distinguished from the pack by higher limits of liability, competitive prices, and available coverage for commercial operators. Call us today at 866-217-4SPA (4772) or visit our web site at [www.falconinsurance.com](http://www.falconinsurance.com) to learn how we can help you.

**FALCON**  
INSURANCE AGENCY

1-866-217-4SPA

PO Box 291388, Kerrville, TX 78029  
[www.falconinsurance.com](http://www.falconinsurance.com)



Seaplane Pilots  
Association

*This Insurance Program is brought to you by Falcon Insurance Agency and the Seaplane Pilots Association*