

The Old House and the Sea

With its verdant garden overlooking the Adriatic, it's hard to imagine a more idyllic research setting than the **Zoological Station in Rovigno**, on the Istrian peninsula. The marine institute, which was established more than 125 years ago, was originally a branch of the Berlin Aquarium. It was purchased by the newly established Kaiser Wilhelm Society in 1911 and became its first research institute.

TEXT **ELKE MAIER**

It was around the middle of the 19th century when the sea moved indoors: the aquarium was invented, and was met with great enthusiasm on the part of the general public. Large display aquariums enabled people to see the “strange sea creatures” they had previously only heard about. To maintain the underwater splendor behind the glass, supply stations were established in coastal locations to provide animals, plants and seawater for the aquariums. This is where the history of the Zoological Station in Rovigno begins.

The Berlin Aquarium *Unter den Linden* opened its doors on May 11, 1869. Visitors flocked to it to marvel at the filigree tube worms, ethereal jellyfish, comical hermit crabs and flamboyant sea anemones. The birth of a sea horse was witnessed there for the first time in 1876, and in 1892, visitors could gaze in wonder at a giant octopus with an arm span of two and a half meters. The Aquarium's regular “Marine Phosphorescence Evenings” were particularly popular.

In the early years, most of the exhibited marine animals originated from Trieste. When the water there became increasingly polluted due to the development of the harbor, an alternative source was sought. The harbor town of Rovigno (Rovinj in Croatian) on the Istrian peninsula – which was still part of Austria at the time – appeared to offer a perfect solution: the water there was clean and the rocky coast provided habitats for many marine species. Moreover, the town was on a railway line and the transportation of supplies to the German capital took just 29 hours.



The Zoological Station of the Berlin Aquarium was opened on the coastal road in Rovigno's north harbor on May 10, 1891. The ground floor of the building contained 24 cement basins, which were fed with fresh sea water twice a day, and was also covered with glass vessels containing marine animals.

In 1897, the popular magazine *Die Gartenlaube* reported that “Some species of small sharks scuffle around looking for food, while at the far corner of the pool an enormous electric ray (torpedo) lies ready and waiting to dole out its electric shocks.” Visitors were particularly fascinated by the pool with the seahorses and pipefish, “but after a while, they seem very uninteresting due to their low level of intelligence and their lethargy.”

In addition to the aquarium room, the building also had an area for the production of wet and dry preparations, several work rooms, a library, a dark room and an apartment for Otto Hermes, the Director of the Berlin Aquarium. A west-facing patio provided a magnificent view of the garden, the town and the sea.

“Anyone who wants to work in peace and enjoys going out on the ocean, and, apart from their own research topics, gaining an impression of the entire animal kingdom in the rich waters of the Adriatic should go to Rovigno,” wrote Hermes. “Overall, life [here ...] is very pleasant.”

The station was thus far more than a mere outpost of the Berlin Aquarium right from the outset. Researchers from different countries traveled to Rovigno to work there, and it soon became necessary to expand the station. The shipping operation also thrived. The station sent living and preserved marine material not only to Berlin but also to a number of universities. Some of the animals were provided by the local fishermen, but the station also had its own fishing fleet consisting of two rowboats, a sailboat, a motorboat and a small steamer.

The German Reich Department of Health even took up work in Rovigno in 1901. Against the backdrop of German activity in the colonies, the aim was to make advances in tropical medicine, so a laboratory was set up in the station to study unicellular parasites. Rovigno was still a malaria area at the time – an Eldorado for parasite researchers. Fritz Schaudinn, who made medical history as a co-discoverer of the syphilis bacterium a short time later, was head of the laboratory.

Animated suspension: The predatory sea slug *Tethys leporina* while swimming. The photo was taken at the station's aquarium in 1912.

While the zoological station flourished, the Berlin Aquarium went into decline. People had seen enough, and maintenance costs were increasing. The operator eventually went bankrupt, the Aquarium closed, and Rovigno station was transferred into the private ownership of its Director, Otto Hermes. After his death, Hermes's heirs decided to sell the station, providing an ideal opportunity for the newly founded Kaiser Wilhelm Society. Given that it was already planning to establish two chemistry institutes, it was agreed that the field of biology and medicine shouldn't be neglected, and that Rovigno would provide the necessary research material. Everything fell into place when Paul Schottländer, a landowner from Breslau, agreed to provide the 100,000 marks required to buy the station. On October 1, 1911, the Zoological Station in Rovigno officially changed ownership. Thilo Krumbach, a biologist and jellyfish expert, had been the station's Director since 1908.

The plans for the development of the station included the expansion of its fleet. This project, however, was ill-fated. It started with the steamer, the *Albatros*, which was optimally equipped with three laboratories and was launched in Potsdam in 1913.

FRANKFURTER ZEITUNG from May 6, 1911

Dr. Paul Schottländer, a landowner from Breslau, transferred a considerable sum to the Kaiser Wilhelm Society for the purchase and expansion of the zoological station in Rovigno. The Kaiser thanked the donor in a letter from the Achilleion Palace and approved the proposed use of the funds.

However, due to the outbreak of the war, it never reached its destination. Owing to its "unseaworthy construction," it was deemed to be of no use to the German Navy. To make matters worse, the ship, which by then had reached Hamburg, was damaged by a storm tide. It was eventually dismantled and sold off in separate parts.

The *Loligo*, the submarine boat sponsored by Schottländer, fared no better: it was requisitioned by the Italian Navy due to the war and eventually ended up with a scrap dealer. This outcome was all the more frustrating given that it would have been the world's first research submarine. The only boat in the fleet that took to the seas in the service of science was a glass-bottomed craft for the observation of marine animals. This vessel, however, later sank in a storm.

The situation on land was somewhat better: up until the outbreak of the war, the positions available for guest scientists were well occupied, and shipping operations flourished. Animals and plants were sent to German, Austrian, Dutch, and Danish aquariums, universities and museums. Thilo Krumbach had had a botanical garden planted at the back of the building. He also wanted to provide a display collection that would allow visitors to experience the native animals and plants and their ecology up close. To this end, he had aquariums built in which the marine organisms lived in the middle of original coastal rock formations.

Rovigno was captured by Italian troops on November 4, 1918. Krumbach succeeded in hiding parts of the station's inventory and library before fleeing. The station now belonged to Italy. However, the Kaiser Wilhelm Society didn't admit defeat and sought restitution or compensation.



A prime location: The Rovigno Zoological Station was the first research institute of the newly established Kaiser Wilhelm Society – and perhaps also the most beautiful.

Tough and lengthy negotiations followed. It took more than twelve years for the prospect of a solution to emerge: it was finally agreed that the institute would be placed under equal German and Italian management. The agreement for a German-Italian Institute of Marine Biology was ceremonially signed on February 25, 1930.

The post of German Director was assumed by Adolf Steuer, a plankton expert who was besotted with the Adriatic and spoke fluent Italian. He was considered the foremost expert in the flora and fauna of the Adriatic and worked to ensure that it was surveyed and recorded as comprehensively as possible.

The Italian Director was zoologist Massimo Sella. A very active scientist, he distinguished himself in the battle against malaria. He placed innumerable mosquitofish, which he had had specially sent from New York, in the ponds around Rovigno. These fish, which are related to the guppy, ate the larvae of the *Anopheles* mosquito, the carrier of the disease. Within just a few years, the region was malaria-free.

Another of Sella's specialties was fish migration, which he researched using some rather original methods. He demonstrated, for example, that Mediterranean tuna fish migrate from the Atlantic. In order to accomplish this, he collected the fishhooks that remained stuck in the mouths of the fish after unsuccessful attempts to catch them. The fishhooks had specific forms based on their origins. Last but not least, the creative Italian also had a passion for truffles and the culinary use of sea cucumbers.

At the end of the Second World War, Istria became part of Yugoslavia and the successful binational cooperation there came to an end. The Kaiser Wilhelm Society lost the station for a second time, this time for good. The Rovigno station had been part of its research institutes for around 21 years.

In 1946, the German department was nominally transferred to the Kaiser Wilhelm Institute for Biology, which had been moved from Berlin to Hechingen. A few years later, the Kaiser Wilhelm Institute for Marine Biology was established and continued to exist as a Max Planck Institute until 1968. Today, marine research within the Max Planck Society is located in Bremen, where the Max Planck Institute for Marine Microbiology was established in 1992.

The Rovigno Zoological Station still exists and now stands on Croatian soil. Since 1969, it has been a department of the Ruđer Bošković Institute in Zagreb. The building still looks almost the same on the outside as it does on the old postcards. While the shipping of marine animals ended a long time ago, scientists and students still frequent the location to study the fauna and flora of the Adriatic. A display aquarium is also open to visitors.