The last weekend of summer vacation saw the return of the submarine modelers' meeting at the Zbojnička swimming pool in Bratislava Rača after a two-year hiatus. As usual, participants from several countries gathered here — Slovakia, the Czech Republic, Austria, Hungary, Poland, Germany, and Italy. Miroslav Kostroun and I set off this time on Thursday morning, partly to help our Slovak colleagues prepare the venue and partly in the hope that we would have time to test some untried models. However, we were not lucky in this regard, as the new management of the swimming pool required public operations on Thursday and Friday, so we focused exclusively on preparing the meeting area, marked off with red-and-white tape. On the other hand, the pool staff was present nearly all the time, ensuring that the water remained perfectly clean throughout the event.

This time I brought only three models – the older yellow 212-Todaro, Ghadir, and last year's model of the submarine CV-707 Vesikko. Miroslav reached a total of ten models, notably including a Soviet Kilo-class submarine, an American Gato, and the USS George Washington, built by František Káres. In the evening, Pavel Kostka from Brno joined our ranks. I mentioned his struggles with the U-82, a German VIIC U-boat, in the article about the Subregatta two years ago (RC Review 12/2022). Pavel faced many difficulties in trying to get the model operational, including replacing the cylinders of the ballast tanks, for which the manufacturer used unsuitable material. Nevertheless, his surface voyage in the Račan pool ended in disaster. The control rod for the front depth rudders broke loose, water started pouring into the tight hull through the opening, and the model sank uncontrollably. Pavel spent the rest of the weekend trying to dry out the submarine and salvage the electronics. Perhaps it was some consolation for him that he could sail with other boats he brought, for example, during the night runs with Harro Koebke's beautifully lit vessel.

On Friday before dusk, Oto Gerža and his father arrived from Vsetín, pushed several tables together, and began unloading their fleet. Oto has long been focused primarily on German submarines of the type XXI from the end of World War II and the type UB-1, a coastal submarine from the beginning of the first World War. Oto manufactures these models either in series or on commission in various scales. The fact that these are well-made models is evidenced by the fact that his largest "twenty-one" was chosen by the public this year as the most beautiful model, and Oto took home the traveling trophy for the second time in the history of the Bratislava Subregatta. However, he also introduced a new model – the German type 206A submarine, which he seems to be preparing to focus on more in the future.

A pleasant surprise was the participation of another modeler from Brno, Jaroslav Otrusina. Not only did he come to support us again after several years, but he also brought with him a brand new model – Pjotr Koška, in addition to the notorious Akula Draku. The prototype of this model dates back to 1901 in Kronstadt, where a 15-meter-long purely electric submersible was created according to J. V. Kolbasjev's design, constructed from several bolted sections. It was equipped with two torpedoes at the bow and stern. Due to the low capacity of the then-available batteries, it had a limited operational range of only 15 nautical miles, making it more suitable for harbor defense and as a reconnaissance vessel. During the Russo-Japanese War, it was transported by rail to the Far East, to Port Arthur. Although it could not inflict significant damage on Japanese warships, its existence kept the enemy somewhat at bay from the harbor. The vessel's unconventional propulsion system, which Slávek also tried to mimic in his model, consists of six propellers along the sides of the boat. The builder also decided to equip his vessel with functional electric torpedoes, which he successfully demonstrated in Bratislava. Unfortunately, the torpedoes showed a lack of buoyancy and easily ended up on the bottom. Here too, Slávek devised a solution. A special T-shaped structure equipped

with magnets can be attached to the stern of Pjotr Koška, allowing for the torpedo to be lifted from the bottom with a bit of luck.

This year, we practically did not encounter any submarines from Slovak modelers at the pool. Pavel Kostka from Brno struggled with technical problems with his U-82 type VIIC model in Bratislava. The images show the interior and the model tower. At the back, with the traveling trophy, is the model of Oto Gerža's "twenty-one," and in front, the new submarine U-17 type 206A. Oto Gerža with the traveling trophy for the most beautiful model, Jaroslav Otrusina with the Akula Draku model, Grzegorz Jermolaj with the Kaiten suicide torpedo model.

Logically, the members of the organizing club from Bratislava are regularly too busy with organizational tasks, including providing refreshments, so they hardly have time for models. The situation was saved only by the battleship USS North Carolina by František Valček, which cruised the waters of Rača all Sunday. No modelers from Žilina were present either. Vladimir Randa was always an indispensable participant in our meetings, and this was his first absence, which was not further explained. The reason could have been the championship competition within the Subregatta, which Vlado organized, and which was canceled after long discussions and careful consideration. That was the first thought that crossed our minds. Most of us missed Vlado not just because of his submarines – primarily the giant I-400, which we wanted to finally see in the water – but also as a welcome member of the discussion circles. Perhaps I am mistaken, and for some of us, Vlado's absence might have actually come in handy.

The exception proves the rule. I recall that there is one exception to the aforementioned statement about the absence of Slovak submarines. On Saturday, when I was lifting Vesikko from the water after one of the runs, an older gentleman speaking Slovak approached me. He claimed to have a similar submarine to mine, but made of sheet metal. He immediately showed it to me. He was not officially registered; he just came by. He shared how he once found the model discarded next to a trash container, felt sorry for it, and repaired it. It is hard to determine how old the model is or who built it, but it is an interesting testament to how deep the roots of submarine modeling can reach. Of course, there were also technically advanced models present. For instance, Rudolf Grahämmer from Austria brought such a submarine. The type XXI U-boat model is full of electronic and pneumatic systems controlling periscopes, antennas, and the opening of torpedo tubes. This model was also awarded as a novelty at the end of the meeting. Polish modeler Jacek Bieda was reluctant to part with the traveling trophy he won two years ago for the submerged cruiser Deutschland. Last year in Neulengbach, he promised to bring a new model to Bratislava – the Japanese guided torpedo Kaiten. He kept his promise, but this small black model completely faded next to Jacek's other novelty – the Polish submarine ORP Sokol. In my opinion, it was very close, and Jacek could have kept the traveling trophy for another two years.

Back to history briefly. Poland has never had many submarines, and after losing the Orzeł and Wilk at the beginning of World War II, the Polish navy considered acquiring replacements. The solution was to rent two boats from the Royal Navy. ORP Sokol and ORP Dzik were single-hull boats of the British "U" class, displacing 630 tons on the surface, 730 tons submerged, and measuring 59 meters in length. Both were built by the Vickers-Armstrong shipyard in Barrow-in-Furness. During the war, both submarines undertook combat patrols in the Atlantic, North, and Mediterranean seas. By the end of the war, they served only as training vessels and were returned to Great Britain. Sokol, now back to its original name HMS Urchin, was decommissioned and scrapped in 1949, while Dzik followed suit a little later. Jacek built his model in 1:50 scale according to plans and a description published in the magazine Modelarstwo okretowe 1/2014, and he chose a red-blue color combination that the ship had during operations in the Mediterranean.

The second Polish modeler in Bratislava was Grzegorz Jermolaj. He presented a carefully built model of a type XXIII U-boat from a kit by Bronco. Laszlo Benkó was not the only Hungarian representative in Bratislava this time; on Saturday, a colleague with an Akula from Engel joined him. The group from Germany also grew. In addition to regular participants Detlef Franke and Marcel Bölke, Christian Albrecht arrived in Bratislava for the first time with his NR-1, Euronaut, and Spiggen II. We also noted a completely new face – modeler Marcel Poller. He brought several models, among which the UC-4, a type UC-1 submarine minelayer, is definitely worth mentioning. Since one of my first submarines is also of type UC-1, although in a smaller and simpler version, I will briefly return to this type. The submarine was structurally based on the aforementioned coastal type UB-1 by replacing the bow torpedo section with one containing six mine shafts, which was a few meters longer. Like the UB-1, this small submarine could be disassembled into four parts (three hull sections and the command tower) and transported by rail. Each shaft contained two mines. In addition to these shafts, there were ballast compensating tanks at the bow, which were flooded after the mines were released. The total length of the boat was 34 meters, with a displacement of 168 tons on the surface and 183 tons submerged. The crew consisted of fifteen men, including officers.

When I researched the fate of the specific UC-4 boat, I found that it was a "lucky ship." It was built in 1915 by AG Vulkan in Hamburg and alternated service in the Baltic and Flanders flotillas. It undertook around seventy combat patrols, and approximately thirty ships fell victim to its mines. A series of captains took turns commanding it. The end of World War I found it undergoing repairs in the docks at Zeebrugge, Belgium. To prevent it from falling into enemy hands, the crew scuttled the boat by detonation. Its sister ships were not so fortunate; many were sunk during the war, others captured, and gradually served in the British, Italian, or Dutch navies. Marcel Poller equipped his model with three functional mine shafts. The release of mines is ensured by a simple mechanism with a moving screw that gradually opens the stops preventing the mines from falling out. The 3D-printed mines consist of the mine itself and an anchor with four folding arms. These open upon leaving the shaft and release a less dense floating part carrying the charge. The anchor is equipped with a spool with a line that keeps the mine at a certain depth. The submarine's submersion system is double. The main ballast tanks, controlled by pumps, are located at the bow and stern of the model, while the compensating tank is a piston type located in the tight hull. Unfortunately, I did not see surface navigation or mine deployment, only slow underwater navigation and periscope depth. The model seems well balanced and very stable.

Paolo Saccenti from Italy was in Bratislava for the first time. Although he did not bring a new model, with a journey of over 900 km from Milan, he became the most distant participant. My colleague Mirek Kostroun focused primarily on two models — George Washington and Gato. The first of these Mirek subjected to a complete overhaul. He newly laminated and filled the hull, replaced the original steel rod ballast with lead, used a larger three-blade propeller, replaced the Speed 400 drive motor, servos, and wiring, and installed white LEDs at the bow. He equipped the model with a sound module that made corresponding noises on shore but did not perform well in the water. Since the model was on the water for the first time after the modifications, the tests mainly focused on balancing and checking for leaks. The Gato-class submarine was in a similar situation. Mirek acquired it last year from Martin Velka, and it is a conversion of a Revell plastic kit. The watertight hull parts and internal equipment were provided by American modeler David Merriman (an article about this model was published in RC Review 8/2008). Mirek assembled the submarine according to the instructions and tested it in Bratislava without the submerged system operational yet.

What I am about to write may seem ironic to many. Over the years, I have come to realize that a submarine model is built in the first year, redesigned, modified, and improved in the second year,

and fine-tuned in the third year. Only then can one say: I have a functional submarine. This applies only to models built as prototypes or, as they say, "on green fields." The process often takes even longer. An example is László Benko's "twenty-one," where the tuning process lasted several years. Mirek's submarines thus have their first year behind them. My submarine CV 707 Vesikko has completed its second year. This season, I modified the arrangement of the submerged system pump, shifted the lead ballast to the keel, improved the coupling of the drive shafts, replaced the two-cell battery with a three-cell, and also improved the overall appearance. I am now more satisfied with the model's performance in the pool than last year. Conversely, the Todaro submarine (type 212) has gone through this development. It behaves predictably, is reliable, I do not need to charge the battery throughout the weekend, and I do not hesitate to entrust the transmitter to another modeler to control the submarine.

Great thanks go to the organizing team

Awards and prizes for participants of the meeting

Throughout the event, we were accompanied by sunny weather, with daytime temperatures exceeding thirty degrees. When we recall this year's edition, it is likely someone will say: "That was the time when there were more modelers than models in the pool." The final thanks, as always, go to the members of the organizing Club of Boat and Submarine Modelers Bratislava: Roman Pastorík, Dušan Prokš, Michal Kováčik, František Valček, and also to the cook Fero. It was once again evident that the Bratislava Subregatta has grown out of its infancy and attracts an increasing number of modelers and interested parties from home and abroad. This can be deduced not only from the number of displayed models, which exceeded the available space under the tent, but also from the surprising number of novelties for which seven awards were presented at the end, and primarily from the satisfaction of participants, which should be the main goal.

Photos: author and Miroslav Kostroun

Pneumatic periscope deployment in the submarine model by Rudolf Grahämmer from Austria