= Charodeika @-@ class monitor =

The Charodeika class was a pair of monitors built for the Imperial Russian Navy in the late 1860s . They were designed by the British shipbuilder Charles Mitchell and built in Saint Petersburg . Both ships were assigned to the Baltic Fleet and had fairly uneventful careers mostly assigned to training units . Rusalka struck a rock in 1869 and had to be run aground lest she sink . They were reclassified as coast @-@ defense ironclads in 1892 and Rusalka sank during a storm in the Gulf of Finland the next year with the loss of all hands . Her sister ship Charodeika continued in service until 1907 and was eventually scrapped in 1911 ? 12 . Rusalka 's wreck was discovered in 2003 by an expedition sponsored by the Estonian Maritime Museum .

= = Design and description = =

By late 1863 , the Russian Admiralty Board had begun planning for the second generation of ironclads to succeed those ships then under construction and issued a requirement on 12 November for a twin @-@ screw low @-@ freeboard ship that could sail throughout the Baltic Sea . It was to be armed with 15 @-@ inch (381 mm) smoothbore Dahlgren guns and protected by up to 6 in (152 mm) of armor . Before even deciding which designs to accept , the Admiralty decided to order eight ships of various types in March 1864 . Charles Mitchell was allocated only one of the eight ships before he submitted four different designs for the competition in May ? June . Two ships of his simplest design were awarded to a new builder , S. G. Kudriavtsev , who was provided facilities at the state @-@ owned Galernyi Island Shipyard . In addition the Admiralty committed itself to furnishing the armament , armor , engines and boilers as well as a variety of smaller components for the two ships .

The Charodeika @-@ class monitors were significantly larger than their predecessor , Smerch , and were 206 feet (62 @.@ 8 m) long at the waterline . They had a beam of 42 feet (12 @.@ 8 m) and a maximum draft of 12 feet 7 inches (3 @.@ 8 m) . The ships were designed to displace 1 @,@ 882 long tons (1 @,@ 912 t) , but turned out to be overweight and actually displaced 2 @,@ 100 long tons (2 @,@ 100 t) . They were fitted with a plough @-@ shaped ram that projected four feet (1 @.@ 2 m) forward of the bow . The Charodeikas were fitted with a double bottom and their hulls were subdivided by watertight bulkheads into 25 compartments . Their crew numbered 13 officers and 171 crewmen in 1877 .

The ships had a freeboard of only two feet (0 @.@ 6 m) and their decks were often awash in any sort of moderate sea . They rolled heavily and were very unmaneuverable , often not responding to the ship 's wheel until 20 degrees of rudder was applied . The monitors were fitted with three iron pole masts , probably fore @-@ and @-@ aft rigged , and used to steady the ship rather than for propulsion .

= = = Propulsion = = =

The Charodeika class had two simple horizontal direct @-@ acting steam engines , built by the Baird Works of Saint Petersburg . The engines had a bore of 38 inches (0 @.@ 97 m) and a stroke of 18 inches (0 @.@ 46 m) and each drove a single four @-@ bladed 8 @-@ foot @-@ 6 @-@ inch (2 @.@ 59 m) propeller . Steam was provided by two rectangular boilers at a pressure of 1 @.@ 6 atm (162 kPa ; 24 psi) . The engines were designed to produce a total of 875 indicated horsepower (652 kW) , but only produced 705 ? 786 ihp (526 ? 586 kW) which gave the ships speeds between 8 @.@ 5 ? 9 knots (15 @.@ 7 ? 16 @.@ 7 km / h ; 9 @.@ 8 ? 10 @.@ 4 mph) when they ran their sea trials in 1869 . The monitors also had a donkey boiler for the small steam engine that powered the ventilation fans and pumps . The Charodeika class carried a maximum of 250 long tons (254 t) ; their range , however , is unknown .

= = = Armament = = =

The monitors were designed to be armed with four Obukhov 9 @-@ inch (229 mm) rifled guns , a pair in each Coles @-@ type turret . Various deckhouses and ventilation hatches prevented the turrets from firing directly forward or aft , so that each turret could bear approximately 150 ° to each side . Difficulties in manufacturing the guns and the delayed construction of the monitors themselves forced the Admiralty to change the armament to a pair of the 9 @-@ inch guns in the forward turret and a pair of 15 @-@ inch (380 mm) smoothbore muzzle @-@ loading Rodman guns in the aft turret . These guns were replaced by another pair of 9 @-@ inch rifled guns beginning in 1871 . They were replaced in their turn in 1878 ? 79 by two longer , more powerful 9 @-@ inch Obukhov guns . The ship carried 75 rounds for each gun .

Light guns for use against torpedo boats are not known to have been fitted aboard the Charodeika @-@ class ships before the 1870s when a variety of guns were added , although their numbers , calibers , and locations are only partially known . Charodeika received four 4 @-@ pounder 3 @.@ 4 @-@ inch (86 mm) guns , two mounted on the roofs of each gun turret while Rusalka had a total of three guns with only one gun on her aft turret . Other guns known have been fitted included 45 @-@ millimeter (1 @.@ 8 in) Engström quick @-@ firing (QF) guns , 47 @-@ millimeter (1 @.@ 9 in) QF Hotchkiss guns , 37 @-@ millimeter (1 @.@ 5 in) QF Hotchkiss five @-@ barreled revolving cannon , and 1 @-@ inch (25 mm) Nordenfelt guns .

= = = Armor = = =

The Charodeika @-@ class monitors had a complete waterline belt of wrought iron that was 4 @.@ 5 inches (114 mm) thick amidships and thinned to 3 @.@ 25 inches (83 mm) aft and 3 @.@ 75 inches (95 mm) forward . It was 7 feet 6 inches (2 m) high and completely covered the hull to 5 feet 6 inches (2 m) below the waterline . The armor was backed by 12 to 18 inches (305 to 457 mm) of teak . The turrets had 5 @.@ 5 inches (140 mm) of armor , also backed by teak , and the conning tower was 4 @.@ 5 inches thick . Amidships , the deck was 1 inch thick , although it thinned to 0 @.@ 25 ? 0 @.@ 5 inches (6 ? 13 mm) at the ends of the ship .

= = Ships = =

= = Construction and service = =

The monitors were intended to be delivered by 27 May 1867 , but construction was held up by delays in delivery of the blueprints , armor , changes made while under construction and the untimely death of Kudriavtsev in August 1865 . The contract was transferred to Mitchell who completed them in 1869 , two years after their scheduled delivery date for the cost of 762 @,@ 000 roubles each . Both ships spent their entire careers with the Baltic Fleet . In June , Charodeika ripped a 28 @-@ foot (8 @.@ 5 m) long hole in her hull when she struck an uncharted rock in the Gulf of Finland and had to be deliberately run aground to prevent her sinking . She was assigned to the Artillery Training Detachment of the Baltic Fleet in March 1870 and Charodeika was later assigned to the Mine (Torpedo) Training Detachment .

Both monitors were reclassified as coast @-@ defense ironclads on 13 February 1892 and Rusalka sank in a storm on 7 September 1893 during a voyage between Reval (Tallinn) and Helsingfors (Helsinki) with the loss of her entire crew of 177 officers and enlisted men . Despite an extensive search , the only traces of her found were one body and some debris that washed ashore . Charodeika remained in service until 31 March 1907 when she was turned over to the Port of Kronstadt for disposal . The ship was stricken from the Navy List on 7 April and was finally scrapped in 1911 ? 12 .

Rusalka 's wreck was discovered on 22 July 2003 in the Gulf of Finland , 25 kilometers (13 nmi) south of Helsinki , by a joint expedition of the Estonian Maritime Museum and the commercial diving company Tuukritööde OÜ . The wreck is generally intact although draped with snagged fishing nets . The aft turret , however , has fallen out of the ship .