

= SMS Arminius =

SMS Arminius was an ironclad warship of the Prussian Navy , later the Imperial German Navy . The ship was designed by the British Royal Navy Captain Cowper Coles and built by the Samuda Brothers shipyard in Cubitt Town , London as a speculative effort ; Prussia purchased the ship during the Second Schleswig War against Denmark , though the vessel was not delivered until after the war . The ship was armed with four 21 cm (8 @. @ 3 in) guns in a pair of revolving gun turrets amidships . She was named for Arminius , the victor of the Battle of the Teutoburg Forest .

Arminius served as a coastal defense ship for the first six years of her service with the Prussian Navy . She saw extensive service in the Austro @-@ Prussian and Franco @-@ Prussian wars during the process of German unification . The vessel was the primary challenge to the French blockade of German ports during the latter conflict . After the wars , Arminius was withdrawn from front @-@ line service and used in a variety of secondary roles , including as a training ship for engine @-@ room crews and as a tender for the school ship Blücher . The ship was eventually sold in 1901 and broken up for scrap the following year .

= = Design = =

= = = General characteristics and machinery = = =

The warship that came to be SMS Arminius was designed by Captain Cowper Coles , a British Royal Navy officer and advocate of turret @-@ armed ironclad warships . Arminius was nearly identical to the Danish ironclad Rolf Krake , also designed by Captain Coles . The vessel was constructed with transverse frames and constructed with an iron hull , which contained eight watertight compartments . The ship was 61 @. @ 60 meters (202 @. @ 1 ft) long at the waterline and 63 @. @ 21 m (207 @. @ 4 ft) long overall . The ship had a beam of 10 @. @ 9 m (36 ft) and a draft of 4 @. @ 32 m (14 @. @ 2 ft) forward and 4 @. @ 55 m (14 @. @ 9 ft) aft . She was designed to displace 1 @, @ 653 metric tons (1 @, @ 627 long tons ; 1 @, @ 822 short tons) but at combat load , Arminius displaced up to 1 @, @ 829 t (1 @, @ 800 long tons ; 2 @, @ 016 short tons) .

The ship 's crew consisted of ten officers and 122 enlisted men . She carried a number of smaller boats , including two pinnaces , two cutters , and one dinghy . Arminius was not a particularly successful design ; she suffered from severe , fast rolling , especially in heavier seas . She also shipped a great deal of water over the bow and was unbalanced in steering . The ship turned rapidly to starboard but was sluggish in turning to port . Indeed , the ship was required to have the rudder at 15 degrees to port in order to remain on a straight course . It was also impossible to control the ship with only sail power .

The ship was powered by a single two @-@ cylinder single expansion engine built by J. Penn & Sons , Greenwich . The engine drove a single two @-@ bladed screw that was 3 @. @ 96 m (13 @. @ 0 ft) in diameter . Four transverse trunk boilers , each of which had four fireboxes apiece , supplied steam to the engine . The boilers were also built by J Penn & Sons , Greenwich , and were arranged in a single boiler room . Limited electrical power was provided by a single generator , which supplied 1 @. @ 9 kilowatts at 55 volts . The ship was equipped with a schooner rig with a surface area of 540 square meters . The propulsion system was rated at 1 @, @ 200 indicated horsepower (890 kW) and a top speed of 10 knots (19 km / h ; 12 mph) , though on trials , Arminius reached 1 @, @ 440 ihp (1 @, @ 070 kW) and 11 @. @ 2 kn (20 @. @ 7 km / h ; 12 @. @ 9 mph) . The ship carried 171 t (168 long tons ; 188 short tons) of coal , which enabled a range of 2 @, @ 000 nautical miles (3 @, @ 700 km ; 2 @, @ 300 mi) at a cruising speed of 8 kn (15 km / h ; 9 @. @ 2 mph) .

= = = Armament and armor = = =

As built , Arminius was equipped with a main battery of four rifled , bronze 72 @-@ pounder cannon , but after delivery to the Prussian Navy , they were replaced with four 21 cm (8 @.@ 3 in) L / 19 guns . These guns were supplied with a total of 332 rounds , and could elevate to 12 degrees . At maximum elevation , the guns could engage targets out to 2 @,@ 800 m (9 @,@ 200 ft) . After 1881 , four machine guns were installed , along with a single 35 cm (14 in) torpedo tube mounted in the bow above the waterline .

Arminius 's armor consisted of wrought iron backed with teak plating . The conning tower was protected by 114 mm (4 @.@ 5 in) of wrought iron on 229 mm (9 @.@ 0 in) of teak . The armored belt ranged in thickness from 76 mm (3 @.@ 0 in) of iron on the bow and stern to 114 mm amidships , the entire length of which was backed by 229 mm of teak . The two turrets were armored with 114 mm of iron on 406 mm (16 @.@ 0 in) of timber .

= = Service history = =

She was built by the Samuda Brothers shipyard in London as a speculative project , possibly to sell to the Confederate Navy . The ship was laid down in 1863 and launched on 20 August 1864 . Prussia instead purchased the ship on 20 August 1864 , and commissioned her on 22 April 1865 as SMS Arminius . Delivery was delayed by the British government ; the British were sympathetic to Denmark , which was then engaged in a war with Prussia and Austria . The British therefore prevented the ship from being delivered until after the war was concluded . The cost of the ship , which amounted to some 1 @,@ 887 @,@ 000 gold marks , was paid in part by public donations . Arminius served as a harbor defense ship for six years , through 1871 . Along with the ironclad ram Prinz Adalbert , Arminius was the first armored warship acquired by the Prussian Navy .

At the outbreak of the Austro @-@ Prussian War in mid @-@ 1866 , Arminius was mobilized along with Prinz Adalbert , the only other Prussian ironclad . The ships were initially based in Kiel , but in the opening days of the war , Arminius raced to Hamburg via the Skagerrak and the Kattegat , a distance of some 940 nautical miles (1 @,@ 740 km ; 1 @,@ 080 mi) , in 100 hours , an impressive feat for an early ironclad warship . Without a naval threat from Austria , the Prussian navy therefore concentrated its effort against the Kingdom of Hanover . For the remainder of the conflict , Arminius operated out of Geestemünde , under the command of Reinhold Werner , and the mere appearance of Arminius caused several Hanoverian coastal batteries to surrender . On 15 June , Arminius and a pair of gunboats , Tiger and Cyclops , covered the crossing of the Elbe river by General Edwin von Manteuffel and some 13 @,@ 500 soldiers to attack the city of Hanover . By the end of the month , the Prussian army had decisively defeated the Austrians at Königgrätz and ended the war . On 3 October 1866 , the ship raced the US Navy 's monitor USS Miantonomoh in Kiel ; Arminius was two knots faster than the American vessel . In 1870 , the ship had her sailing rig removed .

At the outbreak of the Franco @-@ Prussian War of 1870 ? 1871 , the Prussian Navy concentrated Arminius and the armored frigates Kronprinz , Friedrich Carl , and König Wilhelm in the North Sea naval base Wilhelmshaven . Arminius was stationed in Kiel at the outbreak of war , but managed to break through the French blockade by hugging the Swedish coast , which her shallow draft permitted . Her passage through Swedish territorial waters also protected the ship from French attack . Despite the great French naval superiority , the French had conducted insufficient pre @-@ war planning for an assault on the Prussian naval installations , and concluded that it would only be possible with Danish assistance , which was not forthcoming . The four ships , under the command of Vice Admiral Jachmann , made an offensive sortie in early August 1870 out to the Dogger Bank , though they encountered no French warships . The three armored frigates thereafter suffered from chronic engine trouble , which left Arminius alone to conduct operations .

Captain Otto Livonius commanded the ship during the war . In the course of the war , she sortied from the port over forty times ; these also failed to result in major combat , though she occasionally traded shots with the blockading French warships . For the majority of the war , Arminius was stationed in the mouth of the Elbe along with the ironclad ram Prinz Adalbert and three small gunboats . The three armored frigates remained off the island of Wangerooge . On 11 September ,

the three frigates were again ready for action ; they joined Arminius for another major operation , though it too did not encounter French opposition . The French Navy had by this time returned to France .

After being removed from front @-@ line service in 1872 , she was used as a training vessel for naval engineers . The ship was decommissioned in 1875 and placed in reserve . Her ram bow allowed her to be used as an ice @-@ breaker in Kiel in the 1880s . In 1882 , she was used as a tender for the cadet training vessel Blücher . The ship was rebuilt in 1888 ; during the refit the propulsion system was overhauled and replaced with German @-@ built equipment and two searchlights were installed . The ship was ultimately stricken from the naval register on 2 March 1901 and sold to shipbreakers for 72 @,@ 000 gold marks . Arminius was broken up for scrap the following year .