War at Sea

The Humble Corvette: Navy, Part 27

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Few warships epitomize the Atlantic war more than the lowly Flower-class corvette. An auxiliary vessel hastily built to mercantile standards and pushed into service by the score, with poor equipment and green crews, the corvette was hardly a match for Germany's U-boat fleet. Nor did it inspire the imagination—except perhaps in perverse ways—of those who served in them.

But the humble corvette made Allied victory in the Atlantic possible: they allowed the convoy system to be extended throughout the North Atlantic, and they provided the 'forces of position' which freed better equipped anti-submarine vessels to do their job. Perhaps most important of all, the unpretentious corvette—especially the first 64 of the 1939-40 building program that carried Canada's war at sea until 1943—defined the formative experience of the Canadian navy and shaped its role for the next 50 years.

The ship that launched the Royal Canadian Navy onto the world stage was designed by Smith's Dock Co. Ltd., of the UK in 1939, and it was based on the company's recent whale-catcher, Southern Pride. A few modifications were made to the hull, superstructure, internal layout, communications equipment and accommodation to produce what was termed an auxiliary "patrol vessel." Winston Churchill, First Lord of the Admiralty when World War II broke out, wanted to give the little ships names rather than numbers, and thought it would be good public relations to report that one of Hitler's sea wolves (U-boats) had been destroyed by a vessel named for a flower, like His Majesty's Ship Buttercup. So the Royal Navy dubbed the new ships "Flower-class corvettes" and gave them all names like Hibiscus and Poppy. The first British corvettes were ordered in July 1939, the same month that plans for the vessels arrived in Canada.

In the fall of 1939, the RCN needed about 25 corvettes to supplement or replace the civilian vessels brought into service when war was declared. These Canadian "patrol vessels" were to be assigned to the key defended ports along Canada's coastline and were intended to be jacks of all trades: patrolling, minesweeping, rescue work, examination service, anti-submarine warfare sweeps, and whatever else was required. When the navy hatched a scheme to barter Canadian-built corvettes for British destroyers, the government placed orders for a total of 64 corvettes in Canadian yards in early 1940. When the barter scheme collapsed, 10 of the contracts were transferred to the British. These 10 ships were built in Canadian yards, but to British account, and produced a distinctive subclass of the 1939-40 building program.

In basic design, Canadian-built corvettes were identical to their British counterparts. The 205-foot hull was divided into three basic parts. The forward third was accommodation with messdecks for seamen and stokers, a wardroom and officers quarters. The entire midships section—about half the full length of the hull—was taken up by machinery: two fire-tube boilers in separate boiler rooms in the middle of the ship, astern of which lay the engine room. The

boiler rooms were shielded by fuel storage tanks on either side, but the engine room was separated from the sea only by the thin steel plates of the outer hull. Aft of the engine room was another small messdeck, the tiller flats and storage.

The only important difference in the hull between Canadian corvettes and their British cousins was the shape of the stern. The RCN completed its first 54 corvettes as auxiliary minesweepers and therefore needed wider quarterdecks to handle the equipment. Instead of the duck-tail shaped stern of British corvettes, including those first 10 built in Canada for the Royal Navy, Canadian corvettes had a broad, somewhat square stern. This allowed fairleads for minesweeping wire at the stern, while also leaving space for depth-charge rails and chutes. To make room for the large minesweeping winch, the Canadians repositioned the galley. In British corvettes the galley was aft of the engine room casing. This made for a long and treacherous walk along an open deck with food to the forward messdecks. The Canadians moved the galley forward, jamming it in just above number one boiler room. This also brought the galley much closer to the crew spaces.

The only other outward difference between Canadian and British corvettes was in the placement of the after gun position. The British placed the aft gun tub between the funnel and the engine room skylight. The early plans also called for mounting the mainmast on the after end of the engine room casing in order to provide a proper spread for the aerials. In British corvettes this meant that the after gun was seriously constrained in its arcs of fire, lest it shoot off the mast! The RCN moved the after gun position to the after end of the engine room casing, a move facilitated by the abandonment of the mainmast by 1940. The location of the after gun position remains the simplest recognition feature of corvettes built for the RCN.

Like their British counterparts, early Canadian corvettes mounted a four-inch Mk. IX breech-loading gun of WW I vintage on the forecastle or fo'c'sle. Designed as part of the anti-torpedo boat armament of British battleships, the gun fired a 31-pound shell a maximum of 12,000 yards. Its accuracy from a small, bobbing vessel was poor, except at point-blank range. The greatest value of the four-inch gun lay in forcing the submarine down so it could be pounded by depth charges, which composed a corvette's principal armament. Corvettes were originally fitted with two Mk. II depth-charge throwers (basically mortars), one on either side on the engine room casing, two rails at the stern and a couple of dozen charges. Wartime experience soon led to the addition of another thrower per side and an armament of 100 depth charges each filled with 300 pounds of explosives. Initially the material was TNT, but by mid-war much more powerful Torpex or Minol was used. One thrower on each side and one of the rails aft handled specially weighted 'heavy' charges that were designed to sink faster. By mixing the weight of the charges and the order of their firing, an attacking ship could create a three-dimensional explosion around the submarine and hope to crush its hull with the shock wave.

Canadian wireless and radio equipment, and refrigeration were superior to British equipment, but British corvettes were invariably better equipped for fighting. The British mounted a two-pounder gun in the aft position and fitted .50-calibre twin machine-guns (soon upgraded to 20-

mm) on the bridge wings as secondary armament. Canada lacked the guns and in the early years had to settle for a mix of .50-calibre machine-guns and Lewis .303 guns in secondary positions. The twin .50 guns were of some value against aircraft and submarines on the surface, but the Lewis guns represented little threat to the enemy. Early Canadian corvettes also typically lacked good visual signalling equipment. Large signal projectors—searchlights fitted with controllable shutters—were initially unavailable and many of the early corvettes went to sea with a single hand-held Aldis lamp, a smaller, very short-ranged signal projector.

Other shortfalls were more serious. Perhaps the most important in early Canadian corvettes was the lack of a gyro-compass system. These, too, were in short supply in Canada and so the available ones went to the new Bangor-class minesweepers. The corvettes had to make do with a single magnetic compass in a standard Admiralty binnacle in the chart house atop the bridge. Dependence on a single magnetic compass was a serious handicap. Precise navigation was difficult, as was passing information between ships. And the magnetic compass was prone to error if the magnetism of the ship was altered unwittingly—from the pounding of the ship at sea, guns firing or depth charges exploding. The magnetic compass also meant that the early Canadian corvettes had to fit the most rudimentary of asdic, the British type 123A.

The combination of a primitive asdic and a magnetic compass meant most Canadian depth-charge attacks were educated guesswork. As one senior British officer commented in 1943, “The problems of a corvette captain when attempting an accurate attack with a swinging magnetic compass are well nigh insoluble.” The decision not to fit the early corvettes with a gyro compass also meant that they were completed without a lower power electrical system. In 1940, no one saw this as a problem. But without gyros and lower power system, Canadian corvettes could not simply bolt on new weapons and sensors. This meant that rapid modernization of the 1939-40 corvette program wasn’t possible when the need arose.

Senior RCN officers were aware of the equipment shortcomings on early Canadian corvettes, but they planned to use the ships as auxiliary vessels and discard them when the war ended. Even as the RN began deploying corvettes into the North Atlantic in an escort role in late 1940, the RCN still intended to deploy about half of its corvettes in small groups of five at Canada’s defended ports to sweep mines, patrol, and search for submarines. The balance of the 1939-40 construction program for corvettes would be assigned to the RN for service in the eastern Atlantic. Just what the Canadians thought these ships would do there remains a mystery.

As Percy Nelles, the Chief of the Naval Staff, observed in late 1940, corvettes were the “stepping stones” of the fleet program, not the final objective. However, they could be used to engage the Canadian people more directly in the war at sea. So instead of naming Canadian corvettes after flowers, as was the British practice, the Canadian Naval Staff wisely decided to name them after Canadian communities. After all, said Nelles, “Flowers don’t knit mittens!” In fact, the RCN briefly flirted with labelling its corvettes “Town-class,” but was forced to abandon the idea when the RN adopted the title for the old destroyers acquired from the United States Navy in 1940. So they remained “Flower-class”, but—except for a small number acquired from the British—they carried the names of Canadian communities.

It is a measure of the modest conception for the corvettes held by the RCN that the names chosen for the first 54 came from small-town Canada, places like Sackville, N.B., Napanee, Ont., Brandon, Man., and Trail, B.C. Some towns and villages on the initial list had to be abandoned to avoid confusion with other warships in the British Commonwealth, so the corvette destined to honour Churchill, Man., became Moose Jaw, and Jasper was renamed Kamloops. It was only in the second building program of 1940-41, as the role of the corvette increased in importance, that larger communities, like Halifax and Vancouver joined the list.

Questions:

1) What made the Canadian corvette different from the British one?

2) What was the primary purpose of the corvette?

3) What did the British name their corvettes after? Why?

4) What did Canada name its corvettes after? Why?

5) Explain what the short falls of the corvette were.