Warship Developments: Offshore Patrol Vessels

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During the past several years, piracy – the act of seizing ships and ransoming them and their crews – off the Somali coast, has led to operations by NATO and individual states to protect merchant ship traffic in the approaches to the Horn of Africa. Modern destroyers and frigates equipped with sophisticated command and control systems and expensive offensive and defensive weapons, capable of speeds in excess of 30 knots and conducting complex maritime combat operations, have been escorting merchant ships through these threatened waters.

Fifteen states now provide 30 warships to watch an area nearly the size of the continental USA. In addition, maritime patrol aircraft have deployed to nearby military bases to report and shadow pirate vessels so that they may be intercepted by surface vessels. To complicate matters, these pirates are conducting increasingly sophisticated operations, including employing motherships from which high-speed small craft can operate, thus permitting sustained operations hundreds of miles offshore.

A Statement of Requirements for this type of ship would likely specify a smaller, less expensive vessel to replace at least some of the destroyers and frigates now deployed off Somalia. Such a vessel could be perhaps 80-90% as capable as most destroyers and frigates at performing this anti-piracy role, for perhaps 10-20% of the cost of procurement and operating. If it could deploy and conduct this task, it would also be capable of performing anti-smuggling, EEZ and fishery patrols in national waters. Indeed there are such ships throughout the world in many navies and coast guards – they are often called Offshore Patrol Vessels (OPVs). The Canadian Navy does not have OPVs, probably because there are a few Coast Guard and Department of Fisheries and Oceans patrol vessels performing national constabulary roles. The recent announcement of a contract to build nine Mid-Shore Patrol Vessels (43 metres long, 25 knots, endurance of up to two weeks, crew of eight plus up to six RCMP or Fisheries Protection Officers) for operations off the Atlantic and Pacific coasts and on the Great Lakes will certainly increase Canada’s coastal maritime security, but they are much too small for blue-water or deployed operations such as to Somali waters.

Frequently the navy’s Kingston-class Maritime Coastal Defence Vessels (MCDVs) are assigned to augment fishery patrol resources. However, MCDVs are limited in speed, endurance and sea-keeping abilities, and certainly would be unsuitable for heavy weather off our coasts or deployment to distant waters. Their reserve crews deserve a lot of credit for the work they do but a more capable ship is needed. Frigates also support fisheries patrol and law enforcement, but this is overkill – far more capability than is necessary. An intermediary vessel between a Maritime Coastal Defence Vessel and a Canadian Patrol Frigate is needed, and I suggest an OPV is the correct platform.

Let us look at a theoretical Statement of Requirements. The area under threat from Somali pirates extends out to sea at least 500 nautical miles, therefore excellent sea-keeping capabilities and long endurance (ability to remain at sea on operations for an extended period, say 3-4 weeks) are essential. What other features are necessary?

- a speed of 20-25 knots in order escort merchant ships and intercept pirate vessels;
- diesel propulsion for extended patrol operations;
- an ability to replenish fuel and food at sea from naval supply ships;
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• anti-ship and anti-personnel weapons to include one or more remote-controlled and stabilized 25-40 mm guns to fire warning shots as necessary and provide a stand-off distance from rocket-propelled grenade launchers and other offensive weapons (pirates have recently commenced firing at warships and helicopters);
• sensors such as surface warning radar and radio intercept devices for the early detection of pirates;
• sufficient accommodation for a core crew and additional specialist teams such as boarding parties (perhaps a total of 60-80 personnel);
• suitable radios and command and control systems to permit the compilation of a common operating picture with supporting forces;
• embarked high-speed boats to pursue pirate vessels and transport boarding parties and inspection teams; and
• a light to medium radar-fitted armed helicopter capable of 24/7 operations.

The Canadian Arctic Offshore Patrol Ship (AOPS), due to commence entering naval service starting in 2014, might be able to take on this type of role, but it will be optimized for northern and Arctic operations, and there is no intent to deploy AOPSs to areas such as Somalia.

Let us look at a typical non-ice strengthened OPV, such as the Chilean Piloto Pardo. This ship is 264 feet long, has a maximum sustained speed of 20 knots, has a crew of 35 plus accommodation for another 30 passengers, and is armed with a Bofors 40-mm gun and additional .50 calibre heavy machine guns. It is designed to have good sea-keeping capabilities for the extreme weather that can be encountered in the southeast Pacific and southern oceans, and it is fitted with a flight deck and hangar for a light helicopter such as the BO 105.

Another interesting OPV is the British River-class. Three ships were constructed by Vosper Thornycroft and leased to the Royal Navy with a Contractor Logistic Support arrangement for a five-year period (recently renewed). This appears to have been such a satisfactory agreement that a fourth ship, HMS Clyde has been similarly leased for duties as the Falklands Islands Guard Ship. These vessels are roughly similar in size and capability to Piloto Pardo and were built to commercial standards with some military features.

Finally, there are the ‘Cadillacs’ of the OPV type, such as the four Netherlands vessels of the Holland-class. The HNIMs Holland and her sister ships will be nearly twice the tonnage of those OPVs previously described, with a much heavier armament, will be faster and will embark a larger, more capable helicopter. Their ships’ companies are one-third the size of the frigates they replace, but space has been provided for an additional 40 people should that be necessary to accommodate boarding parties, law enforcement personnel, or survivors of some disaster at sea.

In conclusion, a perusal of Jane’s Fighting Ships will demonstrate that OPVs are becoming a popular choice in the fleets of Argentina, Chile, India, Japan, Malaysia, Spain and Turkey, and many other navies and coast guards as well. They are very flexible platforms for a broad range of constabulary and low-intensity maritime operations such as anti-piracy and anti-smuggling patrols. Perhaps Canada needs to look into them.

Photo: Thales
Photo: RN
Photo: Internet

Chilean OPV Piloto Pardo.

HMS Clyde in Antarctic Waters.

Artist’s rendering of Dutch Holland-class OPV.