



## Van Arty Association and RUSI Van Members News Oct 22, 2019

Newsletters normally are emailed on Monday evenings. If you don't get a future newsletter on time, check the websites below to see if there is a notice about the current newsletter or to see if the current edition is posted there. If the newsletter is posted, please contact me at [bob.mugford@gmail.com](mailto:bob.mugford@gmail.com) to let me know you didn't get a copy.

**Newsletter on line.** This newsletter and previous editions are available on the Vancouver Artillery Association website at: [www.vancouvergunners.ca](http://www.vancouvergunners.ca) and the RUSI Vancouver website at: <http://www.rusivancouver.ca/newsletter.html> . Both groups are also on Facebook at: <https://www.facebook.com/search/top/?q=vancouver%20artillery%20association> and <https://www.facebook.com/search/top/?q=rusi%20vancouver>

**Wednesday Lunches -** We need your support to keep the lunches going. Hope all you regular attendees can keep coming. The Mess serves a great 5 course buffet meal for only \$20. Hope to see you all there. Guests are always welcome, and we encourage members to bring their significant others and friends. Dress - Jacket and tie, equivalent for Ladies. For serving personnel, uniform of the day is always acceptable at lunch.

**Upcoming events – Mark your calendars** See attached posters for details.

- Oct 26** 15Fd WO & Sgts Annual Mess Dinner
- Nov 17** Battle of Leliefontein Luncheon 2019
- Nov 10** Remembrance Day Concert – 15 Fd Band and Welsh Men's Choir
- Nov 11** Remembrance Day Concert – 15 Fd Band and Welsh Men's Choir
- Dec 07** 15 Fd Annual St Barbara's Day Special Guest Night

### World War 2 – 1944

*John Thompson Strategic analyst - quotes from his book "Spirit Over Steel"*

**Oct 24<sup>th</sup>:** The 2<sup>nd</sup> Canadian Division continues its anabasis on South Beveland, fighting its way up the narrow isthmus in hip-deep water. The downside of efficiency: a US submarine (either the USS Shark – herself lost this night with all hands – or the USS Snook) torpedoes the Japanese ship Arisan Maru, not knowing that it carries 1,782 US and Filipino POWs – of whom only five survive and escape to China. Another 'own goal' for US submariners; the top-scoring Richard O'Kane falls victim to one of his own errant torpedoes, O'Kane and seven crewmen survive the USS Tang's loss. The US 1<sup>st</sup> Cavalry lands on Samar. The opening moves for the Battle of Leyte Gulf begin: The US Carrier Princeton is fatally damaged by air attack, but so is

the mighty battleship Musashi. All three prongs are identified, but US commanders are deceived about their intentions and real strengths. Hellcat pilot Commander David McCampbell and his wingman attack 60 Japanese aircraft by themselves; when he lands he has two rounds left in his guns and 10 minutes of fuel – but has singlehandedly shot down nine enemy aircraft in one sortie (and had shot down seven in the Marianas ‘Turkey Shoot’ in June). This extraordinary ace receives the Medal of Honor.

*Essential Reading: As the last great battle between opposing naval fleets and the last time battleships fired on other battleships, the Battle of Leyte Gulf has always drawn the attention of historians – as it should. For some, the ability of the United States to churn out capable warships and superb sailors to man them is especially fascinating, which is why James D Hornfischer’s 2004 book The Last Stand of the Tin Can Sailors is a good addition to any library.*

**Oct 25<sup>th</sup>:** 1<sup>st</sup> US Cavalry continues its advance on Leyte, but other US units halt because of a supply shortage. The Soviets reach Kirkenes in Norway, and British troops cross the Ronco in Italy. Off Samar, American sailors prove the blood of John Paul Jones still runs in their veins. Four Japanese battleships, six heavy cruisers, two light cruisers and 11 destroyers jump the six escort carriers and seven destroyer escorts of Task Force 77.4.3. The grossly outmatched US forces take on the Japanese in a running fight. They lose one escort carrier (Gambier Bay) and three destroyer escorts, but sink four heavy cruisers (Suzyo, Chikuma, Chokai, and Kumano). The Japanese withdraw when on the cusp of victory, but 77.4.3’s day is not over – that afternoon the Japanese introduce their very first Kamikaze force and sink four of the already battered escort carriers. Meanwhile Halsey’s carriers are savaging the decoy force – destroying a fleet carrier, three escort carriers, a heavy cruiser and three destroyers.

**Oct 26<sup>th</sup>:** US attacks on Leyte are checked at Catmon Hill, but the Japanese retire afterwards anyway. UK 52<sup>nd</sup> Division lands on the Beveland Peninsula in an improvised amphibious landing. In 7<sup>th</sup> Army, fierce fighting resumes around St Die. Advancing Soviet Armies pinch off the Carpathians in eastern Hungary. This day is the climax of the Battle of Leyte Gulf: Two attempts to run the US Navy gauntlet at Surigao Strait result in the loss of the Japanese battleships Fuso and Yamashiro, the heavy cruiser Mogami, and three destroyers – this is the last battleship encounter in history and the American force also contains USS Mississippi and five survivors of Pearl Harbor: California, Maryland, Pennsylvania, Tennessee, and West Virginia. Later, the pursuit of the retreating Japanese will result in the sinking of three more IJN cruisers. All together, the sea battles off Leyte are a disaster for the Japanese and an overwhelming American victory, but luck – and the raw courage of the sailors in 77.4.3 – played a vital role. Japan’s leading fighter ace, Hiroyoshi Nishizawa (probably with 84 kills), is killed as a passenger in a transport aircraft when two US Hellcats pounce on it over the Philippines.

**Oct 27<sup>th</sup>:** The Canadian drive up Beveland continues, and Bergen-op-Zoom is liberated. There is a heavy German counterattack on the British elements of 2<sup>nd</sup> Army as they close up to the Maas River at Venlo. Foul autumn weather slows down the Allied advance in Italy. The Soviets

are advancing into Southwestern Hungary and Latvia. The US 7<sup>th</sup> Division captures Buri Airfield on Leyte.

**Oct 28<sup>th</sup>:** British troops from 2<sup>nd</sup> Army liberate Tilberg and resume their slog towards Venlo and the Maas. The Soviet-Bulgarian alliance is signed and officialises the loose cooperation that already has taken place. Japanese resistance on Leyte is stiffening up around Dagami and Carigari. In naval operations, US strikes sink two more IJN destroyers, and destroy about 100 aircraft – but USS California and Intrepid are damaged by Kamikazes and 15 USN aircraft have been downed. Major Erich Rudorffer is another of the great aces of the Luftwaffe, having earned by war's end (which he survives) some 222 aerial victories. Today he wins even more fame by attacking 60 Soviet aircraft near Libau in Latvia and shooting down nine of them. He is later awarded Oak Leaves and Swords to his Knights Cross.

*Essential Reading: This is perhaps not essential reading, but it is a series of books that are at first strangely humorous, then more autobiographical and eventually include a portrait of the artist as a stress casualty. Spike Milligan, the manic Anglo-Irish comedian, writer and actor of Goon show fame was an artilleryman in the Second World War and wrote a series of short books about his experiences. Like Jones himself, the series seems unplanned and is – mostly – very funny until Milligan's own fuze burns out in a mortar attack at Casino. Adolph Hitler, My Part in his Downfall"; "Rommel? Gunner Who?"; "Monty, My Part in His Victory; "Mussolini, My Part in his Downfall"; "Where Have All the Bullets Gone? and "Goodbye Soldier" are a rambling series and hard to acquire. More serious readers will probably tuck them out of sight and reserve them as a private pleasure and a cure – mostly – for melancholy excepting the depiction of the Casino fighting and Milligan's mental collapse.*

**Oct 29<sup>th</sup>:** 1<sup>st</sup> Polish Armoured Division liberates the Dutch City of Breda. US Forces on Leyte crack Japanese defences in front of Dagami. Private Barney F Hajiro of the famed Japanese-American 442nd Regimental Combat Team has been pushing his luck in the last couple of weeks, dueling snipers and ambushing German patrols. Today, near Biffontaine France on a feature nicknamed 'Suicide Hill' he pushes his luck again by running ahead of his comrades and drawing enemy fire. He attracts fire from two snipers and two machinegun posts, destroying them all. Fortunately for Private Hajiro, he is wounded badly enough to keep him out of combat duty hereafter, and he can go on to personally receive his Medal of Honor.

## **Canadian Camouflage Developer Unveils Incredible Invisibility Cloak**

*Stewart Perrie in Technology 22 October 2019*

The idea of invisibility has been toyed with in a bunch of movies and TV shows. Whether it's Harry Potter's invisibility cloak that allows him to walk around the halls of Hogwarts undetected or James Bond's setting on his Aston Martin V12 Vanquish in *Die Another Day* - it's always fun to see what life could be like with this magic or technology. But we might not have to wait much longer. A Canadian military camouflage developer has unveiled its 'invisibility' technology and it's seriously impressive. Hyperstealth Biotechnology Corp has been developing four patents over nearly a decade and the main product is essentially a thin sheet that can bend light, leaving the person or thing standing behind it virtually invisible.

Chief Executive and President Guy Cramer has told LADbible: "I'm excited to finally be able to speak about something that I haven't been able to for the last nine years and while I have a passion for my work I'm both excited and concerned for the different uses that will be employed moving forward. "My first choice was to keep quiet about the technology and allow only allied forces access but with the release of the patents, everyone can access how to reproduce it and that's not necessarily a good thing." Guy recognises that this product could be dangerous. "It didn't take long for me to anticipate the nightmare scenarios that this material could offer a rogue nation, a terrorist cell or even the criminal element," he wrote on his site. But you're wondering how he has managed to produce the results you see in the video above, we'll let him explain how the technology works. "I've capitalised on the effect that makes a straw look bent in a glass of water," Guy tells us. "It is simply the refraction of light and the material I've used is called a lenticular lens which can be found on movie posters and children's books to make a flat image appear three dimensional as you move back and forth. "I've modified the material across 13 different versions to provide unique optical properties which can hide a target such as a person, a military vehicle, a fighter jet, a ship, submarine or building invisible across the visible, ultraviolet, infrared and thermal spectrum."



*Credit: Hyperstealth Biotechnology Corp*

In addition to the sheet that hides anything behind it, Guy has also used the material to build a shield that is also very effective in disguising someone. The first patent is the Quantum Stealth, which is what

you've seen above; followed by Solar Panel Amplifier, which provides 'more than triple the output of an equal thin film control panel'; the third patent is a 'Display System', which is capable of producing holographic-like images like the *Star Trek* holodeck; and the final is a Laser Scattering, Deviation and Manipulation, which can be applied to other technology that already use lasers. There's no word on when we could see this in the real world, but there's no doubt that this is pretty cool.

## **US Army Funds Research to Develop Fish Scale Body Armor**

Army-funded engineers at MIT are studying the protective qualities of fish scales to help develop lighter, more flexible armor for use on the battlefield. Though war may be a human phenomenon, the need for armor is almost universal. But some species make it better than others, which is why scientists decided to look at the interaction of different layers in the scales of *Polypterus senegalus*, otherwise known as the gray bichir. The fish is particularly well-armored and can repel biting attacks but is flexible enough to swim. In a study published online

yesterday in *Natural Materials*, researchers explored the interaction of different layers in the scales on *P.senegalus*. This isn't the first attempt to apply biologically inspired materials and principles to modern warfare--for instance, DARPA, the Pentagon's research wing, has spent years working on a climbing device that would mimic the arcane cohesive properties of gecko footpads. The fish-armor study also falls into the expanding field of biomimetics, which includes research into robots that behave like insects or even bacteria.



*Diver checks on the Arapaima or Pirarucu fishes in the tropical section of Europe's biggest freshwater aquarium, Aquatis in Lausanne, Switzerland*

To test the properties of the *P.senegalus* scale, the MIT team surgically removed a single scale from a living fish and simulated a penetrating bite. What they found was

that, although the outer layer of the scale was approximately 95 percent ceramic, its performance was different from typical ceramic materials. Ceramic inserts in body armor--rigid plates that slide into pockets to reinforce Kevlar vests--are durable enough to stop an assault-rifle round. But enough force will fracture any ceramic. Since cracks tend to propagate away from the point of impact these fractures ultimately threaten to shatter the object. When the simulated bite penetrated the fish scale, the crack that appeared ran in a circle around the impact site. "The fracture is localized," says Christine Ortiz, an associate professor in MIT's Department of Materials Science and Engineering, and the lead author of the study. "The scale continues to have structural integrity. It's a completely different failure mechanism that maximizes survivability."

Although MIT has yet to unveil an actual vest or even a swatch of scale-inspired material, the research has the potential to provide the Army with the holy grail of body armor--a lightweight, flexible material that protects against the blunt trauma of a bullet and can survive multiple penetrating impacts. To some extent, the Army has been down this road before--last year, it rejected Pinnacle Armor's Dragon Skin system, which uses overlapping ceramic disks to create a flexible vest that the company says is more effective than Kevlar and other reinforced fibers. Pinnacle has since accused the Army of falsifying its test results. Even more promising was the development of so-called liquid armor, material incorporating shear-thickening fluid that automatically hardens upon impact. Armor Holdings (which was later bought by BAE Systems) expected to release STF-enabled armor by 2007, but, at press time, the technology had yet to resurface. If it can survive the harrowing journey to product development, MIT's fish-armor research could deliver improved multithreat, multihit, highly mobile body armor. Ortiz is quick to point out that, in terms of protection, modern-day body armor isn't falling short. "What we

discovered, how the fish scale is designed for a specific threat, how the layers interface with each other under an impact, these concepts could be incorporated into current armor kits," Ortiz says.

Incremental improvements might be the short-term goal, but since multi-layered scale-armor would be flexible and as much as 20 percent lighter than its single-layer equivalent, Ortiz believes that it could eventually lead to a full-body suit, without the exposed joints and extremities of today's modular systems. Ortiz is also interested in the potential for armor that can sense damage and heal itself--after all, the fish her team experimented on grew back its missing scale after two months. That sort of system, what Ortiz calls "living armor," is a long-term goal. For now, the team's Army-funded research will focus on gathering more data on armor and mobility and expanding the program to include other types of animals.

## **Meet Ripsaw M5, Textron's Unmanned Battle Wagon**

*Military.com | Matthew Cox 14 Oct 2019*



*A team made up of Textron Systems, Howe & Howe and FLIR Systems, Inc. is debuting the new Ripsaw M5 unmanned vehicle it intends to offer for the U.S. Army's Robotic Combat Vehicle effort at the 2019 Association of the United States Army's annual meeting. (Courtesy Textron)*

A team led by Textron Systems today publicly unveiled a new 10-ton, unmanned battle wagon that it plans to enter into the Army's Robotic Combat Vehicle effort. Textron, its subsidiaries Howe and



Howe Technologies and FLiR Systems Inc., will display the Ripsaw M5 unmanned tracked vehicle on the exhibit floor of the 2019 Association of the United States Army's annual meeting in Washington, DC. As part of the Army's modernization effort, the service plans to develop and field light, medium and heavy versions of a Robotic Combat Vehicle, giving commanders the option of sending unmanned vehicles into combat against enemy forces. Howe and Howe started developing the Ripsaw platform shortly after the attacks of 9/11, but the M5 version is far from being the "status quo," Geoff Howe, senior vice president of the firm, told defense reporters recently. "Every bit of energy that we put into systems has to be innovative and has to be in the future it has to show progress, and in that, help protect the American warfighter," he said. "In 2006, we were at the D.C. auto show with one of our first Ripsaws, and we bounce forward 13 years later, and we have we think one of the best vehicles out there."

One of the advantages Ripsaw will bring to the robotic combat vehicle effort is that its "DNA sits right smack dab in the center of the two requirements" for the light and medium RCV, Mike Howe, senior vice president of Howe and Howe. "It's very easy engineering-wise to move the Ripsaw into the heavier scale and completely fulfill the requirements for the medium and then downscale to the light," he said, calling Ripsaw the first truly scalable vehicle of its kind. "Nobody has ever done that for the U.S. Army before, making it truly scalable, so you can say this mission set requirement is going to be we are going to need a payload of 6,000 pounds, it's going to need this suspension package, it's going to deliver this payload at this time. Or it's going to need a 1,000-pound [remote weapons station] system, it's going to use the same chassis, same suspension components with slight variations and you can scale it down." The light version will have a slightly smaller chassis so it can be slingload-carried from helicopters, but both versions use common components and common drive systems, Mike Howe said.

The M5 will also feature FLiR sensors capable of providing long-range surveillance against enemy threats, said David Ray, president of FLIR Systems' Government and Defense business unit. "We have built the solution that is ruggedized for wartime situations ... that gives the customer complete 360-degree coverage," Ray said. The FLiR systems will also use artificial intelligence "to do things like object detection and really being able to recognize people from animals to bring a greater sense of understanding to the warfighter," Ray said. The design also features a ramp on the front of the vehicle where a smaller, FLiR robot can come out and do smaller-scale reconnaissance, Mike Howe said. "We know that marsupial-type robotics is going to be really important for this RCV," he said. "You are going to need to have smaller robots come out of this robot for [situational awareness] purposes." Currently, the M5 is capable of performing lead-follow movement and moving off-road, relying on waypoint navigation. "It will be a hybrid from a tele-operated [system], moving to autonomy as we grow with the Army's requirement," said Lisa Atherton, president and CEO of Textron Systems.

The Army has not released its request for prototypes for the RCV, but the Textron team is confident its working prototype is ready to compete, Atherton said. "Textron systems brings decades of armored vehicle experience," said Atherton, who added that the Textron has more than 15 programs of record and more than 1.5 million hours of unmanned systems and command

and control operational experience. "We have built a working prototype ... it's working, it's built and its moving.

## **New Veteran's Service Card**

The final stage of distribution of the Veteran's Service Card has begun. Applications from Canadian Armed Forces Veterans released before February 2016 are now being accepted for processing. If you want the new card, follow the links below.

You are eligible to receive a Veteran's Service Card if you have:

- completed basic training and
- been honourably released from the Canadian Armed Forces.

Please visit the link below to apply:

<https://www.canada.ca/en/department-national-defence/services/benefits-military/transition/service-card.html> (English)

<https://www.canada.ca/fr/ministere-defense-nationale/services/avantages-militaires/transition/carte-service.html> (French)

## **Who (or What) Is It?**

**Last Week:** The photo shows the unloading of President Johnson's limousine (Lincoln Continental. Likely 1964 model) at the RCAF Station in Vancouver International Airport South Terminal, for his use on his visit to Vancouver on September 16, 1964. The plane is a Lockheed C-130E-LM model Hercules. LBJ was there to meet with Prime Minister Pearson and BC Premier WAC Bennet for the Columbia River Treaty signing ceremonies. During his visit Johnson made a short speech at the Peace Arch.



**This Week:** We resume our popular series "Forgotten Kit of the Canucks" with this week's photo. It actually answers a question posed by a curious reader a few weeks ago, but we will leave that for next week. As you know, procurement of equipment is now a bit of a slower process than it was in the days of our youth. Why, is a mystery to some, but the answer can be alluded to in the amount of paperwork that is entailed in acquiring anything within governmental systems, not just in that of the military. Gone are the days when a wink and a nod, or the deep pockets of a friend of the uniformed defenders of the Dominion could result in a fully equipped unit the next week. Think of the Borden, Eaton and Yukon Motor Machine Gun Batteries, or, for that matter, Princess Patricia's Canadian Light Infantry. All were raised in next to no time with very little taxpayer money being expended in the exercise.





That might be a bit off topic, as this week's photo subject went through the usual routes and was not a private venture. However, it did enter service rather quickly, and remained in such work for a rather long time. You can guess from the photo that it was fully tracked, those being very wide, so suitable for snow or marshy conditions. Our questions are: what is this vehicle, from what did it evolve, and what replaced

it? Bonus points may be given for those able to guess the location. Free drinks if you can identify the shadowy face in the windshield.

Send those musings to the editor, Bob Mugford ([bob.mugford@outlook.com](mailto:bob.mugford@outlook.com)), or the author, John Redmond ([johnd.\\_redmond@telus.net](mailto:johnd._redmond@telus.net)). Chimo!

### **From the 'Punitentary'**

What do you call a boomerang that doesn't come back? A stick.

### **Murphy's Other Laws**

Nothing is as easy as it looks.

### **Quotable Quotes**

The young man knows the rules, but the old man knows the exceptions. - *Oliver Wendell Holmes, Sr.*

Remembrance Day Concert – 15 Fd Band and Welsh Men's Choir

The Vancouver Welsh Men's Choir &  
Band of the 15th Field Regiment, RCA

Present

**With Glowing Hearts**  
Music & Songs of Remembrance

SUNDAY NOV 10TH, 2:30 PM

MONDAY NOV 11TH, 2:30 PM

MASSEY THEATRE

SOUTH DELTA BAPTIST CHURCH

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Share the emotion and the joy. Join us to remember.



## **Royal Canadian Armoured Corps (Cavalry)**

### ***Battle of Leliefontein Luncheon 2019***

You and your guests are most cordially invited to attend the annual Leliefontein Luncheon to commemorate the Royal Canadian Dragoon's battle in South Africa on 7 November 1900

**The Luncheon will commence at 1100hrs and conclude at approximately 1400hrs to meet ferry schedules.**

**All Black Hats and Supporting Arms Welcome**

**Thursday, 7 November 2019**

**At**

**Sidney North Saanich Yacht Club  
1949 Marina Way  
North Saanich,  
British Columbia, Canada**

**Dress**

Suggested- jacket and tie

**Tariff**

\$35.00

**RSVP**

David Scandrett - [scand@shaw.ca](mailto:scand@shaw.ca)



# 15 Fd Regt Officers Mess St Barbara's Day Special Guest Night



**The Commanding Officer**  
*Lieutenant Colonel J.P.P. Lajoie, CD*  
*and the Officers*  
*of*  
*15<sup>th</sup> Field Artillery Regiment*  
*The Royal Regiment of Canadian Artillery*

*request the pleasure of your company*  
*at their annual*

## **ST BARBARA'S DAY SPECIAL GUEST NIGHT**

*to be held at the*  
**BESSBOROUGH ARMOURY**  
*2025 West 11<sup>th</sup> Avenue, Vancouver, BC*

*on*  
*Saturday, the 7<sup>th</sup> of December, 2019*  
*at*  
*six o'clock in the evening*

Dress. *Mess Kit, DEU, or Formal attire, with decorations.*

Tariff. *\$120 – Seats will be reserved when payment is received. There will be no tickets available the night of the event.*

*If paying in person, please notify VPMC, Lieutenant Chris Purdon at [mess15rca@gmail.com](mailto:mess15rca@gmail.com) and payment to be paid at the door on the night of the event.*

*Cheques payable to "Officers Mess 15 Fd Regt"  
2025 West 11<sup>th</sup> Avenue  
Vancouver, BC V6J 2C7*

*RSVP by 20 November 2019 to  
[mess15rca@gmail.com](mailto:mess15rca@gmail.com)*