

## iTunicate Newsletter

## Issue 8

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## Plate Watch

“The ocean touches you with every breath you take, every drop of water you drink, and every bite you consume.”

Sylvia Earle

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## *Plate Watch citizen science data highlighted in Ketchikan*

Citizen science is becoming increasingly important in assisting with scientific studies around the world. It expands the range of work that can be done, through both time and space. In 2018, we published the first paper highlighting long term monitoring data for Plate Watch, collected by our monitor (Gary Freitag) and volunteers, including Julie Landwehrs high school classes in Ketchikan. The study, published in 2018 in *BioInvasions Records* - [http://www.reabic.net/journals/bir/2018/4/BIR\\_2018\\_Jurgens\\_etal.pdf](http://www.reabic.net/journals/bir/2018/4/BIR_2018_Jurgens_etal.pdf), includes scientific surveys by SERC and Temple University researchers, as well as volunteer data from 10 years of monitoring in the Ketchikan area, including the marine invasive species bioblitz in 2013. The paper reports new records for Alaska and provides distributional data for non-native tunicates in Ketchikan. Thanks to Gary Freitag and Julie Landwehr and classes!



*Botrylloides violaceus* from Ketchikan, Alaska. Photo: Gary Freitag



Sampling settlement plates in Ketchikan: Left, Diana Lopez, Temple Univ. holds a plate and right, Ketchikan Plate Watch monitor, Gary Freitag, pulling up a plate. Photos by M Bonfim and L McCann.



## *Collecting, Diving and 'Bioblitzing'*

This fall found SERC staff sampling far out the Aleutian chain in Dutch Harbor, Alaska. With a population of about 4500 hardy souls, the community swells dramatically during the fishing season. With funding and collaboration from many agencies including Alaska Sea Grant, NOAA NMFS, the GGI and BOEHME Programs of NMNH, SERC conducted standardized settlement plate surveys to monitor for non – native species. Data were then compared to a similar survey

conducted over 15 years ago. The team also collected specimens for the Natural History Museum, genetic samples for the Smithsonian Global Genome Project, and participated in public outreach through out the 2 weeks on the island, including a radio interview, sessions with the high school biology classes, and a public talk. The activities culminated in a marine invasive species bioblitz to which everyone was invited. Kids helped scientists search the beach near the Discovery Pier, for any new non-natives. Though many fascinating invertebrates were oohed and ahed over in the bioblitz, nothing was found that didn't belong there. The settlement plate surveys did find a non-native amphipod that had been documented there in 2003 (see following article). Analysis of the data is ongoing.



Photos above and left center: Bioblitz participant showing off her find. Right: Team members Melissa Good and Gail Ashton searching the intertidal for non native species with the public during the bioblitz. Photos L Shaw.

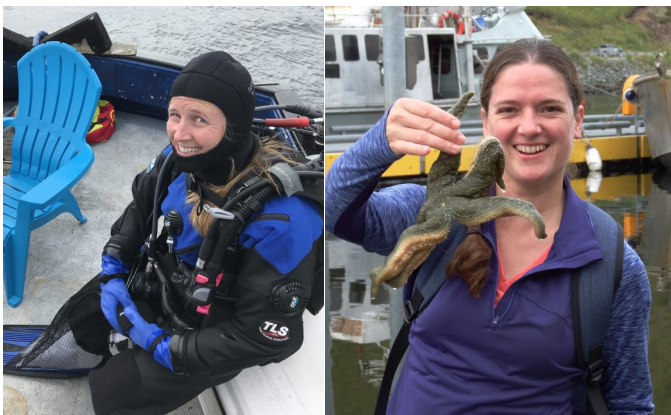


Photo above left: Diver Gail Ashton (Smithsonian), on the boat and (Right) with fellow divers Michael O'Mahoney and Geoff Keel (National Museum of Natural History) collecting in the subtidal. Photos L McCann.





*in the nations biggest Fishing port*

Invertebrate specimens collected during the trip to Dutch Harbor: Top, assorted sea stars, middle left Didemnid tunicate, middle right feeding fan of a Serpulid polychaete, bottom left Sertularid Hydroid, bottom right sponge. Photos Gail Ashton and Linda McCann



## *NIS profile — Caprella mutica*

This year we were pleased to find no new non-native invertebrates in Plate Watch monitoring around the state. However, species that we have detected previously are still present. One such species, detected in Dutch Harbor in SERC surveys back in 2003, is the small, Japanese, skeleton shrimp, *Caprella mutica*. A native of northeastern Asia, the species has been detected in other parts of the state as well, including Sitka, Ketchikan, and Seldovia in Kachemak Bay. The species is reddish and 'spiny', characterized by having dorsal and lateral spines on pereonites (body segments) 3-7, including more than 3 pairs of dorsal spines on pereonite 5. It does not have any spines on the head. This amphipod can be up to 35 mm long, though most are much smaller. Unfortunately, there are several other native *Caprella* in Alaska that could be confused with it, and juveniles and females can have few of the distinguishing features, so if you find something you suspect is *C. mutica*, it's best to take a sample and picture and contact SERC ([mccannl@si.edu](mailto:mccannl@si.edu)). *Caprella mutica* is tolerant of a wide range of conditions and is now found through out the world.

*See the following paper for more details on the taxonomy:* Riedlecker EI, GV Ashton & GM Ruiz. 2008. Geometric morphometric analysis discriminates native and non-native species of Caprellidae in western North America. *Journal of Marine Biological Association of the United Kingdom*. 8 pp.

Photos: *Caprella mutica* Left photo: Chris Wood, NIWA and Right photo: Gail Ashton, SERC





## *Updates From the Field— D. vex hangs on*

Some marine invertebrates are real survivors, hanging on under the worst of circumstances. The tunicate *D. vex*, or ‘rock vomit’ is one such species. Discovered during a SERC led bioblitz in Sitka in 2010, researchers have been experimenting with ways to kill the invader almost every summer since. Chlorine was identified as an effective treatment and funding was obtained to test its application in small domes on the sea floor. Last summer, large areas 6-10 meters across were set with ‘curtains’ from the seafloor to the surface, to test the feasibility of such treatments on a large scale. In most treatments > 50% of the tunicate was killed. Divers from the University of Alaska SE will resurvey the plots in the coming weeks. Follow what’s happening at <https://dvex.si.edu/>



From Top, clockwise: Preparing for a dive on the experimental plots in Whiting Harbor, Sitka. *D. vex* on the sea floor. Ian Davidson and Katy Newcomer emerging from their dives. All photos by Katy Newcomer and Ian Davidson.



## *In the News*

In recognition of more than 30 years working on invasive species issues in Alaska, SERC received the “Invader Crusader” Organization Award for outstanding leadership in marine invasive species research and outreach. The award is administered by the Alaska Committee for Noxious and Invasive Pest Management and was accepted by our NOAA partner Linda Shaw at the annual meeting of the NIS Task Force in Homer, Alaska.



Sea star wasting disease, the infection that has been killing sea stars since at least 2013, is showing signs of waning. Juvenile sea stars have been found, though they are few in number. Citizen scientists up and down the west coast are helping document their recruitment. You can help by submitting your sightings <https://www.eeb.ucsc.edu/pacificrockyintertidal/data-products/sea-star-wasting/recruitment.html>

Plastic debris in the ocean is now wide spread, from trash to tsunami debris, with nearly 80,000 metric tons in the Pacific gyre alone. Now SERC researchers are trying to predict which non-native invertebrates coming to U.S. shores, may survive and establish on our coastlines <https://www.nationalgeographic.com/environment/2018/08/news-invasive-species-ride-plastic-across-ocean/>.



Piece of debris from the Pacific garbage patch with hydroids, barnacles, algae and bryozoans attached.  
Photo: Linda McCann

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<http://platewatch.nisbase.org>