UNDERWATER SCIENCE REPORT.....VOL. 10...NO. 3.....October 2009

Canadian Association for Underwater Science
Association canadienne des sciences subaquatiques

Gabe and Calvin learn what's in the ocean from divers at Hornby Island

Running late and short.

Better late than never, or so the saying goes. I hope this is the case with the October issue of the Underwater Science Report. I know I have been busy at various conferences this month, and judging by the way that promised contributions have not made their way into my inbox, you are all very busy too. Having said that I wish to continue my pledge to supply you with news of what is happening on a monthly basis. That being said I will work hard to get the November issue out before the month is done.

Have any suggestions? Comments or criticism about the Underwater Science Report please send them along so that we can make a newsletter that is of interest to you. As always I encourage submissions of anything linked to science and the underwater world.

Digging up content for this months issue and seeing starfish reminded me of last years trip to Hornby with my son and his friend. I am always in awe seeing the world thru a child's eyes.

Call for Abstracts – CAUS 2010

Abstracts for the upcoming CAUS symposium can be submitted until March 15, 2010. Full papers are required for all presentations. These will be published in the proceedings of the meeting. It is expected that some papers will be brief (minimum around 2000 words) and may focus on the diving methods of central interest to the scientific diving community to avoid compromising the ability to publish research data in peer-reviewed journals. For more information or to submit

Contents

Eight-legged starfish discovered

An unusual eight-legged spiny starfish has gone on display after being discovered in a crab pot off Cornwall's coast. (UK)

The creatures normally have five legs but this one is 12 inches long and thought to be twice the size of a spiny starfish.

The "octo-starfish", found near St Agnes, is thought to be two genetically joined together

An Intertidal Sea Star Adjusts Thermal Inertia to Avoid Extreme Body Temperatures

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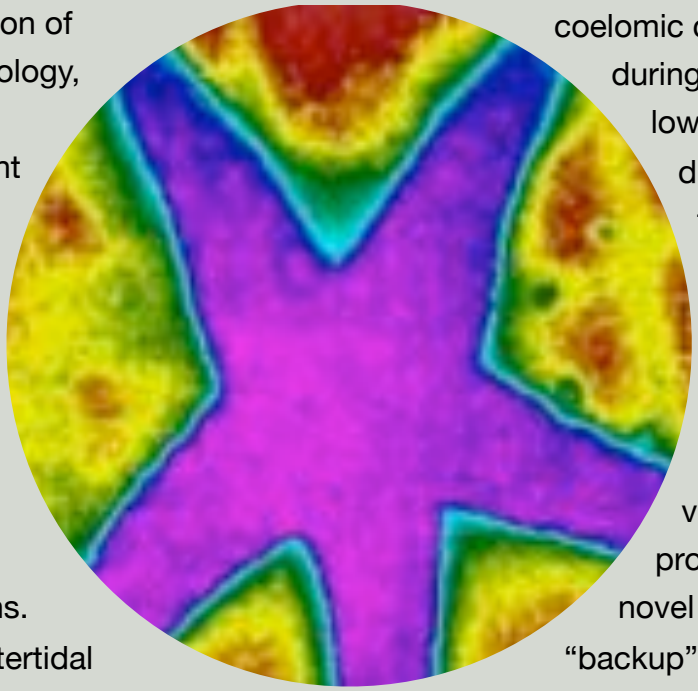
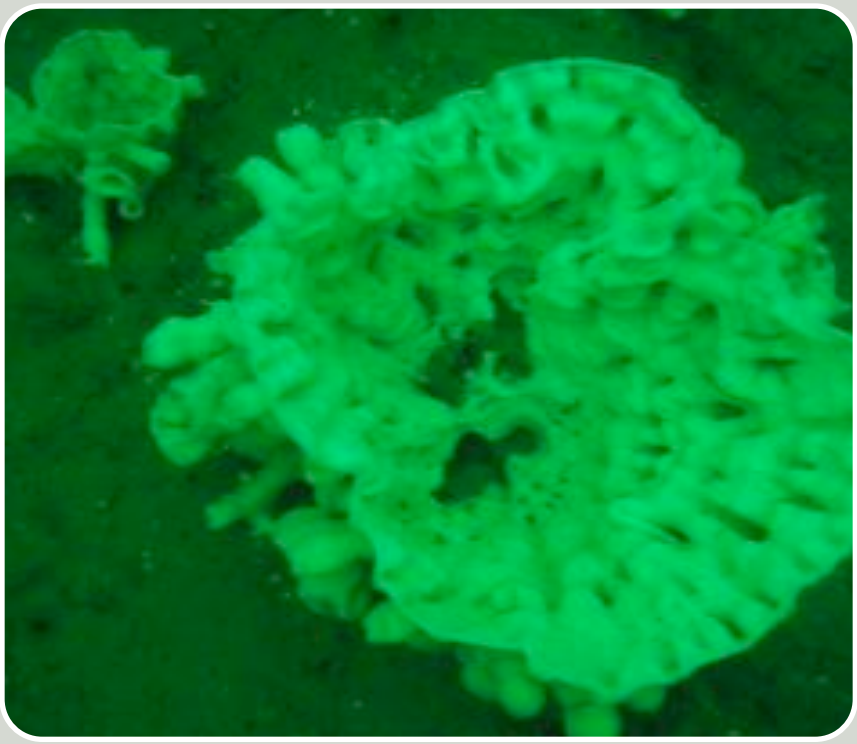
The body temperature of ectotherms is influenced by the interaction of abiotic conditions, morphology, and behavior. Although organisms living in different thermal habitats may exhibit morphological plasticity or move from unfavorable locations, there are few examples of animals adjusting their thermal properties in response to short-term changes in local conditions. Here, we show that the intertidal sea star Pisaster ochraceus modulates its thermal inertia in response to prior thermal exposure. After exposure to high body temperature at low tide, sea stars increase the amount of colder-than-air fluid in their coelomic cavity when submerged during high tide, resulting in a lower body temperature during the subsequent low tide. Moreover, this buffering capacity is more effective when seawater is cold during the previous high tide. This ability to modify the volume of coelomic fluid provides sea stars with a novel thermoregulatory "backup" when faced with prolonged exposure to elevated aerial temperatures.



American Naturalist 2009. Vol. 174, pp.



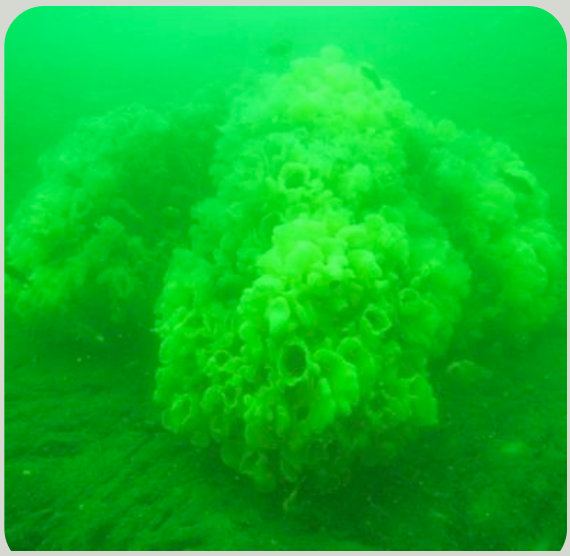


Photo left, *Heterochone calyx* or Vase Sponge photo by Conor McCracken
Photo above, *Aprhocallistes vastus* or Cloud Sponge photo by Donna Gibbs

Vase Sponges Found in Howe Sound at Halkett Point Pinnacles

By Dr. Jeff Marliave VP Marine Science, Vancouver Aquarium. jeff.marliave@vanaqua.org

On October 18, 2009 the Vancouver Aquarium research dive crew descended with officials of the Underwater Council of BC at the Halkett Deep Pinnacles reef that Glen Dennison, Director UCBC mooring buoy program, has been mapping and exploring for some time. The Aquarium crew wanted to verify whether the type of cloud sponge habitat could be classified as "sponge garden" or “sponge bioherm" in accordance with details recently published in Marine Biology (doi:10.1007/s00227-009-1252-8). That article is entitled "Biodiversity and rockfish recruitment in sponge gardens and bioherms of southern British Columbia, Canada." In that article it was noted that the bioherms, or cloud sponge reefs, in Howe Sound are exclusively comprised of one species, *Aphrocallistes vastus*, whereas *Heterochone calyx* occurs together with *A. vastus* in bioherms elsewhere in the Strait of Georgia.

It turns out that the shallowest ridge of the shallower Halkett pinnacle is an example of sponge garden, with glass sponges growing directly on bedrock. At the base of that ridge, however, the habitat shifts to bioherm, with the cloud sponges growing on dead skeletons of previous cloud sponges, and with mud fixing that base of dead sponges into a firm substrate. This is the best example the Aquarium team has seen of garden and bioherm side-by-side, but it is crucial that dive boats not anchor where the fragile sponges are so abundant. To prevent anchor damage, a weight is dropped with a light line and a surface float as marker to guide the descent of divers.

A final surprise was the first documentation of the vase sponge, *Heterochone calyx*, in the waters of Howe Sound. The attached photo shows both a large and a small specimen of H. calyx, with the characteristic vase shape and with spikes protruding from the walls. This structure is in contrast to the mittens characteristic of cloud sponges, *Aprhocallistes vastus*.

EQUIPMENT RECALLS

SI Tech Diving Recall - Air Hose for Dry Suits
The U.S. Consumer Product Safety Commission, in cooperation with SI Tech AB, has announced a voluntary recall of SI Tech AB diving air hoses for dry suits. Consumers should stop using recalled products immediately unless otherwise instructed. About 65,000 of the recalled units were sold at diving equipment retailers and distributors nationwide from July 2006 throught February 2009.The hose contains an insert that can dislodge during diving and restrict air flow to the diver, posing a drowning hazard. SI Tech has received six reports of hose inserts dislodging, including one that was involved in the death of a diver in Los Angeles, Calif. The batch code is stamped on the threaded metal end of the hose. They were sold with dry suits and also sold separately. Contact SI Tech for a list of batch codes included in this recall or visit the firm's Web site, www.sitech.se. For additional information, contact SI Tech at (877) 348-3529 anytime, visit www.sitech.se, or email the firm at recall@sitech.se.

To see this recall on CPSC's web site, including pictures of the recalled product, please go to www.cpsc.gov/cpscpub/prerel/prhtml10/10010.html.

Halcyon Diving Equipment Recall
The U.S. Consumer Product Safety Commission, in cooperation with Halcyon Manufacturing Inc., has announced a voluntary recall of certain Halcyon Diving Equipment. About 20,300 of these units were sold at diving equipment retailers and distributors from January 2006 through December 2008 for between $350 and $450 for the buoyancy compensator devices (BCDs) and between $50 and $275 for the inflatable devices. The over pressure valves (OPVs) in the diving equipment could fail allowing the buoyancy compensator devices (BCDs) and the diver lift inflatable devices to leak, posing a drowning hazard to divers. No incidents or injuries have been reported. This recall involves Halcyon diving equipment including the Halcyon Explorer, Eclipse, CCR35, Evolve and Pioneer Buoyancy Compensator Devices (BCDs) and Halcyon Surface Marker Buoys (SMBs), Lift Bags, Diver Alert Markers (DAMs) Surf Shuttle and Diver Lift Raft Inflatable Devices. 'Halcyon' is printed on the diving equipment. Consumers should immediately stop using recalled diving equipment and return it to an authorized Halcyon distributor or dealer for a free inspection and, if necessary, free replacement of the overpressure valve spring. For more information, contact Halcyon at (800) 425-2966 between 8 a.m. and 5 p.m. ET Monday through Friday, visit the firm's Web site at www.halcyon.net/opv-recall, or email the firm at techservices@halcyon.net.

To see this recall on CPSC's web site, including pictures of the recalled product, please go to: http://www.cpsc.gov/cpscpub/prerel/prhtml10/10002.html.

MORE INFO ABOUT CAUS...

Statement of Purpose

Underwater Science Report is published by the Canadian Association for Underwater Science and distributed to Canadian researchers who study or use diving in scientific applications. Authors' views are their own and do not necessarily reflect those of the CAUS. Any portion of this newsletter may be reprinted with credit to the source. Suggestions for and contributions to Underwater Science Report are welcomed. Please address correspondence to the CAUS editor, Sherri Ferguson at sferguson@sfu.ca

About CAUS

The Canadian Association for Underwater Science is an non-profit organization with a mandate for promoting safe diving practices and developing peer reviewed standards of practice for scientific diving by its members.

Founded in 1983, the Association provides a national forum for information exchange and policy making via a programme of annual meetings, symposia, and published proceedings.

All institutions or organizations that utilize diving in scientific applications are in invited to join us.

Board of Directors

MARK YOUR CALENDAR

March 25-27 2010 AAUS (American Academy of Underwater Science) Symposium Waikiki at the Ala Moana Hotel see www.aaus.org

May 27 & 28 2010 CAUS Symposium Vancouver B.C. watch for details at www.caus.ca

June 3-5 2010 UHMS Annual Scientific Meeting. Tradewinds Island Grand Resort. St. Pete's Beach Florida see www.uhms.org

Have an event you would like to promote please let us know.