

FISH BYTES

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Ocean sustainability in your bathroom

By Andrea Haas



Centrophorus granulosus, which is listed as 'Vulnerable' by the IUCN, is one of the species targeted by the squalane industry (© Pedro Niny Duarte; retrieved from www.fishbase.ca).

As a fisheries scientist, I thought I knew a great deal about the "no-no's" in the world of fisheries. I was making sustainable seafood choices, ensuring that I avoided those caught using destructive fishing practices or whose stocks were widely regarded as depleted. Then, I discovered there was another place beyond my plate that I needed to consider when checking for sustainable choices — my bathroom counter.

"Your bathroom counter", you say...? Oddly enough, yes.

Like many females out there, I wear cosmetic products. But what was in those products came as a surprise to me (a fisheries scientist, someone who was supposed to be 'in-the-know'), and so I wanted to spread the word. That word is "squalane".

So what is squalane anyways? It is a very common

ingredient found in many beauty creams, especially ones promoting anti-wrinkle properties or anti-oxidant properties. It can now be derived from several plant-based sources, but often the most prolific source of squalane comes from an interesting place: shark liver oil.

Squalene is what is produced in the liver of many deep-sea sharks, and then hydrogenated into squalane for use

In this issue

- How to go squalane-free?
- Coastal Connection in Vancouver
- And curiously, not a lot of news and notes!

in moisturizers.¹ As mentioned, plant-based sources of squalane are available, however, they are approximately 30% more expensive than shark squalane, leading producers to prefer the less expensive alternative. Shark liver oil is itself an expensive commodity at 12-15 USD/kg.² Although this does not compare with the price of shark fins, which is hundreds of dollars per kilogram,³ shark livers are nonetheless a valuable-enough product to give rise to the practice of 'livering', suggesting that these species are not merely bycatch, but rather targeted ones.²

A simple test exists to differentiate plant-based and shark-based squalane,⁴ however, producers of cosmetics that contain squalane are not required to label the source (plant or animal), and so consumers may be unknowingly purchasing products which contain shark-derived squalane.

As a long-time scuba diver who has been in close proximity with sharks, I have a great respect for this group of fishes. I am profoundly moved by their decline, and strive to do what I can to promote their conservation and sustainable use. A great number of sharks (and their cousins, the skates and rays) are facing grim IUCN conservation assessments,⁵ and three of the species identified as being used in the production of squalane² are listed as 'Vulnerable' or 'Near Threatened'.⁶

After learning about squalane, I undertook a simple search of the list of ingredients of the major cosmetic products one day while in the department store. Almost all of the major brands had squalane in some of their products. An email (sent over three weeks ago) to one of my favourite brand's 'Customer Care' department to inquire about the source of their squalane ingredient turned up the resonating sounds of crickets... and nothing else.

So, to sum up, here is what I have learned about squalane:

- The least expensive and most prolific source of squalane comes from the livers of sharks;
- Many sharks, including some deep-sea ones used in

1 Wikipedia "Squalene". Available at: <http://en.wikipedia.org/wiki/Squalene>.

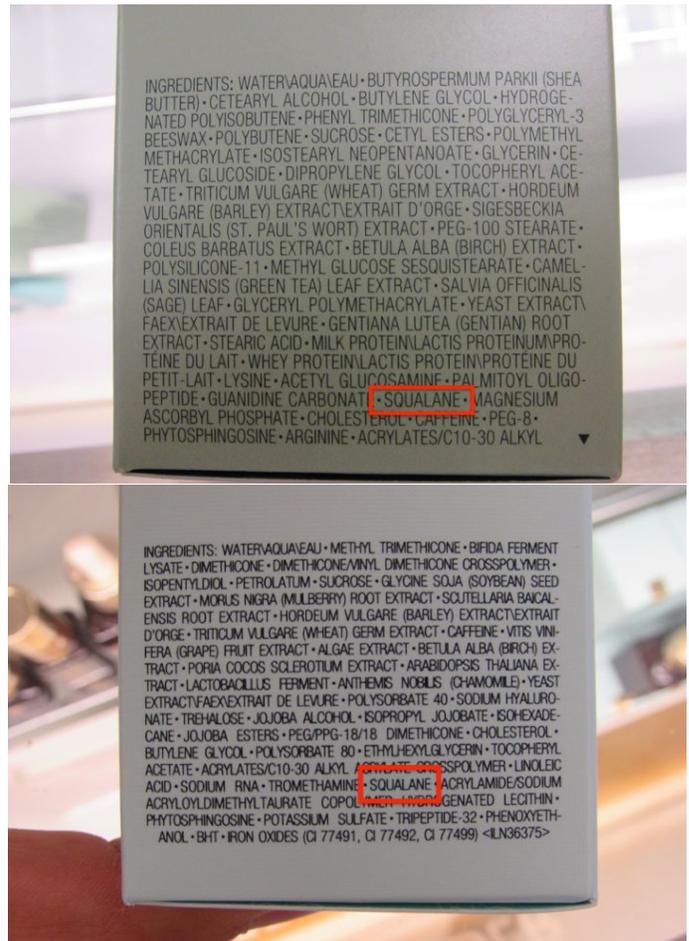
2 Bloom Association (2012) The hideous price of beauty: an investigation in to the market of deep-sea shark liver oil. Available from: www.bloomassociation.org/en/wp-content/uploads/2013/10/ENG_Squalene_4-pager.pdf. Accessed May 5, 2014.

3 Clarke S (2004) Understanding pressures on fishery resources through trade statistics: a pilot study of four products in the Chinese dried seafood market. *Fish and Fisheries*, 5(1) 53-74.

4 Camin F *et al.* (2010) Stable isotope ratios of carbon and hydrogen to distinguish olive oil from shark squalene-squalane. *Rapid Communications in Mass Spectrometry*, 24(12) 1810-1816.

5 Dulvy N *et al.* (2008) You can swim but you can't hide: the global status and conservation of oceanic pelagic sharks and rays. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 18: 459-482.

6 When consulting Fishbase. "*Centrophorus granulosus*", "*Centrophorus squamosus*", "*Centroscymnus coelolepis*". Available at: www.fishbase.ca/search.php.



Example of a common beauty product that contains squalane, whose source was not identified (© Andrea Haas).

- the production of squalane, are under threat due to unsustainable fishing;
- Cosmetic companies may not be using the simple and inexpensive test to determine the source (plant or animal) of the squalane they use;
- No regulation exists to ensure that squalane in cosmetics is labeled as being derived from plants or animals.

So, in light of all of this, how could I step out of the shower in the morning and know that I was not smearing the liver of a threatened or vulnerable shark species on my face? The simple answer: I could not. And so I have undertaken a personal task to only purchase cosmetic products from producers who do not use squalane in any of their products. I am not starting a campaign or asking others to follow my actions. I am simply one who believes in voting with my dollars for something they believe in. All I wanted to do was spread the word. And that word is: "squalane" 

Coastal Connection Vancouver: an aquatic networking experience

By Julia Lawson



Coastal Connection Vancouver's participants engaging in stimulating discussions, while enjoying drinks and sustainable seafood snacks (© Mike Hrabar for Coastal Connection Vancouver).

Managing and researching aquatic ecosystems is an integral part of British Columbia's provincial identity. This identity presents itself through many different sectors, including non-profit organizations like Living Oceans Society, academic institutions like the University of British Columbia's Fisheries Centre, industry consulting groups like Stantec Consulting Ltd, and many others. Collaboration plays a critical role in the success or failure of many aquatic projects in British Columbia, because all sectors that research and manage aquatic ecosystems often need to engage with multiple stakeholders to ensure success of their project. However, finding opportunities to establish meaningful collaborations is often challenging.

In 2012, a group of Simon Fraser University graduate students recognized that despite the wide range of people engaging in and managing aquatic ecosystems, they often seemed to be doing so in isolation. They wanted to create the common ground needed for these collaborations to develop. This group of students held the first Coastal Connection Vancouver networking event during the fall of 2012, an event with the goal of bridging gaps across sectors and organizations in an informal setting.

The inaugural event was a huge success, and last month

the third Coastal Connection Vancouver (CCV) event was held at Science World with over 120 attendees. Since 2012, CCV has grown from being an event spearheaded and funded by Simon Fraser University to now including event organizers and sponsorship from the University of British Columbia, as well as industry partners like Stantec Consulting Ltd.

To generate discussion, guest speakers have played an important role in all three CCV networking events. Speakers are asked to discuss the role that collaboration plays in the work that they do. Past speakers have included two professors from the University of British Columbia, Drs. William Cheung and Kai Chan, among representatives from government, industry and coastal First Nations. This year, CCV welcomed Dr. Phil Molloy from Stantec Consulting Ltd., Will Atlas from the Qqs Projects Society, and Dr. Jonathan Moore from Simon Fraser University. Presenters drew attention to how vital, yet undervalued, collaboration is to their work.

The fourth Coastal Connection Vancouver will take place this fall. We look forward to more thought-provoking presentations, creating connections and sharing ideas among sectors. 

News & notes

Congratulations

Carling Gerlinsky was awarded the Governor General's Gold Medal for Outstanding Graduate Thesis in Science, for her research on 'how sea lions manage oxygen and carbon dioxide stores and how nutritional stress affect their diving ability'.



Carling Gerlinsky

Welcome

Melanie Ang and **Eric Sy** both joined the *Sea Around Us* Project, and will be helping with formatting reports and building the catch reconstruction database, respectively.

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All queries, subscription requests and address-changes should be sent to the *FishBytes* editor, Frédéric Le Manach, at fishbytes@fisheries.ubc.ca. For past issues, please visit the Fisheries Centre website www.fisheries.ubc.ca and follow the Publications link to *FishBytes*.

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