

# Not so sexy salmon

May 1 2019

---



Credit: CC0 Public Domain

New research reveals that farmed salmon have smaller 'jaw hooks' or 'kype'- a secondary sexual trait, likened to the antlers of a stag, making them less attractive to females than their wild salmon cousins.

This new finding published in the peer-reviewed [science](#) journal *Royal Society Open Science*, implies that farm-bred [salmon](#) are less sexually attractive than their wild brethren, and that despite only being bred in captivity since the 1970's, within some 12 generations, that they are already diverging from wild salmon.

The findings form part of a wider research project into the differences between wild, farmed and hybrid salmon.

William Perry, a Ph.D. student at Bangor University's School of Natural Sciences and the paper's lead author explains:

"Farmed Atlantic salmon do sometimes escape from the nets and can interbreed with wild salmon, creating hybrids.

"Initially, the fact that any escaped salmon are less 'attractive' because of their smaller 'kype' may seem like good news, as they're less likely to breed. That's not the whole story however. Because farmed fish do not have to compete for mates, there is no element of sexual selection happening, making the farmed and hybrid fish poorly adapted to breeding in the wild. So, when you do see high levels of farmed escapees, and inevitable interbreeding within a wild salmon population, this could reduce the long term health of that population.

Farmed or hybrid salmon are not only less likely to breed successfully in the wild, they are also less likely to return from the ocean to freshwater rivers to spawn."

"Identifying that this secondary sexual trait is less pronounced in [farmed salmon](#) is another sign that as a diverging species, farmed [fish](#) are less well adapted, and are less able to compete than wild salmon. A pattern that may be repeating in many other aquaculture species."

Prof Gary Carvalho, William's Ph.D. supervisor at Bangor University's School of Natural Sciences commented:

"This is the first study to look at the effect of domestication and hybridisation on sexually selected traits in salmon. Our findings demonstrate that when animals are kept in unnatural conditions, such as

in a [fish farm](#), rapid evolutionary change can take place, that can affect future reproduction and survival, after just 12 generations. Such changes are of special concern when hundreds of thousands of [farmed fish](#) can escape into the wild, and potentially interbreed, with wild relatives.

**More information:** William Bernard Perry et al. Evolutionary drivers of kype size in Atlantic salmon ( *Salmo salar* ): domestication, age and genetics, *Royal Society Open Science* (2019). [DOI: 10.1098/rsos.190021](https://doi.org/10.1098/rsos.190021)

Provided by Bangor University

Citation: Not so sexy salmon (2019, May 1) retrieved 9 April 2024 from <https://phys.org/news/2019-05-sexy-salmon.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--