



Veterinærinstituttet
Norwegian Veterinary Institute

Gjelleproblemer hos laks og noen mulige «missing links»

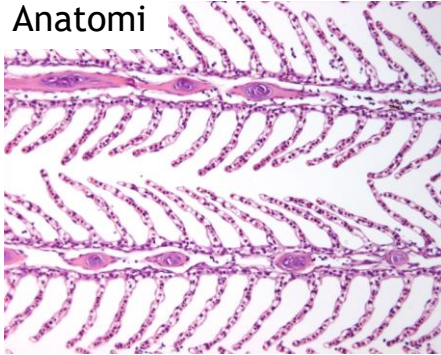
Mona Gjessing/Veterinær/Veterinærinstituttet Ås



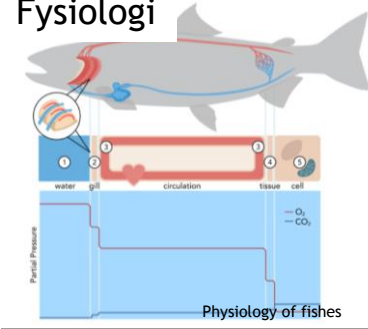
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Patologi og patofysiologi

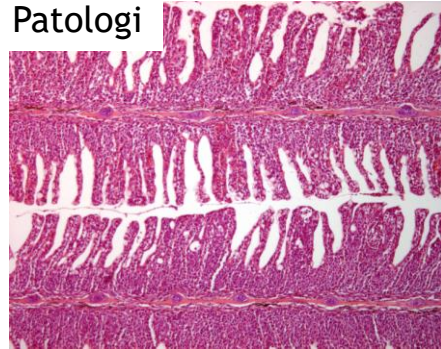
Anatomi



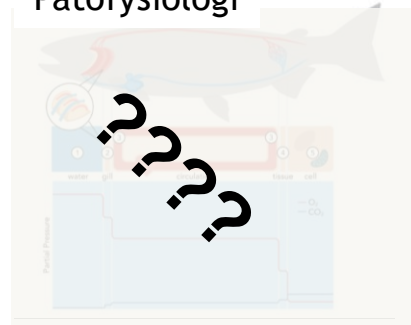
Fysiologi

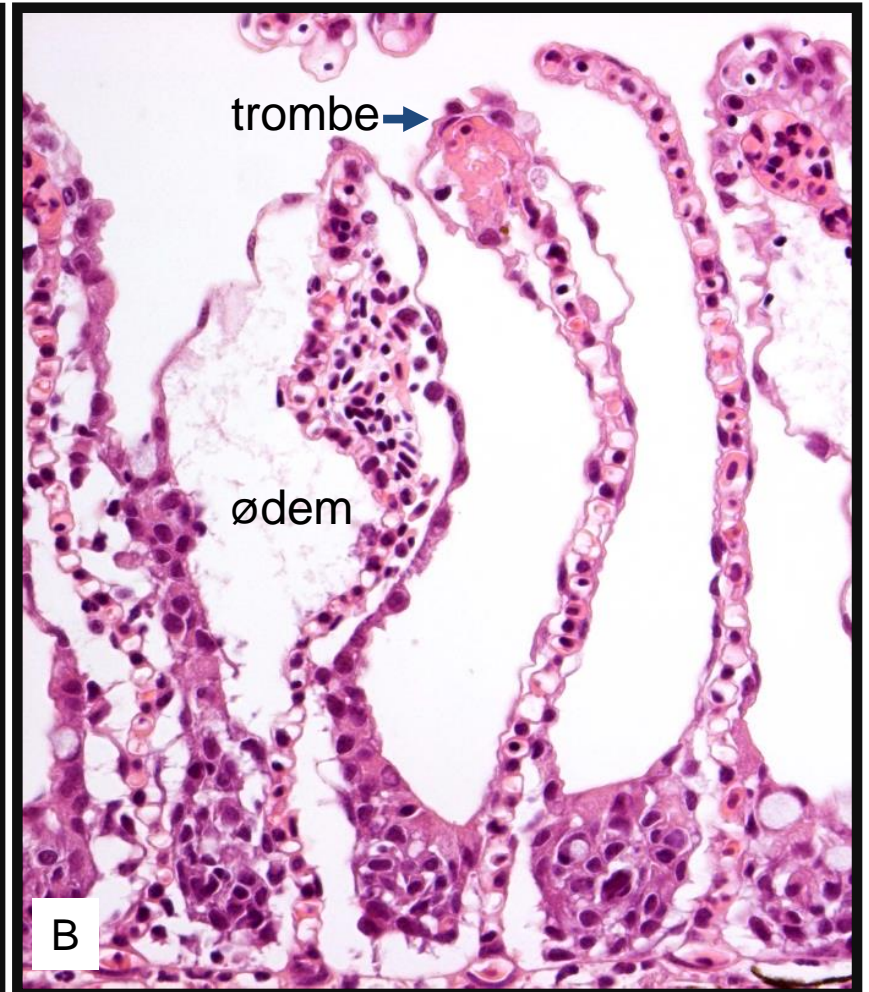
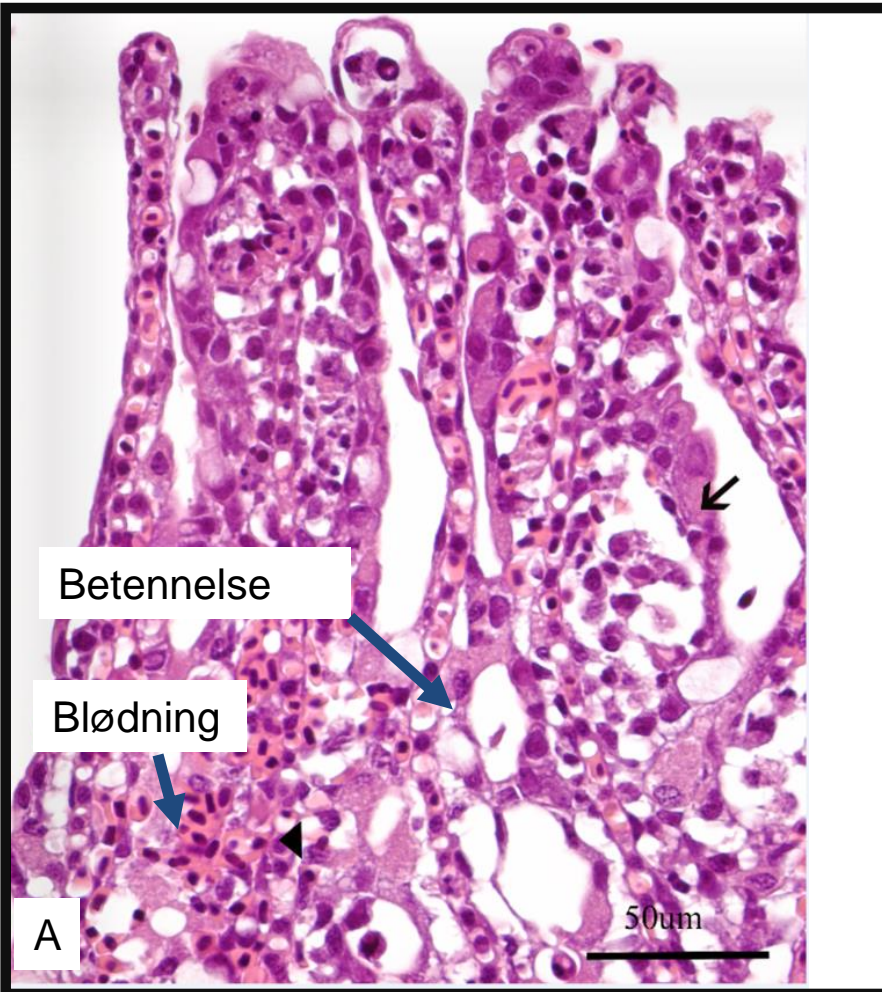


Patologi



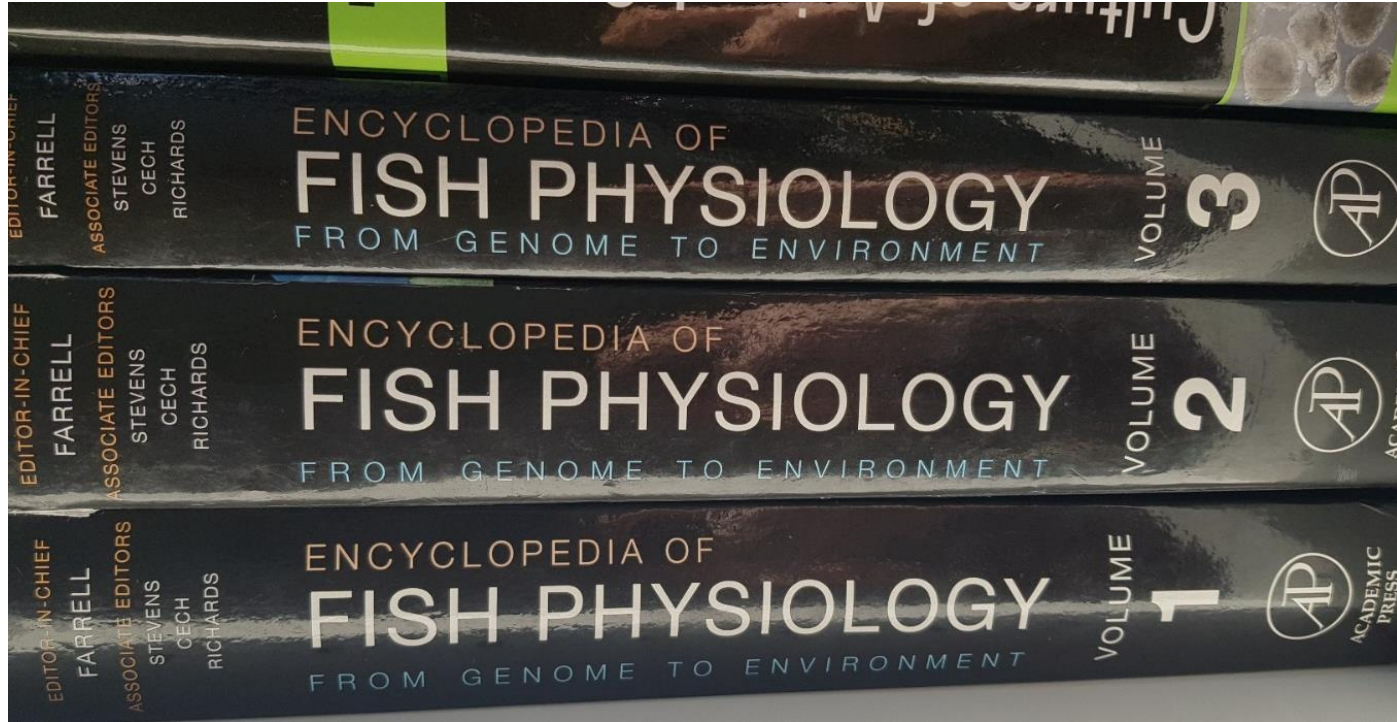
Patofysiologi





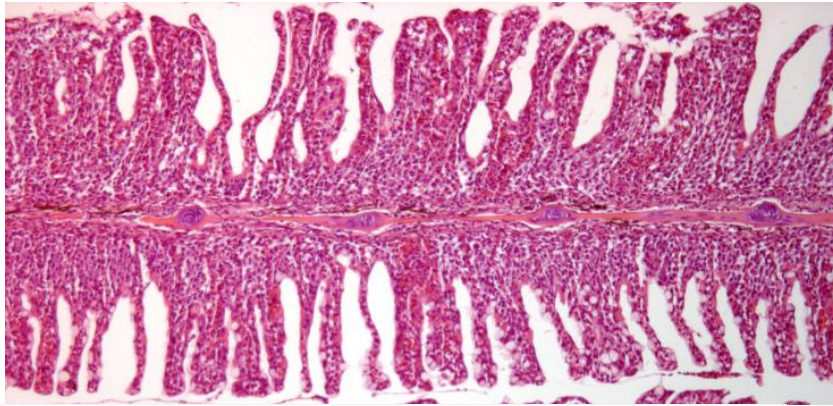
Missing link 1

Patologi og patofysiologi



Missing link 2

Kliniske funn, obduksjon og histopatologi



<https://bvajournals.onlinelibrary.wiley.com>



(a) Normal



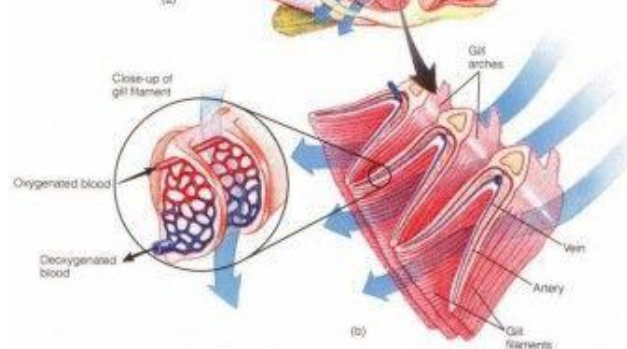
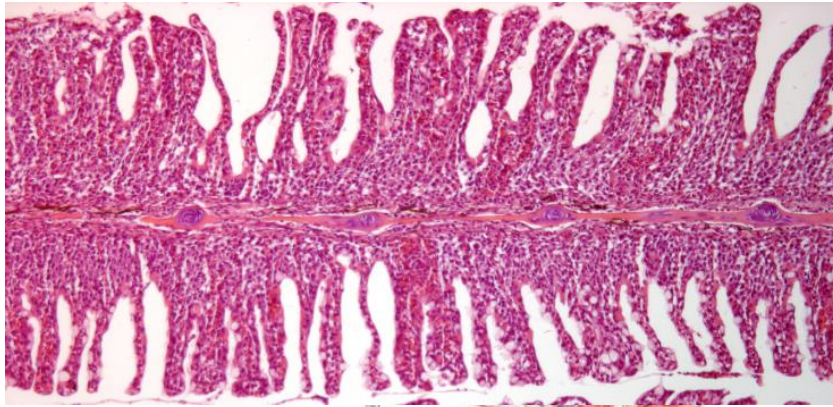
(b) Bacterial Pneumonia



<https://veteriankey.com/localization-of-disease/>

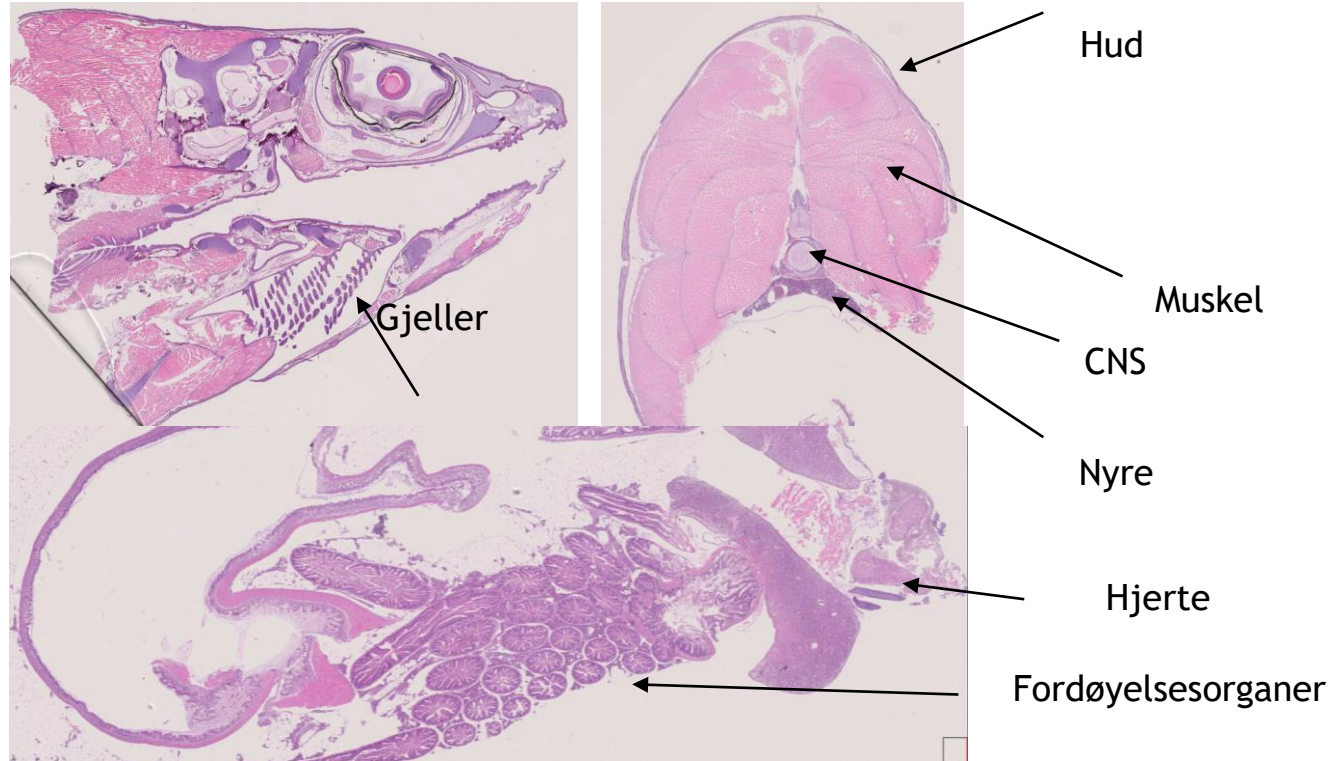
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Kliniske funn, obduksjon og histopatologi



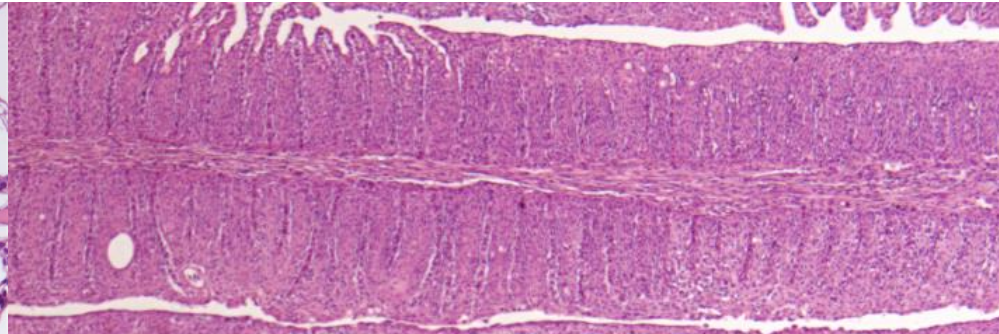
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Kliniske funn, obduksjon og histopatologi

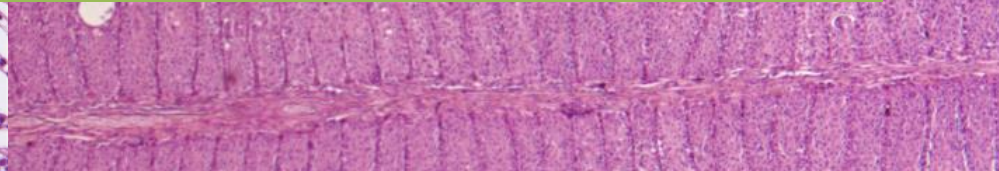
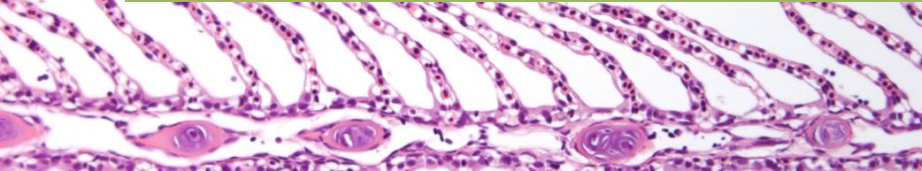


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Kontrollerte studier med effekt av faktor X

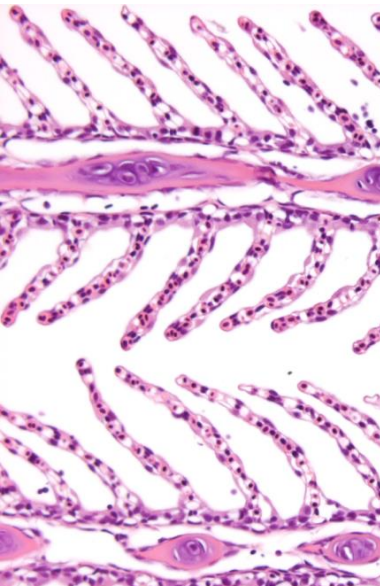
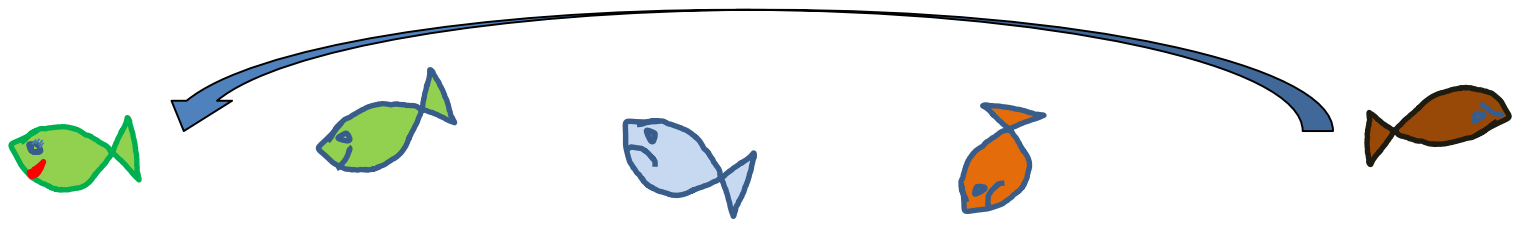


Hvordan endte denne gjellen.....opp med å se sånn ut???



Missing link 3

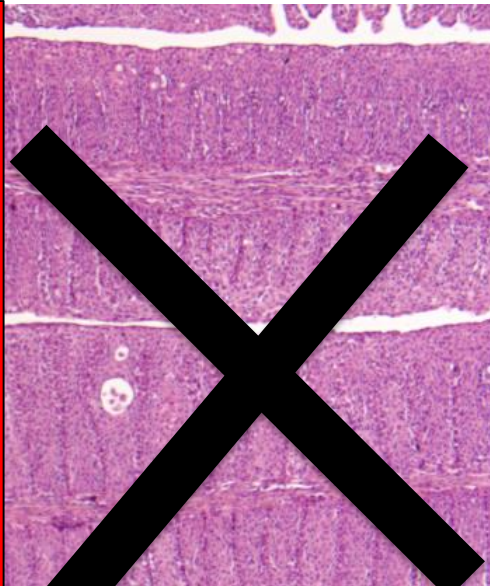
Kontrollerte studier med effekt av faktor X



UTLØSENDE FAKTOR X ???

Faktor Y ??

?



Missing link 4

Tettere kobling mellom ulike fagfelt og langsiktige studier



Article Prospective Longitudinal Study of Putative Agents Involved in Complex Gill Disorder in Atlantic salmon (*Salmo salar*)

Ana Herrero ^{1,2,*}, Hamish Rodger ³, Adam D. Hayward ¹, Chris Cousens ¹, James E. Bron ⁴, Mark P. Dagleish ¹ and Kim D. Thompson ¹

Fish and Shellfish Immunology 128 (2022) 74–81

Contents lists available at ScienceDirect

Fish and Shellfish Immunology

journal homepage: www.elsevier.com/locate/fai



Full length article

Investigating the impacts of H₂O₂ treatment on gills of healthy Atlantic salmon reveals potential changes to mucus production with implications on immune activity

Carolina Fernandez-Senac¹, Sean J. Monaghan, Dario Mascolo, Johanna L. Bailly, Monica Betancor, Lynn Chalmers, Giuseppe Paladini, Alexandra Adams, Sophie Fridman,

Received: 2 June 2022 | Revised: 11 July 2022 | Accepted: 18 July 2022

DOI: 10.1111/jfidi.13694

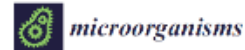
RESEARCH ARTICLE



WILEY

Prevalence of epitheliocystis in freshwater Atlantic salmon reared in flow-through and recirculation aquaculture systems

Petra R. Quezada-Rodriguez^{1,2}, Richard S. Taylor¹, Jamie Downes³, Fintan Egan³, Samantha White³, Aisling Brennan³, Megan Rigby¹, Barbara F. Nowak², Neil M. Ruane³, James W. Wynne¹



Article Elevated Seawater Temperature and Infection with *Neoparamoeba perurans* Exacerbate Complex Gill Disease in Farmed Atlantic Salmon (*Salmo salar*) in British Columbia, Canada

Simon R. M. Jones ^{1,*} and Derek Price ²

Received: 6 April 2022 | Revised: 18 May 2022 | Accepted: 19 May 2022

DOI: 10.1111/jfd.13662

RESEARCH ARTICLE

A cohort study of gill infections, gill pathology, and gill-related mortality in sea-farmed Atlantic salmon (*Salmo salar* L.): A descriptive analysis

Liv Østevik¹, Marit Stormoen², Hege Hellberg¹, Marianne Kraugerud¹, Inge Lie¹, Ane Nødtvedt², Hamish Rodger⁴, Marta Alarcón¹

¹ Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, BC V9T 6N7, Canada
² Fisheries and Oceans Canada, Aquaculture Management, Courtenay, BC V9N 2M2, Canada;
³ Correspondence: simon.jones@dfs.dfo-mpo.gc.ca

ORIGINAL RESEARCH
published: 06 September 2022
doi: 10.1111/jfd.13662



The Atlantic Salmon Gill Transcriptome Response in a Natural Outbreak of Salmon Gill Pox Virus Infection Reveals New Biomarkers of Gill Pathology and Suppression of Mucosal Defense

Mona C. Øvessing¹, Aikaei Krasnov², Dennis Timmerhaus¹, Svante Brun¹, Sergey Mironov³, Ole Brendt Dale¹ and Måre K. Danneberg^{1*}
¹Department of Fish Health, Norwegian Veterinary Institute, Oslo, Norway; ²Norwegian Institute of Food, Fisheries and Aquaculture Research, Tromsø, Norway; ³MCHM ASA, Bergen, Norway; ⁴Sachonno Institute of Evolutionary Physiology and Biochemistry, Saint Petersburg, Russia; ⁵The Norwegian College of Veterinary Science, UL – The Arctic University of Norway, Tromsø, Norway

ESS

www.nature.com/scientificreports

scientific reports

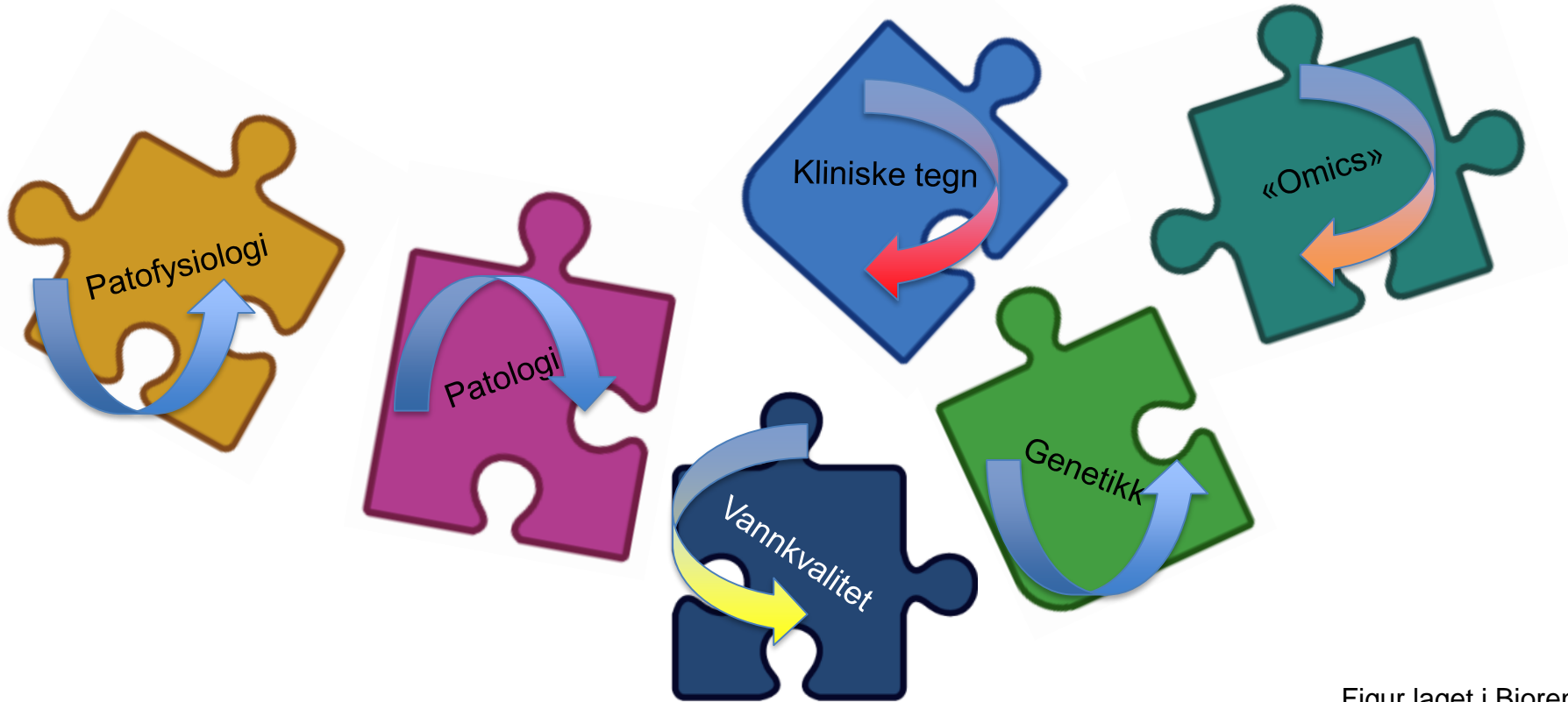
OPEN Dynamic gill and mucus microbiomes during a gill disease episode in farmed Atlantic salmon

Victor B. Birilanga^{1,2}, Grace McCormack^{2,3}, Umer Z. Ijaz⁴, Eugene MacCarthy⁵, Cindy Smith⁴ & Gavin Collins^{1,3}



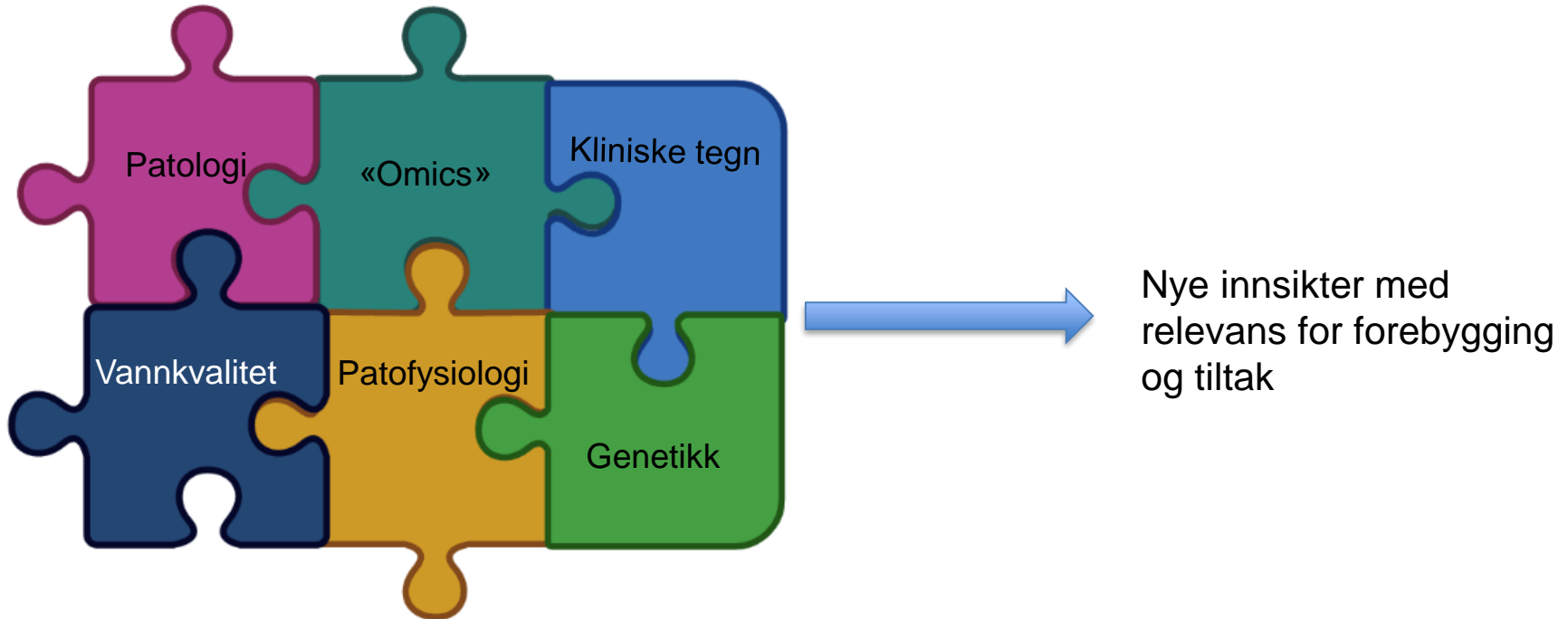
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Tettere kobling mellom ulike fagfelt og langsiktige studier



Missing link 4

Tettere kobling mellom ulike fagfelt og langsiktige studier



Hovedbudskap

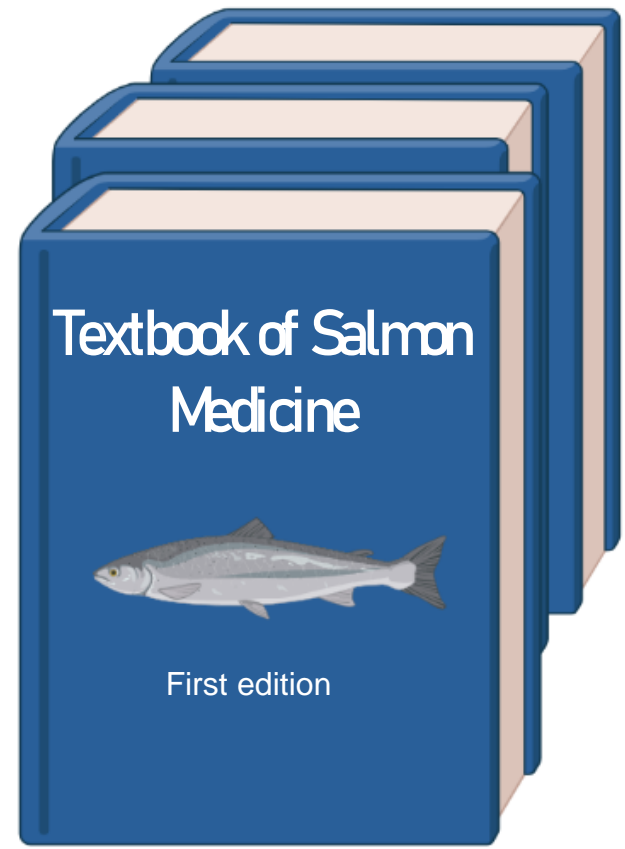
Tverrfaglige, langsiktige, oversiktlige studier med fokus på å oppdage svekkede dyr tidlig

Dette vil bidra til økt innsikt:

- **Andel friske dyr øker**
- **For sykdomsforebygging og tiltak ved sykdom**



??????



Figur laget i Biorender

Takk til alle gode kollegaer for gode diskusjoner og innspill



Veterinærinstituttet
— *Norwegian Veterinary Institute*

www.vetinst.no