



Susceptibility of Sea Bass (*Dicentrarchus labrax*) to IHN and VHS virus

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- **Background:**

- Very little is experimentally known about the susceptibility of sea bass to VHSV and IHNV (two studies thirty years ago: Castric and de Kinkelin (1984); Castric and Jeffroy (1991))
- However, since we know that the vira are present in the marine environment, and that VHSV has previously been isolated from diseases sea bass, the impact of these vira for Mediterranean mariculture is potentially huge.
- More knowledge thus necessary for the OIE to decide whether to list sea bass as susceptible species.



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• Methodology:

- Fish: Sea bass juveniles ~3-4g.
- Kept in 10 L bowls, 1% salinity, 12° C.
- 20 fish injected with virus and 20 left as cohabitants in each bowl.
- 4 virus isolates and control cell supernatant all in triplicate bowls.
- 10^4 TCID₅₀/fish



| Isolate name | Isolate type | Year of isolation | Origin | Fish species | Virulence | Mortality in RBT |
|-----------------------|--------------|-------------------|---------|---------------|-----------|------------------|
| FikretKoksal 2783 | VHSV Ie | | Turkey | Sea bass | Medium | 78,7% |
| DK 203490 (Hesselvig) | VHSV Ia | 2003 | Denmark | Rainbow trout | High | 99,7% |
| NO-2007-50-385 | VHSV IIIb | 2007 | Norway | Rainbow trout | Medium | 20% |
| DF04/99 | IHNV E | | Germany | Rainbow trout | High | 60-90% |

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Name of experiment: Susceptibility of sea bass to IHN and VHS virus

Fish species: Sea bass (*Dicentrarchus labrax*)

Virus: VHSV III

Tanks: 5, 6, 7

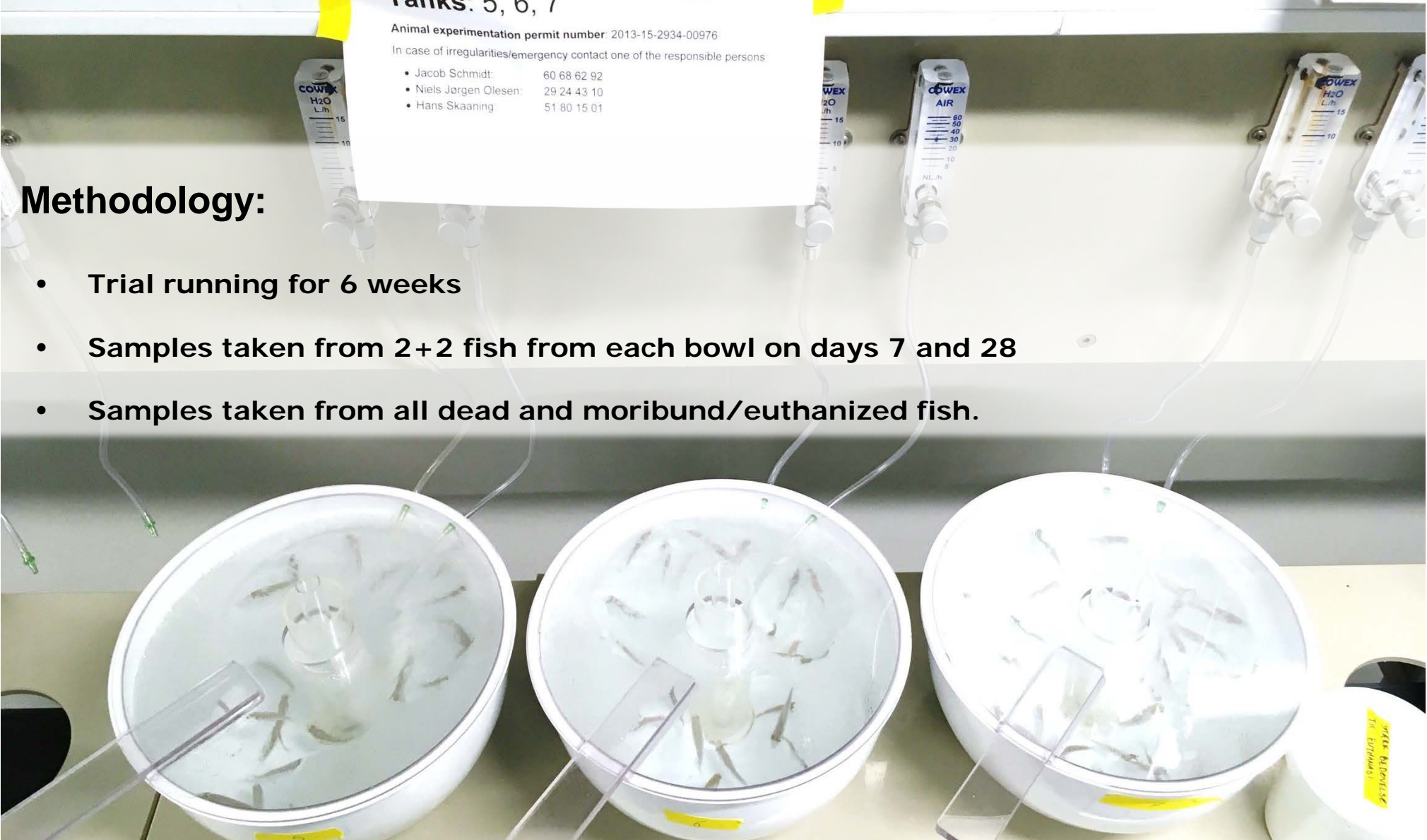
Animal experimentation permit number: 2013-15-2934-00976

In case of irregularities/emergency contact one of the responsible persons

- Jacob Schmidt: 60 68 62 92
- Niels Jørgen Olesen: 29 24 43 10
- Hans Skaaning: 51 80 15 01

• Methodology:

- Trial running for 6 weeks
- Samples taken from 2+2 fish from each bowl on days 7 and 28
- Samples taken from all dead and moribund/ euthanized fish.



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- **Results:**
 - (almost) No mortality in any cohabitants (one dead in a VHSV Ie bowl)
 - Injected fish:
 - No mortality in control and IHNV E groups.
 - Very limited mortality in VHSV III group (one dead in each of triplicate bowls)
 - Medium mortality for VHSV Ia (~50%)
 - High mortality for VHSV Ie (~80%)
 - Macroscopic symptoms: Varied, but most often petechial bleedings – often around the cranial region – and a general darkening – especially caudally.



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- **Conclusion:**

- Sea bass are resistant to injection with IHNV E and very weakly susceptible to VHSV III. They are highly susceptible to injection with VHSV I isolates.
- However, the virus was transferred to cohabitants to a very limited extent, and only one cohabitant died.
- We therefore conclude that sea bass are relatively resistant to infection with IHNV and VHSV.

DTU

