The effect of varying dissolved oxygen levels on Cryptocaryoniasis in Cage-farmed *Larimichthys crocea*

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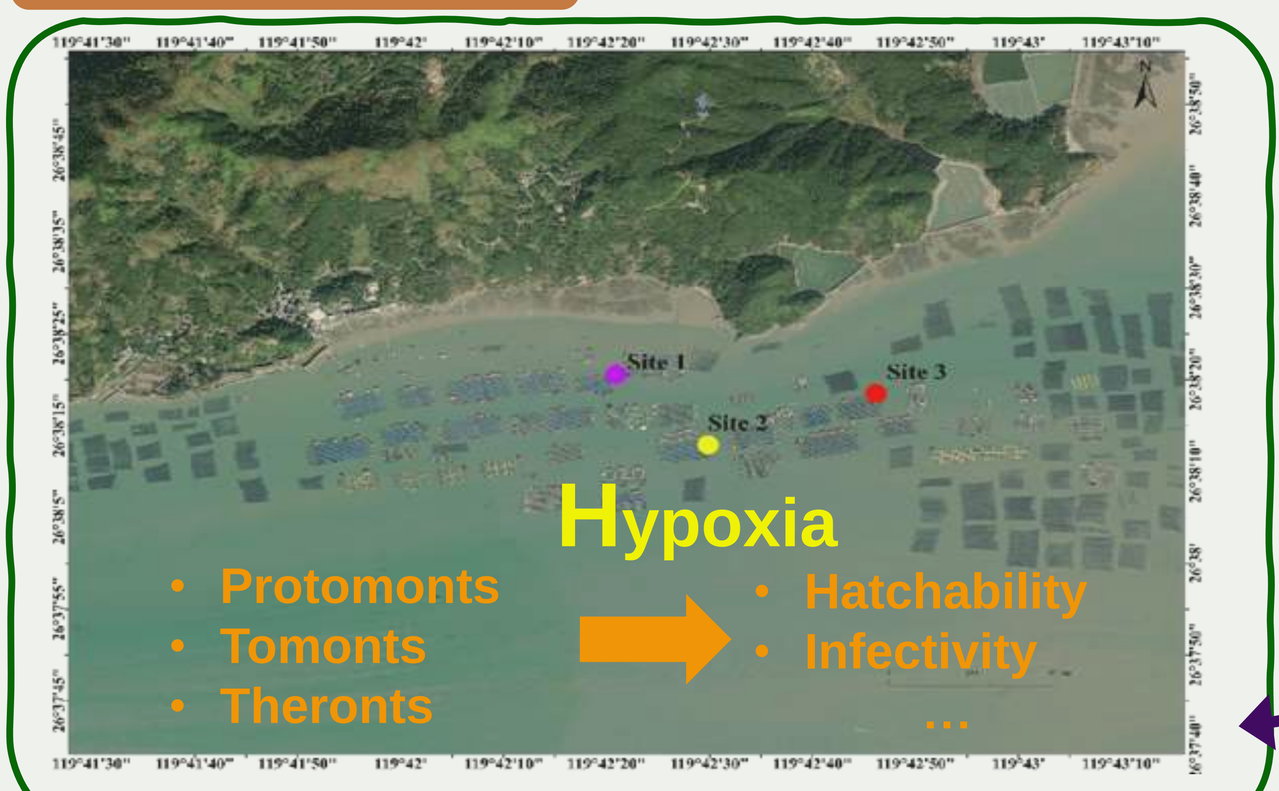
Introduction

- **Cryptocaryoniasis causes significant economic losses to *Larimichthys crocea* cultures in China.**
- ***C. irritans* in the cage are exposed to hypoxia stress.**

Methods



Background

When

Aim

Source

Mature trophonts leave from the host

How

Tomonts adhere to the net clothing

Results

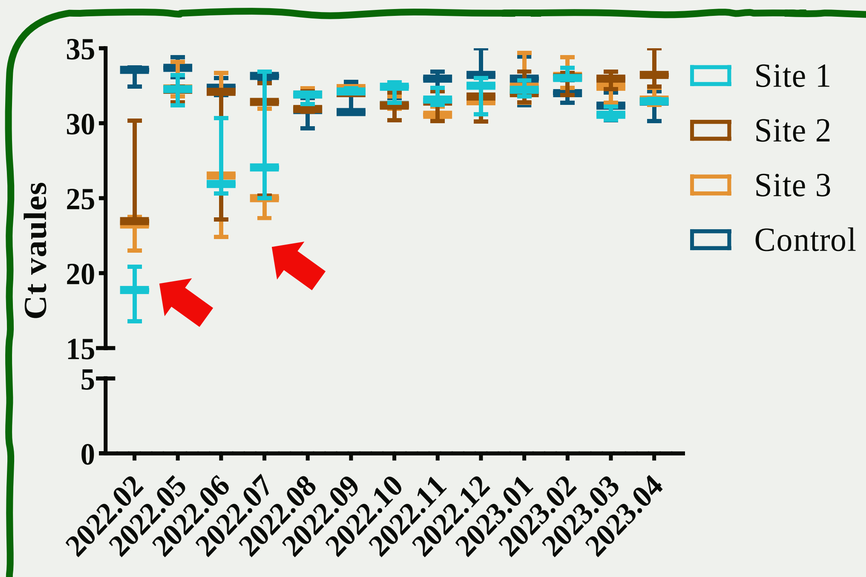


Fig 1. Ct values of *Cryptocaryon irritans* at different timings (February 2022–April 2023) in *Larimichthys crocea* from the aquaculture facility in the sea area of Ningde city

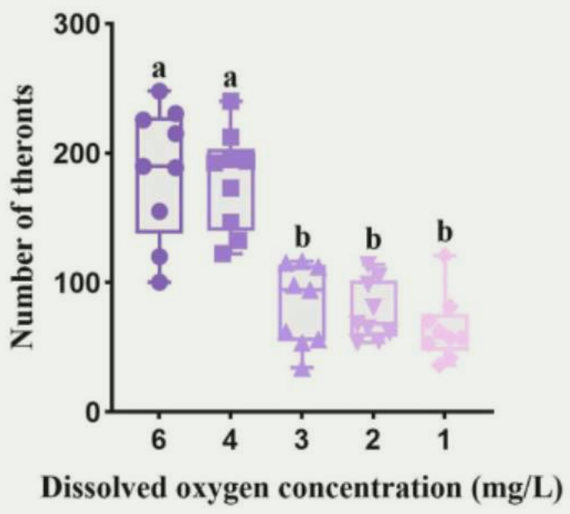


Fig. 2. Effects of varying dissolved oxygen levels on the number of theronts hatching from tomonts

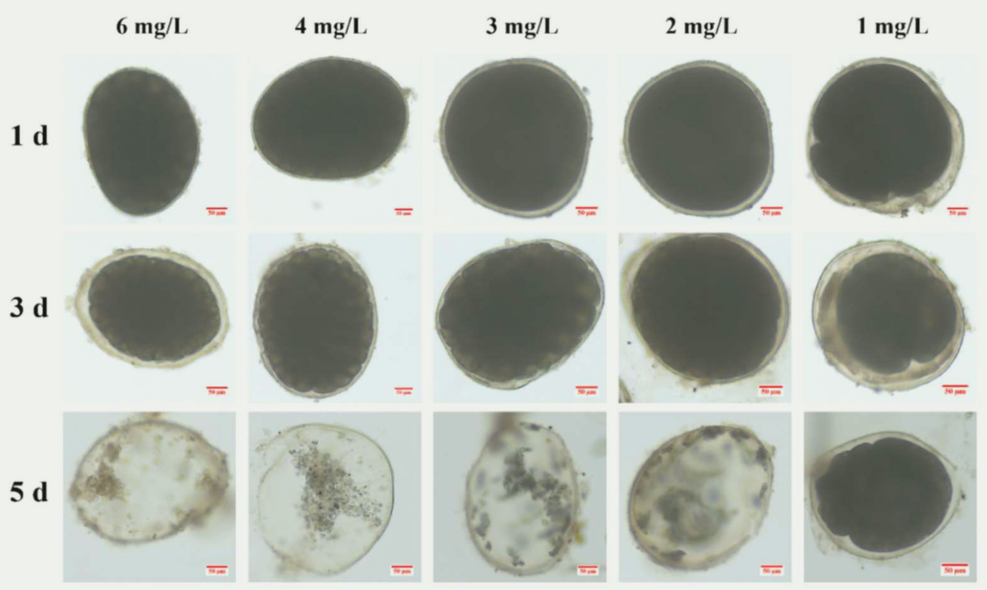


Fig 3. Morphology of Cryptocaryon *irritants'* tomonts exposed to varying dissolved oxygen levels at different time points

Conclusion

- **Outbreaks of cryptocaryoniasis occurred in the net cage aquaculture of *L. crocea* in June and July of 2022 in Ningde City.**
- **Hypoxia did not affect protomonts‘ encystation but suppressed the tomonts hatching and infectivity of theronts.**

Acknowledgements

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References

- Jiang, B., Guo, Q., Li, Z.. et. al, 2022. Biofouling of nets is a primary source of cryptocaryoniasis outbreaks in cage cultures. Aquaculture 550, 737892.
- Dan, X., Li, A., Lin, X., et al, 2006. A standardized method to propagate *Cryptocaryon irritans* on a susceptible host pompano *Trachinotus ovatus*. Aquaculture,258, 127–133