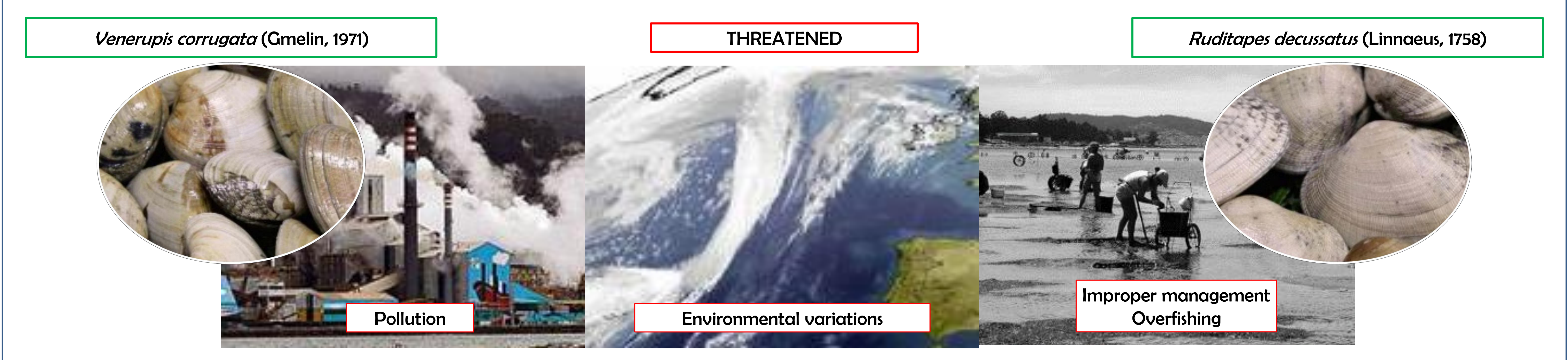


# CRYOPRESERVATION OF CLAMS FOR CONSERVATION OF THREATENED FISHING RESOURCES

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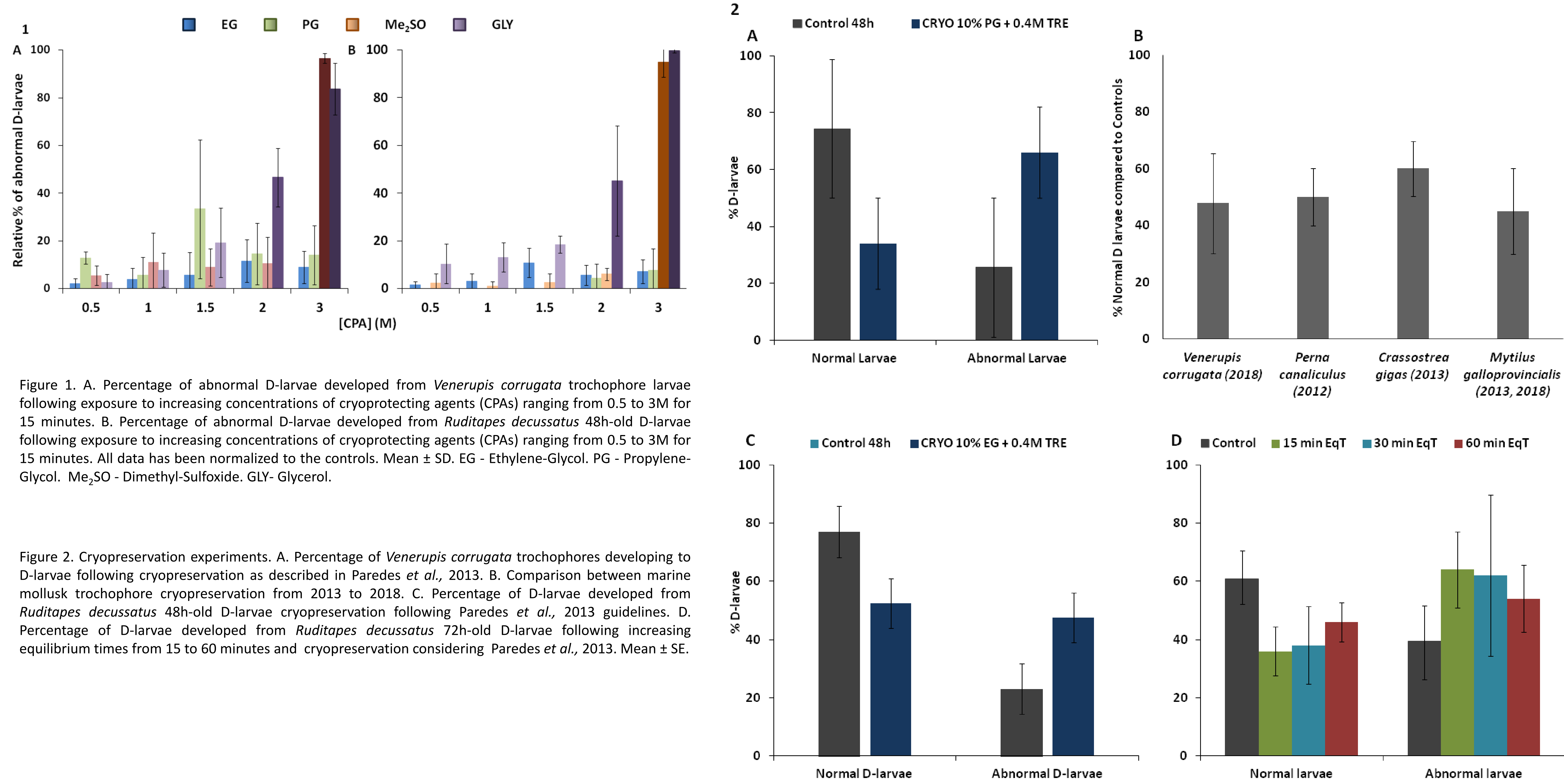


## Cryopreservation

Hatchery production Sustainability of natural stocks. Selective breeding Socioeconomic importance

**Aim**  
Development of larval cryopreservation protocols for both species

### Results



## Conclusions

- EG recommended for clam larval cryopreservation.
- Cryopreservation technique is able for conservation of endangered clam species.

Further research should focus on optimizing the protocol by studying

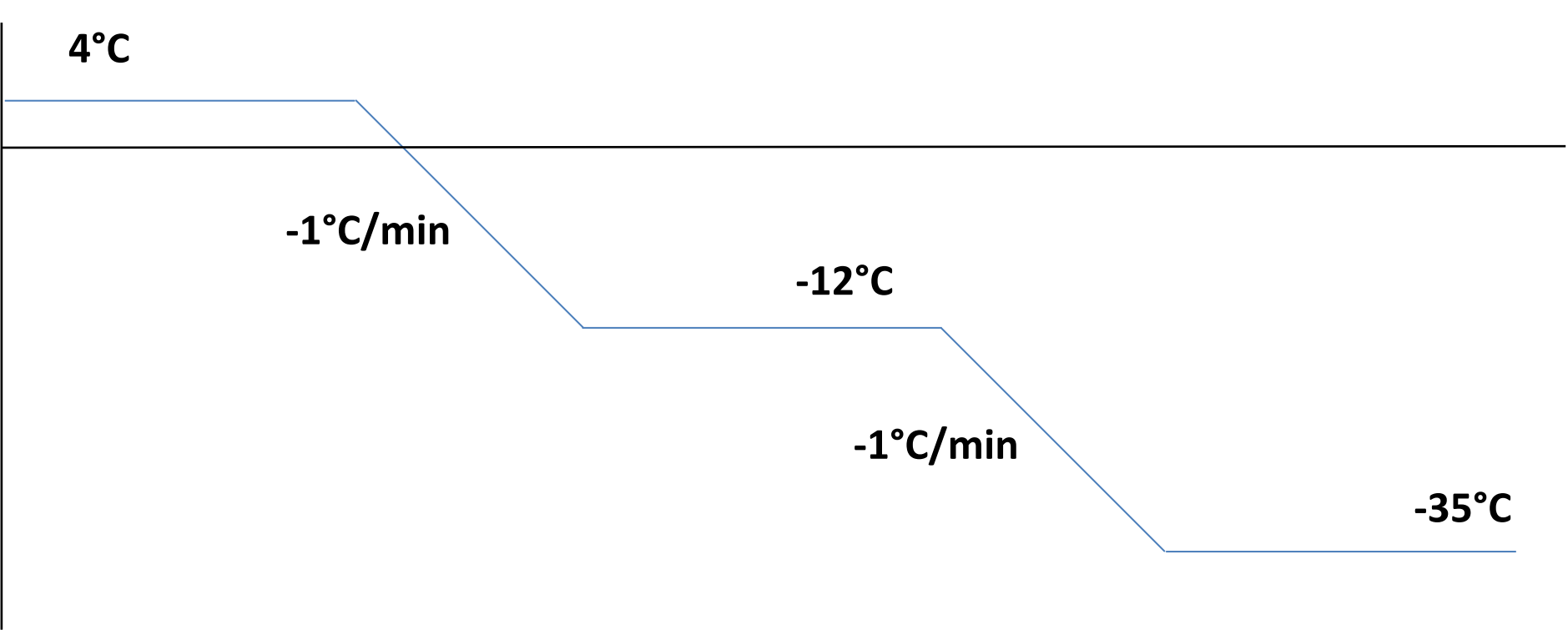
- Factors involved on cryoprotection: optimal equilibrium time, improvement of CPA combination, determination of membrane permeability parameters.
- Long-term effects

## Methodology

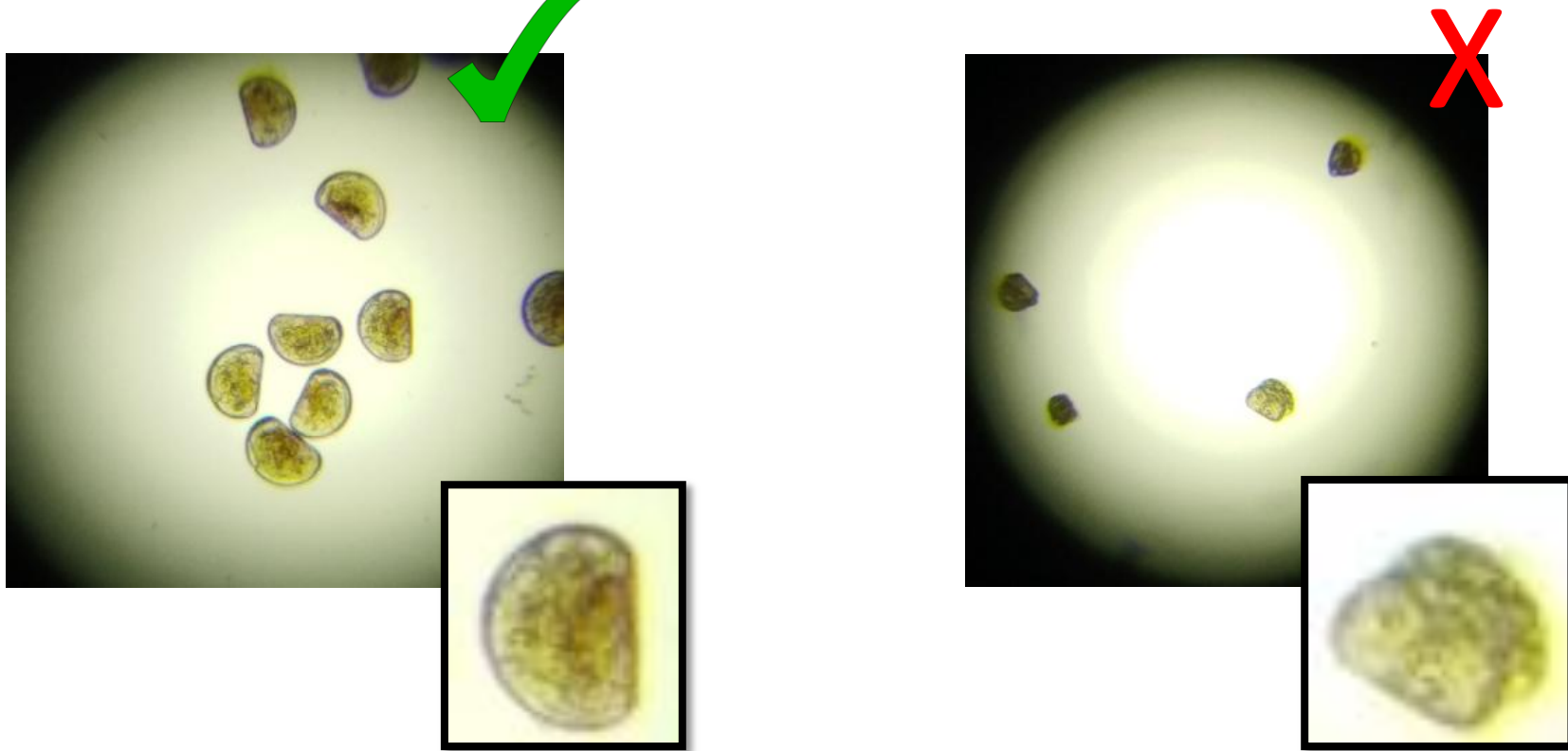
### Toxicity tests

Larvae exposed for 15 minutes to 0.5, 1, 1.5, 2 and 3M of Ethylene-Glycol (EG), Propylene-Glycol (PG), Dimethyl-Sulfoxide (ME<sub>2</sub>SO) and Glycerol (GLY). Incubation at 16°C for 48h. Fixed in formalin.

### Cryopreservation protocol (Paredes et al., 2013)



### Percentage of normal and abnormal D-larvae



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## References

E. Paredes, J. Bellas, S.L. Adams, Comparative cryopreservation study of trochophore larvae from two species of bivalves: Pacific oyster (*Crassostrea gigas*) and Blue mussel (*Mytilus galloprovincialis*), *Cryobiology* 67 3 (2013) 274–279.