

Creating opportunities for bull kelp aquaculture

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I undertook a PhD on this topic with the Blue Economy CRC because it is practical and relevant, and consists of fun and interesting lab/field-work. Plus, seaweeds are kinda cool.

Following my PhD, I hope to expand the scope of research where possible, and/or venture into the seaweed industry.



PROJECT RATIONALE

Bull kelp *Durvillaea* are large brown seaweeds restricted to the southern hemisphere. They occur in high-wave energy environments¹, making them ideal for offshore cultivation.

Durvillaea has the highest alginate yield of any seaweed^{2,3} and is a key ingredient in plant bio-stimulants (e.g. Seasol). Demand for both is rising but current supply is solely via beach cast harvests⁴.

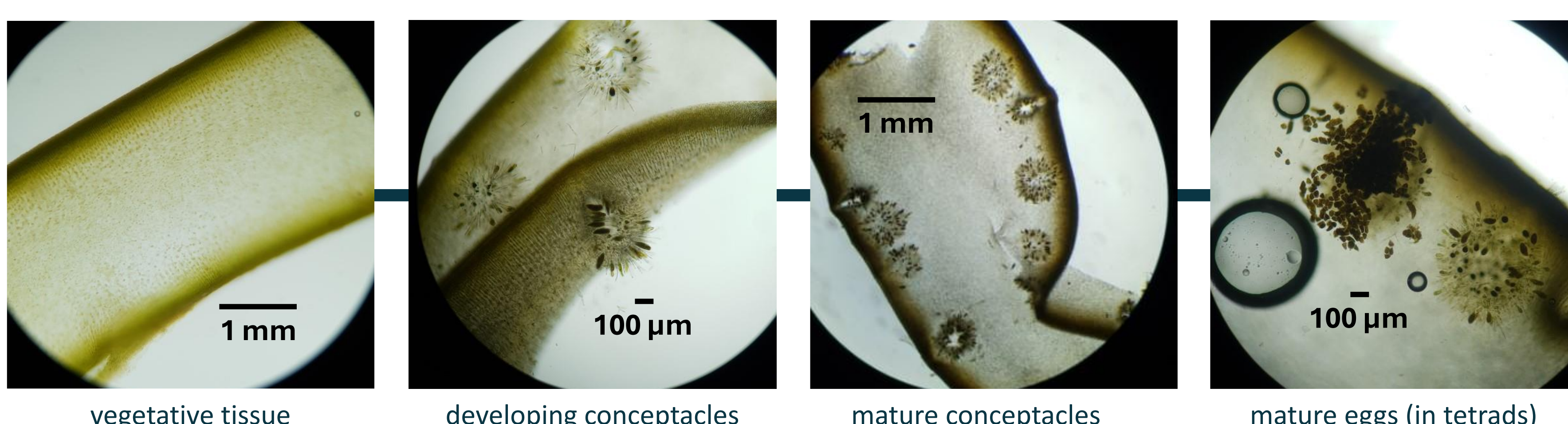
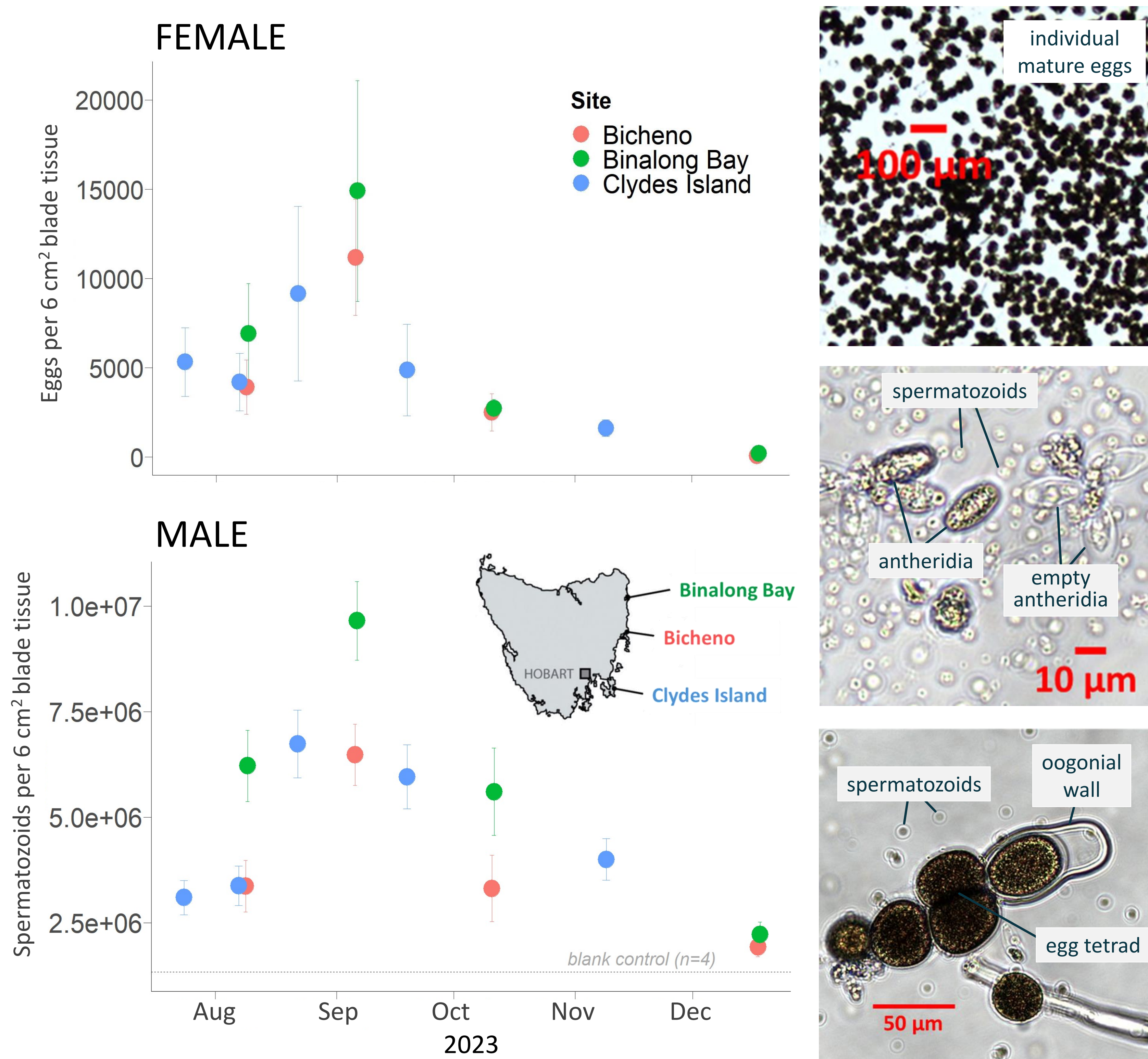
Information on reproduction is needed to develop hatchery methods for cultivation, which has yet been achieved. Alginate variations will also be assessed.

BIG PICTURE

Research findings will facilitate the development of **bull kelp aquaculture** in Australia.

Cultivation of bull kelp contributes to the BE CRC's priority goal of **offshore production** of marine products.

Durvillaea reproduction peaks during late winter/early spring.



Egg development within conceptacles of female *Durvillaea*

References

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- Abraham et al. (2019) Optimisation of biorefinery production of alginate, fucoidan and laminarin from brown seaweed *Durvillaea potatorum*. *Algal Research* 38:101389.
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