EFFECT OF THE BROODSTOCK DIETS UPON THE FECUNDITY AND THE QUALITY OF EGGS OF PATAGONIAN OCTOPUS *Enteroctopus megalocyathus*.

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INTRODUCTION

The objective of this work was to study the effect of the broodstock diets in the fecundity and the quality of eggs of *E. megalocyathus*

MATERIAL AND METHODS

12 wild inmature females of 1.4±0.2Kg, collected off Hueihue (41°52´S; 73°51´W), Region X, Chile, were maintained at 12ºC under three experimental feeding regimes: 1) fresh fish at 7% body weight, 2) mixture (3:1) of fresh fish and fresh crab at 10% body weight, and 3) fresh fish at 10% body weight, until gonad maturation and laying of egg clutches.

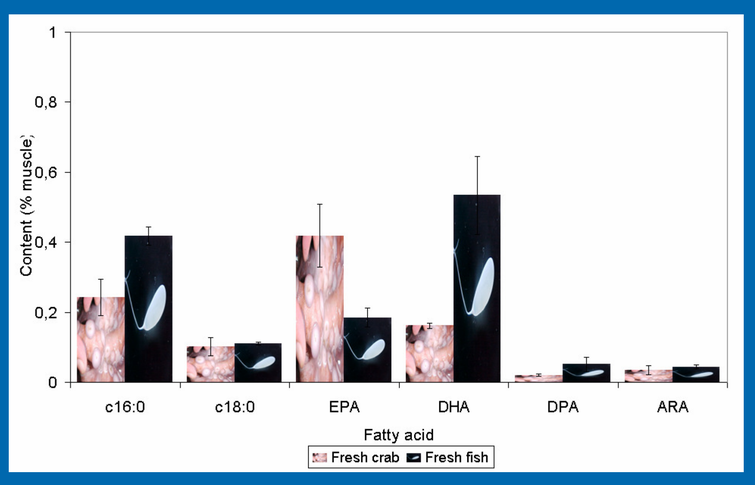

Fig.1. Fatty acid of diets (percentage of muscle dry weight) used during reproductive conditioning of Patagonian octopus.

Two samples of 12 eggs were sampled from every clutch laying by every female to analyze the soluble perivitelline protein content and fatty acid composition of egg yolk.

Growth in length and wet weight of eggs throughout the embryonic development were evaluated into every clutch.

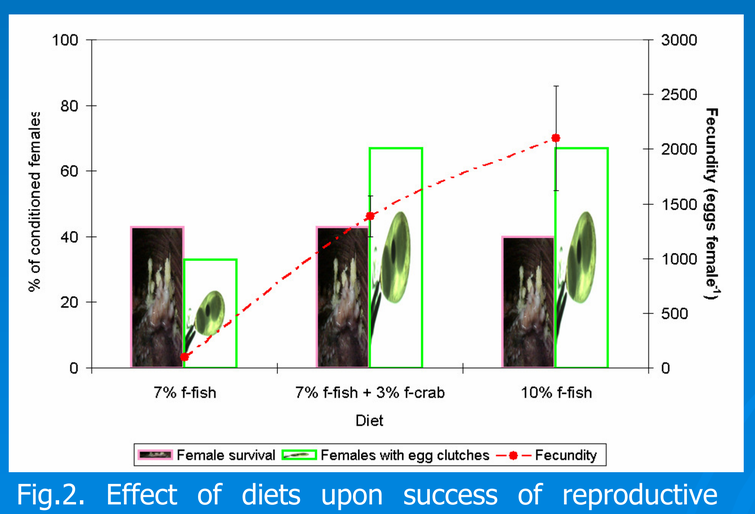

Fig.2. Effect of diets upon success of reproductive conditioning of Patagonian octopus.

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RESULTS

The spawning was observed in periods that varied between 545 and 1100 accumulated thermal degrees, during which the females increased in 1.5 times their corporal weight.

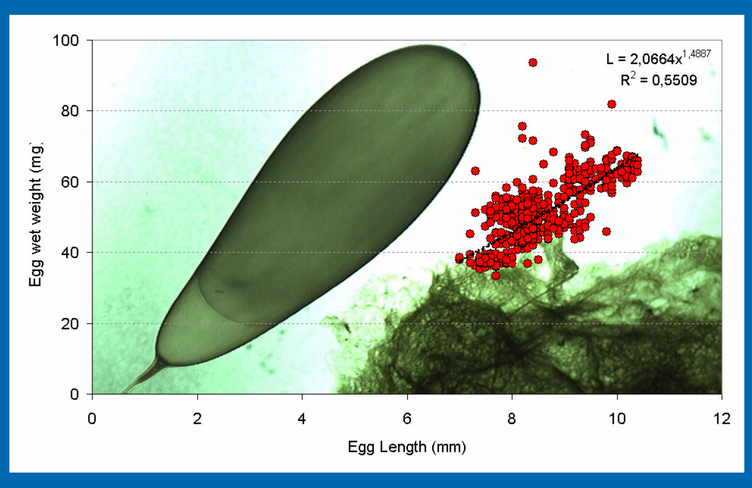


Fig. 3. Allometric relationship between egg weight and egg length for seven *E. megalocyathus* clutches, during the egg incubation throughout 130 days after laying. Signals of the embryonic development were not conspicually observed.

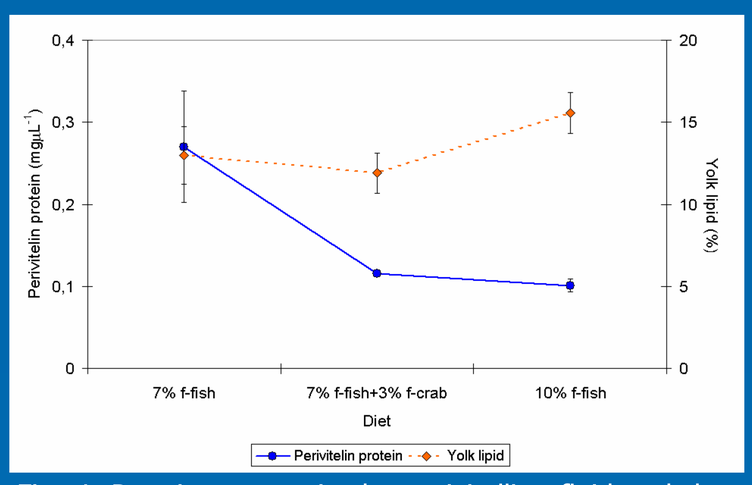


Fig. 4. Protein content in the perivitelline fluid and the total lipid in the yolk of eggs after they were layed in the tanks for Patagonian octopus females from three different diets. Each value is the mean and standard error of two replicates (different batches).

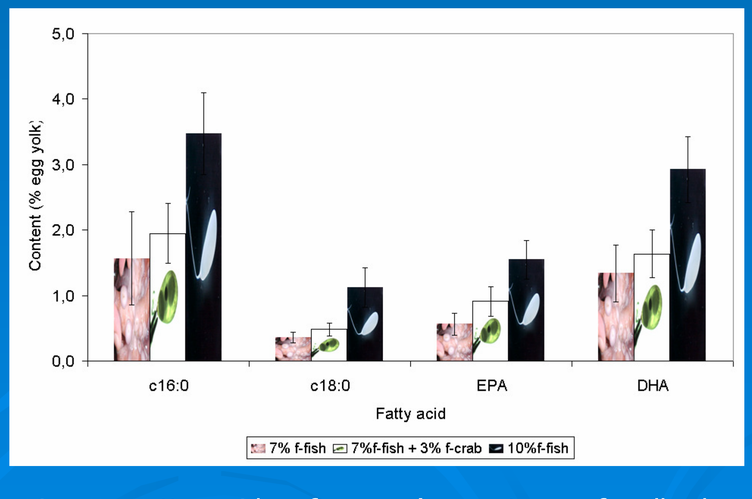
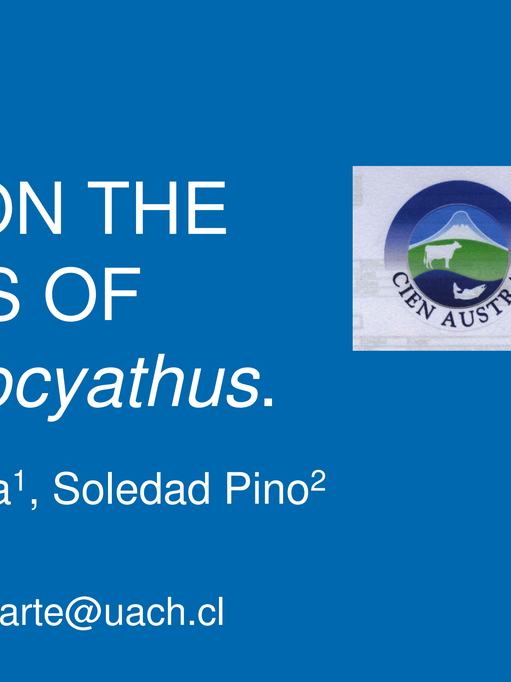


Fig. 5. Fatty acids of eggs (percentage of yolk dry weight) inmediatly after they were layed in the tanks for Patagonian octopus females from three different diets. Each value is the mean and standard error of two replicates (different batches).



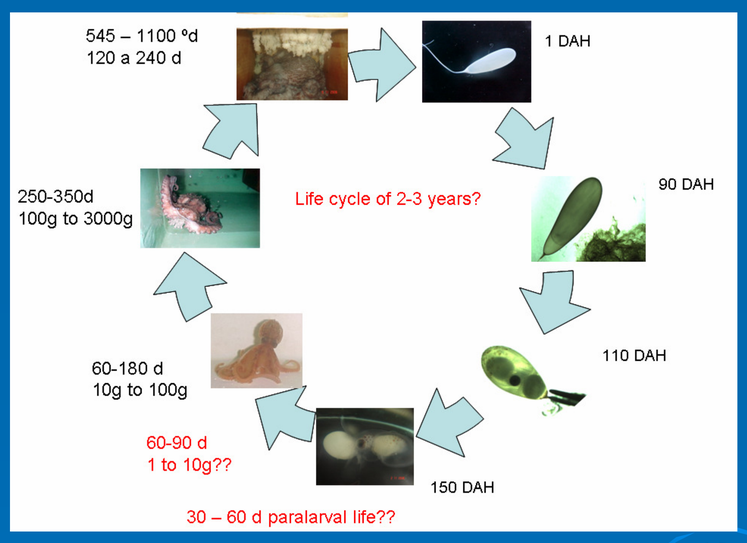


Fig. 6. Hypothetic life cycle of Patagonian octopus, *E. megalocyathus*. Red values are indicating lack of information.

CONCLUSIONS

Diets for broodstock conditioning allowed egg production without significant differences in the lipid and fatty acid profile of *E. megalocyathus* eggs.

We need wild eggs to compare the effect of experimental conditions upon eggs respect to their natural profile.