



## Research Highlight

# Role of $17\alpha$ -hydroxypregnenolone in the Ovarian Maturation Stages of *Scylla olivacea*

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Production of crustaceans is gaining huge attention in developing countries for domestic use and for export commodities. Accordingly, crab culture has gained oodles of importance within the past few decades because of great demands of live crabs as well as crab products in the export market<sup>1</sup>.

For this reason, its production should be amplified and inducing the ovarian maturation for reproduction in crustacean aquaculture is one of the practices that can meet with the market demands. In this regard, one of the methods is using steroid hormones in aquaculture which have been practicing for the past few years.

Most of the hormones are employed for reproductive means and most are for gonad development. Female gonad development is a process that generally refers to the ovarian maturation stage.

However, ovarian maturation is circulated and affected by Vitellogenin Inhibitor Hormones (VIH) which can inhibit the ovarian maturation stage 2 and steroids hormones including  $17\alpha$ -hydroxyprogesterone ( $17\alpha$ -OHP) as well as  $17\alpha$ -hydroxypregnenolone ( $17\alpha$ -OHPL) that induce the ovarian maturation stage<sup>3</sup>.

Accordingly, a novel study was conducted in order to determine the impact of reproductive steroid hormones,  $17\alpha$ -hydroxyprogesterone and  $17\alpha$ -hydroxypregnenolone with different doses on the ovarian maturation stages of orange mud crab, *Scylla olivacea*<sup>4</sup>.

This study lasted for 60 days and involved ninety immature female *S. olivacea* where eighteen immature female *S. olivacea* acted as a control without the injection, while the other 4 treatments each having 18 immature female orange mud crabs. These were injected laterally in 5th abdominal the segment with different dose of  $17\alpha$ -hydroxyprogesterone and  $17\alpha$ -hydroxypregnenolone<sup>4</sup>.

At the end of this experiment, scientists found that  $17\alpha$ -hydroxyprogesterone and  $17\alpha$ -hydroxypregnenolone injection should be evaluating more dosage before being utilized as a practical way to enhance ovarian development in commercial operations.

The crux of the matter are all treatments of  $17\alpha$ -hydroxypregnenolone play a key role in the development of ovarian maturation stage of orange mud

### Key words:

Crustaceans, orange mud crab,  
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crab, *Scylla olivacea* but out of all the four treatments T2D1 treatment of 17 $\alpha$ -hydroxypregnenolone with 0.01  $\mu\text{g BW}^{-1}$  dose gave the best results which are able to produce the highest percentage mature ovary stages and having the highest gonad somatic index.

#### REFERENCES

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