

EFFECTS OF TEMPERATURE ON HATCHABILITY AND
EMBRYO CONSUMPTION OF CLIMBING PERCH
Anabas testudineus

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**EFFECTS OF TEMPERATURE ON HATCHABILITY AND EGG YOLK
CONSUMPTION OF CLIMBING PERCH *Anabas testudineus***

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ABSTRACT

This study investigated the effect of temperature on hatchability and egg yolk consumption of Climbing Perch *Anabas testudineus* larvae, obtained from artificial insemination and held at five different temperatures (23 °C, 25 °C, 31 °C, 33 °C and ambient). Each treatment consisted of three replicates in which a total of 2600 eggs were placed inside each replicate. During embryonic period, eggs development was observed at three hours interval. The hatching rate calculated showed significant difference between temperatures and that higher temperature (31 °C and ambient) resulted in higher hatchability (81.59 % and 82.12%) while lower temperature (23 °C) was likewise (73.59 %). During yolk-sac phase, yolk consumption was observed at six hours interval. Egg yolk volume was also observed and calculated until yolk reserves had been fully consumed. Statistical analysis showed that initial mean yolk volume was not significantly different, however, mean yolk volume from the sixth hour onwards displayed significant difference until yolk exhaustion. At 33 °C, yolk reserves was the quickest to be fully consumed at 120 hours while at 23 °C yolk reserves was the slowest to be fully consumed at 168 hours. It is certain that high temperature resulted in higher hatchability and yolk consumption rate while lower temperature demonstrated low hatchability and yolk consumption rate.

ABSTRAK

Kajian ini dijalankan bagi mengenalpasti kesan suhu terhadap kadar penetasan dan penggunaan yolka bagi ikan puyu (*Anabas testudineus*), yang diperolehi melalui kaedah pembiakan aruhan dan telah di tempatkan pada lima suhu yang berbeza (23 °C, 25 °C, 31 °C, 33 °C and ambient). Setiap suhu telah dibahagikan kepada tiga replikat yang mana setiap replikat mengandungi 2600 telur. Ketika peringkat embrio, perkembangan telur diperhatikan pada sela masa setiap tiga jam. Kadar penetasan yang dianalisa menunjukkan terdapat perbezaan yang signifikan diantara setiap suhu dan suhu yang tinggi (31 °C dan ambient) menunjukkan kadar penetasan yang tinggi (81.59 % dan 82.12 %) manakala suhu yang rendah (23 °C) merupakan sebaliknya (73.59 %). Ketika fasa yolka, penggunaan yolka diperhatikan pada sela masa setiap enam jam. Isipadu yolka diperhatikan dan dianalisa hingga yolka habis digunakan. Analisis statistik menunjukkan purata isipadu yolka awal tidak mempunyai perbezaan yang signifikan. Walaubagaimanapun, purata isipadu yolka bermula pada jam keenam hingga penyerapan penuh mempunyai perbezaan yang signifikan. Pada 33 °C, yolka paling cepat dihabiskan iaitu pada 120 jam manakala pada 23 °C yolka paling lambat diserap iaitu pada 168 jam. Secara ringkas, suhu yang tinggi meningkatkan kadar penetasan dan kadar penyerapan yolka manakala suhu yang rendah menghasilkan kadar penetasan dan kadar penyerapan yolka yang lebih rendah.