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A study on sex fixing techniques in guppies, (*Poecilia reticulata*)
/ Ng Beng Siang.



KOLEJ UNIVERSITI SAINS & TEKNOLOGI MALAYSIA
21030 KUALA TERENGGANU

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**A STUDY ON SEX FIXING TECHNIQUES IN
GUPPIES, (*Poecilia reticulata*)**

By

NG BENG SIANG

This project report is submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Fisheries Science

**FACULTY OF SCIENCE AND TECHNOLOGY
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ABSTRACT

Breeding of guppy (*Poecilia reticulata*) was carried out in different temperature and pH. Broodstock were stock in 5 different temperature treatment (24 °C, 26°C, 28 °C, 30 °C and 32 °C) and 4 different pH treatment (pH 5, 6, 7 and 8) with a ratio of 1 male to 3 females. Results showed that higher proportion of male fish were observed at higher temperature treatment and lower pH treatment. Higher proportions of males were found in 30 °C (43.07 %) and pH 5 (54.51 %). Higher proportions of females are in 24 °C (54.28 %) and pH 7 (47.53 %). Statistical analysis showed that higher proportion of male production in temperature treatment was not significant ($P > 0.05$) but significantly higher in pH treatment ($P < 0.05$). However, productions of higher female for both treatments were significant ($P < 0.05$).

For temperature treatment, lower larvae survivals were observed when temperature increases. Statistical analysis showed that larvae survivals were significantly lower in higher temperature ($P < 0.05$). In pH treatment, highest larvae survivals were recorded in pH 7. Higher mortality of larvae was observed when pH value decreases to pH 5 and pH 8. However, no significant differences were recorded for larvae survival in pH treatment ($P > 0.05$).

ABSTRAK

Pembiakan ikan Guppy (*Poecilia reticulata*) telah dijalankan pada suhu dan pH yang berlainan. Induk ikan telah dirawat dengan 5 jenis parameter suhu yang berlainan (24 °C, 26°C, 28 °C, 30 °C dan 32 °C) dan juga 4 jenis pH yang berlainan (pH 5, 6, 7 and 8) dengan nisbah jantina 1 jantan kepada 3 betina. Keputusan menunjukkan nisbah rega jantan yang dihasilkan adalah lebih tinggi pada rawatan suhu tinggi dan juga pada rawatan pH yang rendah. Nisbah rega jantan yang dihasilkan adalah tinggi diperhatikan pada suhu 30 °C (43.07 %) dan pH 5 (54.51 %). Nisbah rega betina yang dihasilkan adalah perhatian lebih tinggi pada suhu 24 °C (54.28 %) dan pH 7 (47.53 %). Analisis statistik menunjukkan nisbah rega jantan yang tinggi dihasilkan pada rawatan suhu adalah tidak bererti ($P > 0.05$), tetapi ia adalah lebih ketara pada rawatan pH ($P < 0.05$). Sebaliknya, penghasilan rega ikan betina pada kedua-dua rawatan menunjukkan keputusan yang bererti ($P < 0.05$).

Untuk rawatan suhu, kadar kemandirian yang rendah telah diperhatikan bila meningkatnya suhu. Analisis statistik menunjukkan kemandirian rega adalah ketara pada suhu yang tinggi ($P < 0.05$). Dalam rawatan pH, kadar kemandirian rega adalah diperhatikan pada pH 7. Kadar kematian rega yang lebih tinggi telah diperhatikan bila pH diturunkan kepada pH 5 dan pH 8. Walau bagaimanapun, analisis statistik menunjukkan keputusan kemandirian rega pada rawatan pH adalah tidak bererti ($P > 0.05$).