

A STUDY ON THE GENETIC VARIATION OF GIANT GOURAMI,
(Osphronemus sp.)

SCH KAH LI

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

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KOLEJ UNIVERSITI SAINS & TEKNOLOGI MALAYSIA
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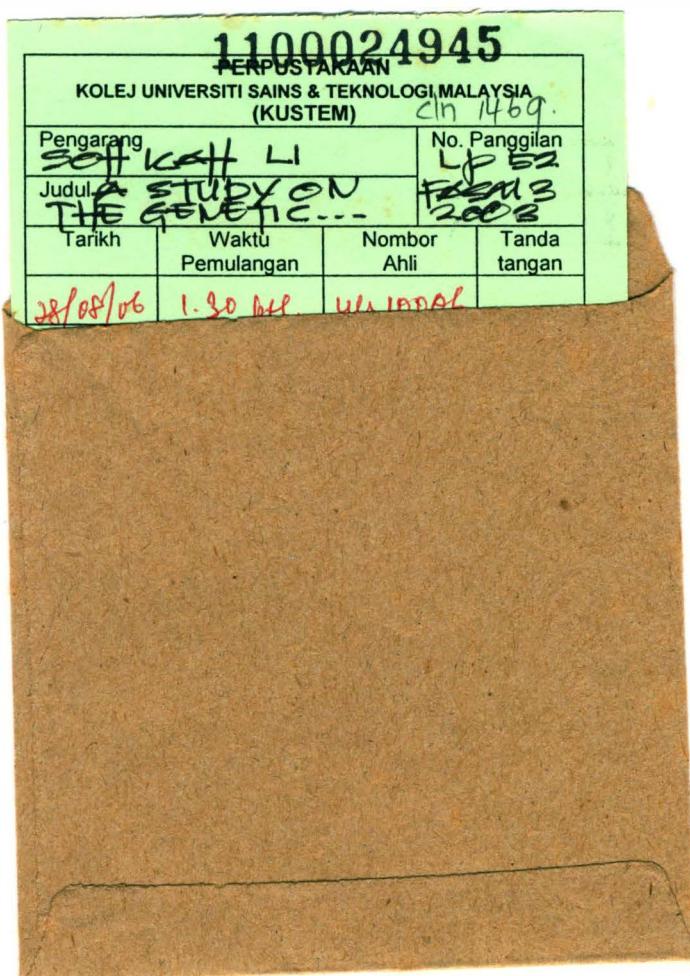
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**A STUDY ON THE GENETIC VARIATION OF GIANT GOURAMY,
(*Osphronemus spp.*)**

BY

SOH KAH LI

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ABSTRACT

In this study, PCR-RAPD technique was used to detect genetic variation and the levels of polymorphisms among *O. gouramy*, *O. septemfasciatus* and *O. laticlavius*. A total of 19 tissue samples of gouramis from three species were dissected and preserved in vials containing absolute etanol (100%). DNA was extracted by using Qiagen DNeasy Tissue Kit Protocol. The DNA purity of gouramis were ranged from 1.161-2.750 and quantity of DNA were 40-225ng/ μ l. Two primers from Operon Technologies (OPA-10 and OPA-16) gave best reproducible banding patterns. Primer OPA-10 and OPA-16 gave a mean value of 5 bands in *O. septemfasciatus*, 5 bands in *O. laticlavius* and 6 bands in *O. gouramy*. The mean similarity indices for three species of gouramis ranged from 0.0377-0.0736. Far genetic distances was observed between *O. laticlavius* and *O. gouramy* but shown to be closer to *O. septemfasciatus*. *O. septemfasciatus* and *O. laticlavius* may have originated from the same ancestral population. It can be suggested that *O. septemfasciatus* and *O. laticlavius* might be crossbreed due to close genetic distance.

ABSTRAK

Dalam kajian ini, teknik PCR-RAPD digunakan untuk mengesan variasi genetik dan aras polimorfisme di antara tiga spesies gourami iaitu *O. gouramy*, *O. septemfasciatus* dan *O. laticlavius*. Daripada tiga spesies gourami, sebanyak 19 sampel tisu gourami telah dibedah dan diawet di dalam bekas yang mengandungi etanol (100%). Pengekstrakan DNA telah dijalankan dengan menggunakan Qiagen DNeasy tissue Kit Protocol. Nilai ketulenan DNA untuk ketiga-tiga spesies adalah berjulat di antara 1.161-2.750 dan kuantiti DNA berjulat 40-225ng/ μ l. Dua primer daripada Operon Technologies (OPA-10 dan OPA-16) berupaya menunjukkan amplifikasi berulang. Primer OPA-10 dan OPA-16 menghasilkan nilai purata sebanyak 5 jalur untuk *O. septemfasciatus*, 5 jalur untuk *O. laticlavius* dan 6 jalur untuk *O. gouramy*. Min indeks kesamaan di antara ketiga-tiga spesies gourami tersebut adalah di dalam lingkungan 0.0377-0.0736. Jarak genetik *O. laticlavius* didapati jauh daripada *O. gouramy* tetapi berdekatan dengan *O. septemfasciatus*. Oleh sebab itu, *O. septemfasciatus* dan *O. laticlavius* mungkin berasal dari populasi yang sama. Kacukan antara *O. septemfasciatus* dan *O. laticlavius* adalah mungkin memandangkan perbezaan jarak genetik yang dekat.