CROSSBREEDING TRIALS BETWEEN IKAN BAUNG, *M.nemurus* and IKAN KELI, *C.batrachus*

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By

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Especially dedicated to :

Father & Mother : Gerald & Juliana

Brothers : Cyril & Wenceslaus

Sisters : Easter & Janet

GrandFather : Austin

Grandmother : Helen

Bestfriend : Joyce Asing

A thousand thanks, love & support

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ABSTRACT

This preliminary study was carried out to investigate the possibility of crossbreeding or hybridizing two types of species, ikan baung, ***Mystus nemurus*** and ikan keli, ***Clarias batrachus***, which is distantly related. Hybridization between the Bagridae species ***M.nemurus*** and Clariidae species ***C. batrachus*** were obtained by hormone injection of broodstock and artificial fertilization. Pure parental crosses and possible hybrid combinations were obtained. From the study, it was found out that two out of seven trial programs using the above species were successful.

Fertilization rate was 59.87 ± 8.64%; 57.58 ± 13.00 % for the hybrid between ♀ ***C.batrachus*** x ♂ ***M.nemurus***. As for the control crosses, the highest fertilization rate was between ♂ ***C.batrachus*** x♀ ***C.batrachus*** (73.56 ± 7.44%; 89.67 ± 3.85%). While for the ♂ ***M.nemurus*** x ♀ ***M.nemurus*** the fertilization rate was 60.57 ± 7.30%. Hatching rate for the hybrid between ♀ ***C.batrachus*** x ♂ ***M.nemurus*** was 5.76 ± 3.21% ; 9.47 ± 4.23%, hatching rate for the control crosses of ♂ ***C.batrachus*** x ♀ ***C. batrachus*** was 42.15 ± 15.26% ; 81.22± 2.55%, while 37.00±14.00 % hatching rate was obtained from ♂ ***M.nemurus*** x ♀ ***M.nemurus.***

From this study it shows that total length and body weight of hybrids cross are much more smaller compared to the control is ♀ ***C.batrachus*** x ♂ ***M.nemurus*** (TL-0.45 ; BW-0.05), ♂ ***C.batrachus*** x ♀ ***C.batrachus*** (TL-0.75 ; BW-0.05) and ♂ ***M.nemurus*** x ♀ ***M.nemurus*** (TL-0.74 ; BW-0.04).

The longestlived hybrids of ♀ ***C.batrachus*** x ♂ ***M.nemurus*** survived only up to two weeks due to the poor water quality. Through this crossbreeding trail and based on the data that was obtained, it can be concluded that there is a possibility to crossbreed this two species. Further studies and experiment should be done again in future.

ABSTRAK

Kajian awal ini telah dilakukan untuk mengetahui samada berjaya atau tidak kacukan antara dua spesies iaitu ikan baung, ***Mystus nemurus*** dan ikan keli, ***Clarias batrachus,*** dimana kedua-dua spesies ini mempunyai perbezaan yang ketara. Kacukan antara Bagriidae spesies ***M. nemurus*** dengan Clariidae spesies ***C. batrachus*** telah diperolehi dengan suntikan hormon keatas induk dan pembiakan aruhan. Hasil kacukan induk tulin dan kombinasi kacukan telah didapati. Dari kajian ini didapati dua daripada tujuh kacukan awal menggunakan spesies diatas telah berjaya dilakukan.

Kadar persenyawaan adalah 59.87 ± 8.64%; 57.58 ± 13.00 % untuk kacukan antara ♀ ***C.batrachus*** x ♂ ***M.nemurus***. Bagi kacukan kawalan pula kadar persenyawaan yang paling tinggi adalah antara ♂ ***C. batrachus*** x ♀ ***C. batrachus*** yang menghasilkan (73.56 ± 7.44 % ; 89.67 ± 3.85%). Sementara bagi ♂ ***M. nemurus*** x ♀ ***M.nemurus*** kadar persenyawaan adalah 60.57 ± 7.30 %. Kadar penetasan bagi kacukan antara ♂ ***C. batrachus*** x ♀ ***M. nemurus*** adalah 5.76 ± 3.21%; 9.47 ± 4.23 % kadar penetasan untuk kawalan ♂ ***C.batrachus*** x ♀ ***C.batrachus*** adalah 42.15 ± 15.26% ; 81.22 ± 2.55% sementara 37.00±14.00% kadar persenyawaan diperolehi dari ♂ ***M. nemurus*** x ♀ ***M. nemurus***.

Daripada hasil kajian ini juga menunjukkan jumlah panjang dan berat badan kacukan adalah rendah berbanding dengan kawalan ♀ ***C. batrachus*** vs. ♂ ***M.nemurus*** (JP-0.45; BB–0.05), ♂ ***C. batrachus*** x ♀ ***C. batrachus*** (JP-075; BB-0.05) dan ♂ ***M.nemurus*** x ♀ ***M.nerumus*** adalah (JP– 0.74 : BB- 0.04).

Jangkahayat bagi hasil kacukan ♀ ***C.batrachus*** x ♂ ***M.nemurus*** hanya mampu hidup selama dua minggu disebabkan oleh mutu air yang rendah. Dari hasil kajian ini dan berdasarkan kepada data yang diperolehi, dapat disimpulkan bahawa kedua-dua spesies ini mampu untuk dikacuk. Kajian dan penyelidikan yang lebih terperinci perlu dilakukan di masa hadapan.