

STUDIES ON SOME ASPECTS OF MYXOSPORIDIA
INFECTION OF GILL TISSUES IN *Cyprinus carpio*

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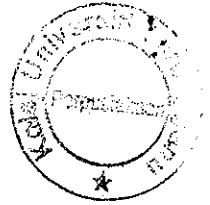
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STUDIES ON SOME ASPECTS OF MYXOSPORIDIA
INFECTION OF GILL TISSUES IN CYPRINUS CARPIO

by

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TO DAD

- for his constant source of inspiration

& MUM

- for her ever loving support

(i)

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ABSTRACT

This study on Myxosporidian infection in common carp (Cyprinus carpio) was prompted due to its recent introduction into the country.

There were four aspects in which this study covered.

The first was, to identify the species of Myxosporidian infecting the Cyprinus carpio. A total of 50 spores were fixed and examined.

The morphological characteristics were used for identification purposes, and it was found that the species infecting Cyprinus carpio was Myxobolus koi.

The second was an experiment to determine the susceptibility of grass carp (Ctenopharyngodon idellus) to infection by Myxobolus. Here, 5 grass carps were placed together with 15 infected Cyprinus carpio for a period of 8 weeks and it was found that only one fish showed evidence of infection.

The third was to induce a stress effect on the infected Cyprinus carpio. This was done by exposing groups of 10 fish to Methylene blue, Potassium Permanganate, Formalin, and heat stress. It was found the stress failed to cause an increase in Myxobolus spores possibly due to unsuitability of temperature where this experiment was conducted.

The fourth and final aspect was an investigation of the histopathology of gill tissue of Cyprinus carpio infected with the spores of Myxobolus. The examination of stained sections showed from three infected fish hyperplasia of surface epithelial cells of the primary gill lamellae. There was hyperplasia along the axes and slight fusion of secondary gill lamellae.

ABSTRAK

Kajian ini adalah tentang jangkitan myxoporidia di kap biasa (Cyprinus carpio). Jangkitan ini telah menunjukkan tanda-tanda kewujudannya di Malaysia baru-baru ini.

Kajian ini mempunyai 4 objektif. Objektif pertama ialah untuk mengenalpasti spesis-spesis myxoporidia yang boleh membawa jangkitan myxoporidia kepada Cyprinus carpio. Ciri-ciri morfologi digunakan bagi tujuan mengenali dan didapati bahawa spesis penyebab jangkitan tersebut ialah Myxobolus koi.

Objektif kedua mengkaji tentang kelalian kap rumput (Ctenopharyngodon idellus) terhadap jangkitan Myxobolus. Lima (5) kap rumput dibiarkan bersama-sama 15 Cyprinus carpio yang telahpun dijangkiti myxobolus. Selepas 8 minggu didapati hanya seekor ikan sahaja yang menunjukkan tanda-tanda jangkitan.

Objektif ketiga ialah untuk mengenakan kesan tekanan kepada, C. carpio yang telah dijangkiti. Ini dijalankan dengan mendedahkan ikan tersebut kepada Methylene Blue, Kalium Permanganet, formalin dan tekanan haba. Didapati tekanan haba gagal untuk menambahkan spora-spora myxobolus, ini mungkin disebabkan oleh ketidaksesuaian suhu ditempat di mana percubaan ini dijalankan.

Objektif terakhir ialah; kajian ke atas histopatologi tisu insang Cyprinus carpio yang telah dijangkiti spora-spora myxobolus. Ujian ke atas bahagian yang diwarnakan menunjukkan hiperplasia sel permukaan epithelial insang lamellae primer. Juga terdapat hiperplasia sepanjang paksi dan sedikit campuran insang lamellae sekunder.
