

REARING OF 3 TO 30 DAYS OLD SEABASS LARVAE,
Lates calcarifer, USING WILD PLANKTON AS FOOD

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PREFACE

Dedicated to
my only mama, papa & brother
I love you all,
And
to Yaw Liang,
for your patience and warmth

lita.....

ACKNOWLEDGEMENTS

To Tuan Haji, my supervisor, a million thanks and sincerest gratitude for giving me the guidance, advice and help throughout this project.

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ABSTRACT

The feasibility of rearing seabass, *Lates calcarifer*, larvae of 3 to 30 days old using wild plankton collected from UPMT Mengabang lagoon was investigated. A light bulb of 60 watts was used as night lights above the cage (0.3 x 0.3 x 1.0 m) to attract the wild plankton. Wild plankton of various sizes were pumped into a collecting tank and separated into four sizes through the three plankton net mesh sizes (120, 200 and 300 μm). Results obtained were compared with the feeding of a combination of cultured rotifer, *Brachionus plicatilis* and brine shrimp nauplius, *Artemia salina*. Feeding of wild plankton is done continuously for 24 hours while feeding of combination of rotifer and *Artemia* nauplii is done once a day.

Larvae of 3 day-old were cultured at three replicates in 500 litre capacity tanks at a stocking density of 30 ind/l. Final mean total length of larvae did not show any significant difference with an initial size of 10.68 mm and 17.36 mm fed on wild plankton and a combination of rotifer and *Artemia* nauplii. Final mean standard length of larvae also did not show any significant difference with size of 8.83 mm and 14.41 mm respectively. While final mean mouth opening showed a statistical significant difference with size of 1.42 mm and 2.03 mm respectively. Lastly average survival rates were 5.41 % and 39.48 % respectively.

Somite copepod was the dominant group of wild plankton eaten by larvae of age 3 to 9 days old ranging from about 45 % to 75 %. Amount of nauplii larvae eaten increased from age 5 to 13 (5 % to 30 %) but decreased after that. Copepodite and adult occur

throughout all ages and was the dominant food item of seabass larvae starting at day 11. Other items of food which were occasionally present in certain ages were the rotifers and invertebrate eggs.

ABSTRAK

Kajian kemungkinan memelihara larva ikan siakap, *Lates calcarifer*, yang berumur 3 hingga 30 hari dengan menggunakan plankton liar yang diambil dari lagun Mengabang UMPT telah dikaji. Sebuah mentol elektrik 60 watt telah dipasang di atas sangkar (0.3 x 0.3 x 1.0 m) pada waktu malam bertujuan menarik perhatian bagi pengumpulan plankton liar. Plankton liar pelbagai saiz telah dipam ke dalam sebuah tangki pengumpulan dan diasingkan kepada empat saiz melalui tiga saiz jaring plankton (120, 200 dan 300 μm). Data diperolehi dibanding dengan pemberian makanan kombinasi rotifer kultur, *Brachionus plicatilis* dan naupli *Artemia salina*. Pemberian makanan plankton liar adalah secara berterusan selama 24 jam sementara pemberian makanan rotifer kultur dan naupli *Artemia* diberi sekali sehari.

Larva berumur 3 hari dipelihara dalam tangki muatan 500 liter pada tiga replikasi dengan kepadatan densiti 30 ind/liter. Min akhir panjang penuh larva tidak menunjukkan perbezaan bererti dengan saiz dicapai adalah 10.68 mm dan 17.36 mm diberi makanan plankton liar dan kombinasi rotifer and naupli *Artemia*. Min akhir panjang piawai larva juga tidak menunjukkan perbezaan bererti dengan saiz 8.83 mm dan 14.41 mm masing-masing. Manakala min akhir bukaan mulut menunjukkan perbezaan bererti dengan saiz 1.42 mm dan 2.03 mm masing-masing. Purata kadar kemandirian pula ialah 5.41 % dan 39.48 % masing-masing.

Somit kopepoda adalah kumpulan dominan plankton liar yang dimakan oleh larva umur 3 hingga 9 hari iaitu kira-kira 45 % ke 75 %. Bilangan larva naupli yang dimakan oleh

larva umur 5 hingga 13 hari meningkat dari 5 % ke 30 % tetapi menurun selepas itu. Peringkat kopepodit dan dewasa pula dimakan pada semua peringkat umur dan merupakan kumpulan makanan dominan untuk larva ikan siakap bermula pada hari ke-11. Kumpulan makanan lain yang hadir sekali-sekala pada umur yang tertentu adalah rotifer dan telur invertebrata.