

STUDY ON THE RESPONSE OF THERMAL STRESS ON
EQUINE SKIN OF STEERS (*Amelanus*
domestica) IN CANTON OF HAINAN, P.R.C.

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**STUDY ON THE RESPONSE TO EXTERNAL STIMULI ON ENRICHMENT
BEHAVIOR OF OTTERS (*Amblonyx cinereus*) IN CAPTIVITY AT
MALACCA ZOO**

By

Roslizanawati bt. Mat Nayan

**Research Report submitted in partial fulfilment of
the requirements for the degree of
Bachelor of Applied Science (Biodiversity Conservation and Management)**

**Department of Biological Sciences
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2004**



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Adalah dengan ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

**STUDY ON THE RESPONSE TO EXTERNAL STIMULI ON ENRICHMENT
BEHAVIOR OF OTTERS (*Amblyonyx cinereus*) IN CAPTIVITY AT MALACCA ZOO**

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.....Special dedication to my mum, dad & family, my buddy,
Zura and my sweetheart.....*ALRY*, thanks for
everything.....

~ROSE~

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ABSTRACT

As part a series of investigations of enrichment studies for zoo animals, two pairs of Small-clawed Otter (*Amblonyx cinereus*), which were housed separately, were observed for 144 hours, documenting the active and inactive behavior and response to external stimuli using several tools. The enrichment studies were divided into three experiments with four phases in each experiment. The data was collected for six days per experiment. The external stimuli were provided only at Phase 2 and Phase 3. Active behavior observed were swimming, moving, rubbing, feeding (eating and foraging) and playing while the inactive behaviors were sleeping, resting and observing. Phase 1 showed that the otters spent most of their time performing inactive behavior while introduction of external stimuli at Phase 2 and Phase 3 resulted in increased active behavior both in the use of the enclosure's physical space and the behaviors displayed in various parts of the enclosure. Generally, without enrichment inactive behaviors were high while with enrichment, active behaviors increased and the difference in both cases were found to be very significant ($p < 0.01$).

ABSTRAK

Sebahagian daripada satu siri penyiasatan kepada kajian pengkayaan untuk haiwan zoo, dua pasang memerang kecil (*Amblyonyx cinereus*) yang dikurung berasingan telah diperhatikan untuk tempoh 144 jam, mencatatkan perlakuan aktif, tidak aktif, dan tindak balas terhadap ransangan luar menggunakan beberapa alat. Kaedah pengkayaan dibahagikan kepada tiga eksperimen dengan empat fasa dalam setiap eksperimen. Data dikumpul untuk enam hari bagi setiap eksperimen. Ransangan luar diberikan hanya pada Fasa 2 dan Fasa 3. perlakuan aktif yang diperhatikan adalah berenang, bergerak, menggosok, makan (makan dan mencari makan) dan bermain manakala perlakuan tidak aktif adalah tidur, berehat dan memerhati. Didalam Fasa 1, didapati memerang menghabiskan kebanyakan dari masa berkelakuan tidak aktif manakala pengenalan kepada ransangan luar dalam Fasa 2 dan Fasa 3 menghasilkan peningkatan dalam perlakuan aktif dalam menggunakan ruangan fizikal kurungan dan perlakuan yang dipamerkan dalam pelbagai bahagian dalam kurungan. Secara amnya, tanpa pengkayaan, perlakuan tidak aktif adalah tinggi manakala dengan pengkayaan perlakuan aktif meningkat dan perbezaan untuk kedua-dua kes adalah sangat bermakna pada $p < 0.01$.