

ENVIRONMENTAL ENRICHMENT OF CAPTIVE  
CHIMPANZEES (*PAN TROGLODYTES*)  
IN TAIPING ZOO MALAYSIA

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1999/2000

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Environmental enrichment of captive chimpanzees (Pan Troglodytes) in Taiping Zoo Malaysia / Rajeni a/p Muniandy.



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**BORANG PENGESAHAN DAN KELULUSAN**

**PROJEK TAHUN AKHIR**

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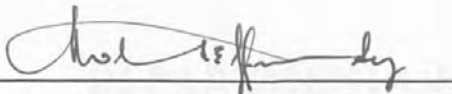
Nama Penyelia : Dr. Mohd Effendy Abd Wahid

Nama Penyelia Kedua : Dr. Kevin Lazarus,  
Direktor Zoo Taiping.

Tajuk Projek : Environmental Enrichment Of Captive Chimpanzees ( *Pan troglodytes* ) in  
Taiping Zoo Malaysia

Dengan ini disahkan bahawa saya telah menyemak laporan projek dan

- (i) semua pembetulan yang disarankan oleh pemeriksa telah dibuat
- (ii) laporan ini telah ikut format yang diberikan dalam Panduan Biologi 4999 (Projek)  
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( DR. MOHD EFFENDY ABD WAHID )

Tarikh : 13 April 2000

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CHIMPANZEES ( *PAN TROGLODYTES* ) IN TAIPING ZOO  
MALAYSIA**

**BY**

**RAJENI A / P MUNIANDY**

This Report Is Submitted In Partial Satisfaction Of The  
Requiurements For The Degree Bachelor Of Science ( Hons ) In  
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**DEPARTMENT OF BIOLOGICAL SCIENCE  
FACULTY OF SCIENCE AND TECNOLOGY  
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*Rajeni Muniandy*  
( 1997 – 2000 )

## ABSTRACT

An environmental enrichment program to stimulate foraging was used on captive chimpanzees in order to obtain positive changes in animal behaviour and to reduce undesirable behaviour patterns and boredom. Enrichment was concentrated on stimulating behaviour similar to that found in the wild, such as foraging and tool – use.

The subjects were two male and four female chimpanzees who were housed together. The enrichment methods were divided into four phases, namely the Baseline Phase, Phase 1, Phase 2 and Follow Up Phase where the data was collected for two weeks per data. Enrichment was provided only at Phase 1 and Phase 2 and not at the Baseline and Follow Up Phases. Enrichment was concentrated on artificial termite mounds, raisin holes and sunflower seeds as browse. Active behaviours observed were walking, climbing, running, foraging, tool – use, mating, eating, grooming and swinging while inactive behaviours were sitting, resting and sleeping.

At the Baseline Phase, it was found that the chimpanzees spent most of their time performing inactive behaviours while at Phase 1 and Phase 2, their active behaviour increased where foraging and tool – use behaviour rose to a high level before dropping again in the Follow Up Phase. Differences between phases were very significant.

Generally, without enrichment, inactive behaviours were high while with enrichment, active behaviours increased and the difference in both cases were found to be very significant.



## ABSTRAK

Suatu program pengkayaan persekitaran di lakukan ke atas chimpanze ( *Pan troglodytes* ) yang dikurung di Zoo Taiping untuk mengkaji samada terdapat perubahan yang positif di dalam perlakuan haiwan tersebut dan untuk mengurangkan corak perlakuan yang tidak diinginkan. Pengkayaan ditumpukan kepada mendorong perlakuan yang hampir sama dengan perlakuan yang didapati di kawasan liar, seperti penggunaan alat dan pencarian makanan.

Subjek terdiri daripada dua jantan dan empat betina yang di tempatkan bersama. Kaedah pengkayaan yang telah digunakan telah dibahagikan kepada empat fasa, iaitu Fasa Asas, Fasa 1, Fasa 2 dan Fasa Turutan, dimana data di kumpul untuk dua minggu bagi setiap data. Fasa asas dan Fasa turutan tidak mempunyai sebarang pengayaan, sementara Fasa 1 dan Fasa 2 diperkayakan persekitarannya. Pengayaan ditumpukan pada busut anai - anai buatan, lubang kismis dan kuaci yang di taburkan. Perlakuan aktif yang diperhatikan adalah berjalan, memanjat, berlari, pencarian makanan, penggunaan alat, mencari kutu, mengawan, makan, bergayut dan perlakuan tidak aktif adalah duduk, berehat dan tidur.

Di dalam Fasa Asas, didapati chimpanzee menghabiskan kebanyakan dari masa mereka berkelakuan tidak aktif dan mencari kutu, manakala di Fasa 1 dan Fasa 2 kelakuan aktif mereka telah meningkat dimana pencarian makan dan penggunaan alat secara tidak langsung telah naik sebelum jatuh di dalam Fasa Turutan. Semua perbezaan diantara fasa didapati sangat bermakna.

Secara am, tanpa pengkayaan persekitaran, kecenderungan chimpanzee untuk mempamerkan perlakuan tidak aktif mereka sangat tinggi dan dengan pengkayaan persekitaran, perlakuan aktif meningkat dan perbezaan untuk kedua - dua parameter adalah sangat bermakna.