

台灣獼猴攜鐵蛋白型與血紅素型的遺傳多態性

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摘要：為瞭解台灣獼猴攜鐵蛋白與血紅素的遺傳變異，並與馬來獼猴、豬尾獼猴及日本獼猴比較，供做純種與雜交個體鑑別的依據，及探尋走私外來獼猴之產地。取自台北市立動物園99頭台灣獼猴，33頭馬來猴，7頭豬尾猴與1頭日本猴，合計140個血液樣本，以直立式聚丙烯酰胺膠體行電泳分析。結果台灣獼猴攜鐵蛋白僅出現C與CE兩型，為其他三種獼猴所無；馬來猴D型出現頻度最高，其次為DH'型，高頻率的TfH'顯示有來自印尼蘇門臘島上的馬來猴；豬尾猴呈多態性以TfD出現的頻率最高，而C'D型則首次出現在本實驗中；日本猴為野生特徵型TfFF。台灣獼猴與日本猴的血紅素型都是泳動慢的S型；馬來猴具多態性；豬尾猴全部是F型，不像泰國的豬尾猴具有多態性，而與馬來西亞豬尾猴的血紅素型相同。

關鍵詞：獼猴、遺傳多態性、聚丙烯酰胺膠體電泳、攜鐵蛋白、血紅素

前言

由於原始林地的開發，致使野生動物可棲面積日漸減少。加上過度獵捕，使得台灣中大型哺乳動物之族群密度銳減。為台灣唯一非人靈長類且有特有種的台灣獼猴亦難倖免。獼猴種間外觀形態各異，但染色體核型(Karyotype)幾無差異(Chiarelli,1962)而且能自然(Fooden,1964;Bernstein,1966)或人為(Chiarelli,1973)雜交，產生有繁殖能力的後代。而民間豢養走私東南亞的獼猴為數不少，甚至兩種同籠混養而產生雜交猴，亦有幼猴成熟後野放山林。本篇旨在找尋台灣獼猴的遺傳

特徵，供做純種與雜交個體鑑別的依據，並推測走私外來獼猴之產地。

材料與方法

取自台北市立動物園內99頭台灣獼猴，33頭馬來猴、7頭豬尾猴與1頭日本猴共140個血液樣本。豬尾猴與日本猴均來自贈予；台灣獼猴有41頭來自舊園，37頭來自民眾贈予，21頭為園內出生，馬來猴有6頭來自舊園，其餘為開園後民眾陸續贈入，產地不明。以肝素潤溼過的無菌塑膠針筒自橈靜脈(radial vein)或股靜脈(femoral vein)抽

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GENETIC POLYMORPHISMS OF TRANSFERRIN AND HEMOGLOBIN TYPES IN FORMOSAN MACAQUES, *Macaca cyclopis*

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ABSTRACT: In order to understand the genetic variation of transferrin type and hemoglobin type of Formosan macaques and to make a comparison among different species of macaques kept at Taipei Zoo, 99 from *Macaca cyclopis*, 33 from *M. irus*, 7 from *M. nemestrina* and one from *M. fuscata* were examined by vertical polyacrylamide gel electrophoresis. This investigation also helped to detect the interspecific hybridization and to trace the origin of exotic macaques. Only two transferrin types, C and CE occurred in Formosan macaques. Most of *irus* samples were D and DH' type, and the high frequency of allele TfH' (0.197) show that some of the animals could have come from Gunungmeru and Bukitcangang Sumatra, Indonesia. The polymorphic transferrin were found *M. nemestrina*, and the frequency of allele TfD was 0.500. The C'D type was first found in the *M. nemestrina*. In the *M. fuscata*, the wild Tfff type was observed. The hemoglobin of all the Formosan macaques and Japanese macaque were slower migrating S type which is similar in mobility to human adult hemoglobin. In the *M. irus*, the polymorphic hemoglobin types were observed. In all of the *M. nemestrina* blood samples, F type hemoglobin was observed, and it was reported that the Malaysian *M. nemestrina* had the same type of hemoglobin but Thailand *M. nemestrina* had polymorphic hemoglobin.

KEY WORDS: *Macaca*, genetic polymorphism, PAGE, transferrin, hemoglobin

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