

台北市立動物園應用 Zootrition 進行圈養野生動物日糧評估—以山羌、長鬃山羊、食蟹獾為例

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摘要：對於圈養野生動物的生命維持及繁殖後代而言，適當的營養狀態是非常重要的，由於圈養野生動物的營養需要量往往缺乏參考資料，不易正確地評估動物實際需求；所以為了能評估圈養動物日糧的合適性，我們可藉由野外調查報告的蒐集、分析，調配出更接近野外食性之配方，並進行動物個體營養評估，最後交由現場實際執行；本園目前進行動物營養評估工作之計算工具主要有二種，其一為 EXCEL 應用程式，以採用園內飼料營養分析值資料庫為主，並依體重計算出能量代謝數值，評估圈養野生動物日糧的合適性；其二為新採用之 Zootrition 軟體，為一日糧調配與動物營養評估之簡便工具，其資料庫採用的分析值為國際上所廣泛使用，分析數值完整，並可配合當地資料庫的建立，使動物營養評估更具實用性；此外，以本園圈養之山羌、長鬃山羊、食蟹獾三種本土性野生動物營養評估為例，實際闡述日常動物營養評估工作程序；其中依食蟹獾野外食性的參考資料，將食蟹獾的日糧進行了較大幅度的修正，加入昆蟲與魚蝦類，使其日糧更符合實際需求；並希望能藉由 Zootrition 系統的整合，將本園動物日糧逐一建立至資料庫中，以配合現場的飼養參考，最後佐以野外食性調查文獻的相互結合，使我們更能正確且完整地評估動物營養需求。

關鍵字：營養評估、Zootrition、食蟹獾

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**臺北市立動物園

Wildlife Nutrition evaluation and zootrition software application at the Taipei zoo

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Abstract: Proper nutritional status is crucial to maintaining and propagating wildlife in captivity as well as in their natural habitats. As there are few references about nutrition requirements of wildlife in captivity, it is hard to evaluate precisely their nutrition needs. For either evaluating the nutritional completeness of diets or preparing the diets close to the wildlife natural needs, we could gather and analyze the papers about the natural food habits of wildlife. By now in Taipei Zoo, there are two techniques for evaluating the wildlife nutrition needs. One is EXCEL software. The nutrient composition of various feeds used in Excel software is obtained from locally available feedstuffs and ingredients data in Taipei Zoo. At last, we can also evaluate basal metabolic rate (BMR) and maintenance energy with the animal weight.

The other is Zootrition software, a powerful technique, to evaluate the wildlife nutrition needs. The nutrient composition of up to 3000+ foods used in Zootrition software is obtained from global feedstuffs and ingredients data. In addition, we can enter diet information, determine nutritional quality, and compare information with animal and resource requirement. And then through combing our local database with global database, we can make the database more complete for wildlife nutritionists to use. And then to show these two useful techniques, we take the three local animals including *Muntiacus reevesi micrurus*, *Capricornis crispus swinhoei*, and *Herpestes urva* for examples. Especially, *Herpestes urva*, specific diet adjustment to be discussed include the captive diet modification and feeding adjustments, following the addition of fish and insects to balance nutrition composition of diets. Finally, we hope to integrate the daily diet information and the papers of food habits into Zootrition database to make our evaluation of the nutrition needs of wildlife in captivity more closely to indeed animal body condition.

Key words : nutrition evaluation 、 Zootrition

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