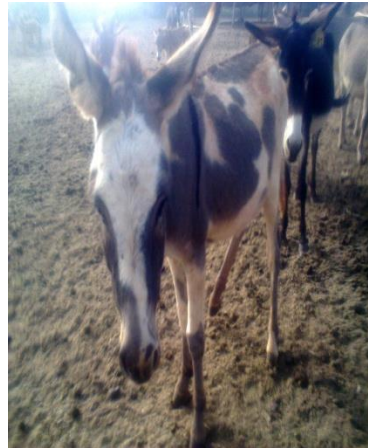


CHARACTERIZATION OF DONKEYS IN NORTH WEST NIGERIA USING COAT COLOUR AND HAIR TYPES

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INTRODUCTION

- Origin of donkeys
- Introduction into Nigeria
- Source of milk

JUSTIFICATION

- Very little is known about the morphological relationships of donkey strains in Nigeria.
- There is need for more intense methods of classification such as morphological classification, which is the focus of this research.

Objectives

- To determine the relationships that exist amongst the morphological traits of donkeys.
- To define the possible route(s) for the classification of these donkeys.

Research hypotheses

- Null Hypothesis (H_0): There is no relationship among strains of donkeys in Nigeria using morphological characteristics.
- Alternative Hypothesis (H_a): There is relationship among strains of donkeys in Nigeria using morphological characteristics.

Materials and Methods

- Experimental location.
- Total of 700 donkeys were used
- 100 donkeys were sampled per state
- 33 in 2 senatorial zones and 34 in another senatorial zone using random sampling techniques.
- Morphological traits.
- Age determination.

Statistical analysis

$$Y_{ijkl} = \mu + L_k + V_l + \epsilon_{ijkl}$$

Where Y_{ijkl} = observation of each trait of the ij^{th} Animal.

μ = population mean

L_k = effect of k^{th} location (Kaduna, Kano, Kebbi, Katsina,

Sokoto, Jigawa and Zamfara State)

V_l = fixed effect of l^{th} strain (Auraki, Fari, Duni and Idabari)

ϵ_{ijkl} = residual error

Phenotypic frequency of morphological traits

$$\text{Chi-square } (x^2) = \frac{(\text{Observed freq} - \text{Expected freq})^2}{\text{Expected freq}}$$

RESULTS / DISCUSSION

Table 1: Distribution of coat colour and hair types among donkeys in North West Nigeria

Characteristics	N	Variants	F (%)	CL (%)	χ^2	LOS
Coat colour	700	-	100		2044.01	**
		Brown	86	85-87		
		Black	5	3-7		
		White	4	3-6		
		Red	2	0.1-1		
		Brown-white	3	2-4		
Hair type	700	-	100		555.53	**
		Short-smooth	75	71-78		
		Short-rough	14	11-16		
		Long-curly	11	8-13		

N= Number, F= Frequency, CL= Confidence level, χ^2 =Chi-square value, LOS= Level of Significance

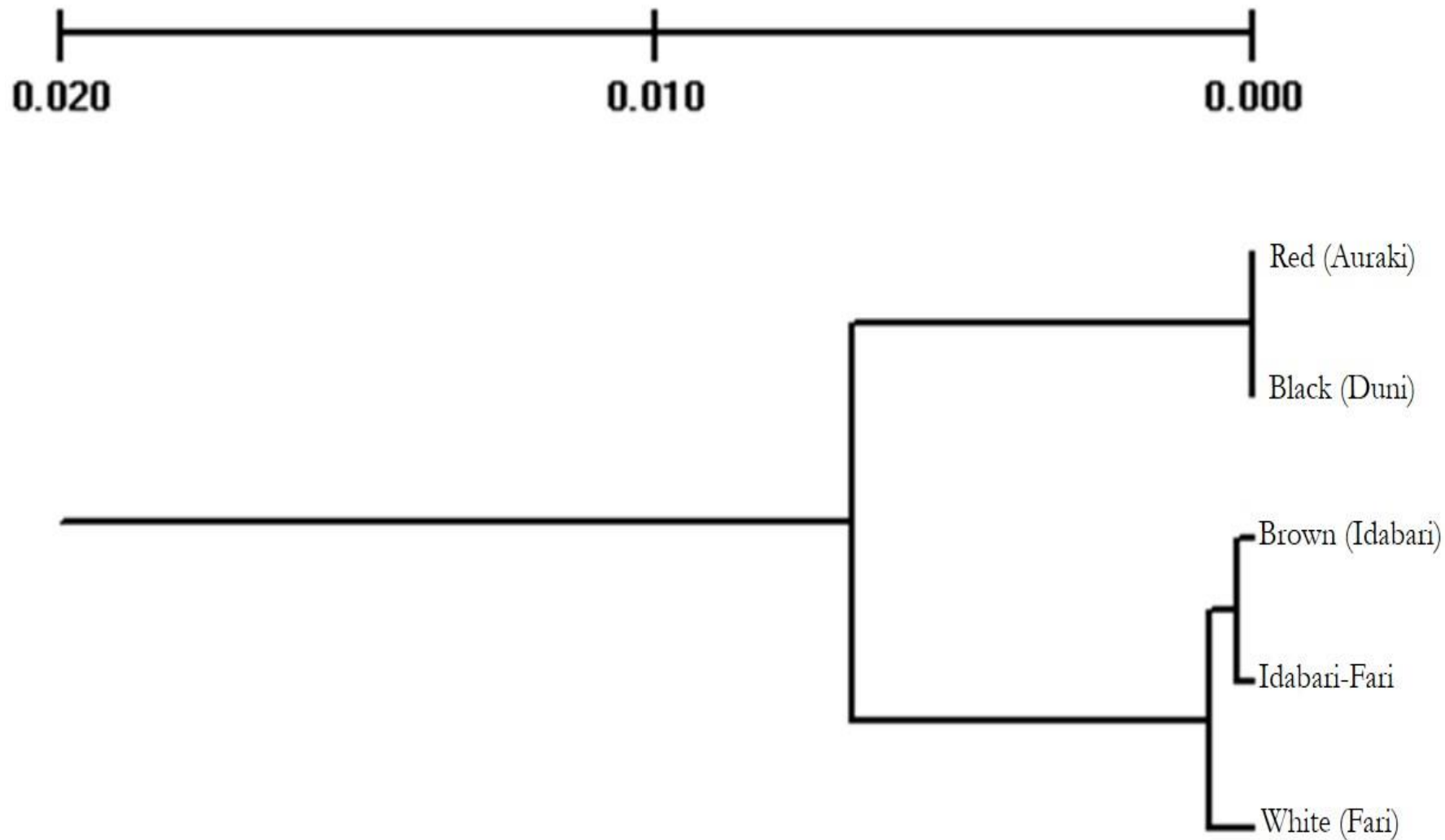


Figure 1: Dendrogram showing relationships clustering of strains of donkeys based on hair type

CONCLUSION AND RECOMMENDATIONS

- **Donkeys in North West Nigeria were differentiated into two major clusters on the basis of their hair type.**
- **Classification of donkeys on the basis of hair type should be developed using morphological and molecular techniques.**

THANK YOU

FOR

LISTENING