

# Research on Donkey Populations (*Equus Asinus*) in Banat

Marcel Matiuti<sup>1</sup>, Carmen-Luminita Matiuti<sup>2</sup>, Dorel Dronca<sup>1</sup>, Eleonora Nistor<sup>1</sup>,  
Teodor Mot<sup>1</sup>

<sup>1</sup>Banat's University of Agricultural Sciences and Veterinary Medicine, Calea Aradului 119, 300645, Timișoara, Romania

<sup>2</sup>Technical College "Azur" Calea Martirilor nr. 64, Timisoara, Romania

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## Abstract

Research has been made in what concerns the bodily development of donkeys (*Equus asinus*) in Banat, on a number of 94 specimens. The results have shown a great variety in body measures, colours and hues. The Banat Donkey comes from different areas in Romania, Europe or Levant. In 2010 in Banat there were approx. 1000 donkey specimens, 98% of which pertained to shepherds. In the case of this species the mating occurs naturally, and a selection has never been made. Their meat and milk are only rarely consumed by some communities, even if their milk is highly appreciated in the European Union.

**Keywords:** biodiversity, donkey, gene preservation.

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## 1. Introduction

The terms ass and donkey represent the same animal, with the difference that the donkey is the domesticated type. Nowadays there are programmes which identify the donkey breeds all around Europe [1, 2]. The research takes part in an international project coordinated by the "Donkey Sanctuary" Association, where there is a solid database regarding this species in the world [3]. In Banat donkey breeding is not traditional, and no document mentions this species [4, 5]. During the 19<sup>th</sup> century and at the beginning of the 20<sup>th</sup> century the sheep breeders from Banat had only horses [6]. <sup>1</sup>In the second half of the 20<sup>th</sup> century donkeys began to appear in this area due to the transhumance phenomenon. In 2010 the estimated number of donkeys in Banat was of about 1000 specimens, out of which 98% pertained to sheep breeders [7].

## 2. Materials and methods

During 2008-2010 research was conducted on the Donkey of Banat. Body measurements were made on 94 specimens. Ethograms were made in order to study the nurturing behaviour, reproduction and social behaviour, etc.

The variety of colours in the specimens observed was highlighted. Questionnaires were filled in by the owners and the results were compared to the features of the type of donkey in the Serbian Banat and in Szeged (Hungary).

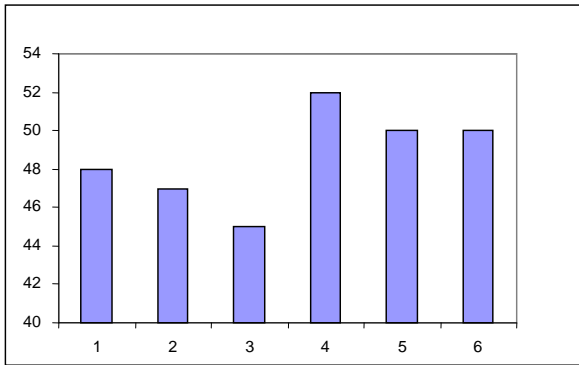
## 3. Results and discussion

The results of these measurements are shown in Tabel 1. A close analysis of these results reveals that there is a great variety in the body measurements (this is obvious especially with the help of the diagrams). In figure 1,2,3,4,5,6,7,8,9,10 and 11 the body measurements are represented in a diagram. The

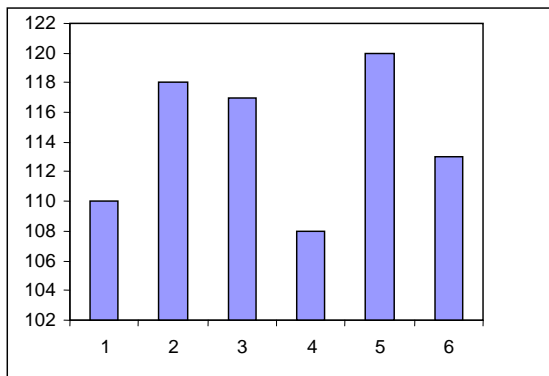
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\* Corresponding author: Matiuti Marcel,  
0040723281021, Email [matiutimarcel@yahoo.com](mailto:matiutimarcel@yahoo.com)

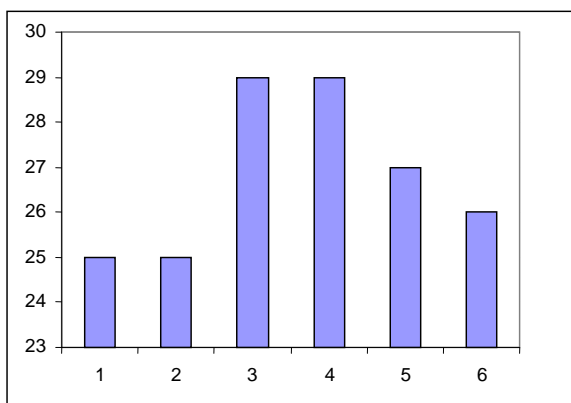
colours and hues have varied from light brown to reddish brown and black. 65 specimens were of a dark grey colour, 2 specimens were white and one was white with brown spots. Most of the specimens were white on their nozzle, their eyes and their belies, except for 5 donkeys which were completely black [8].



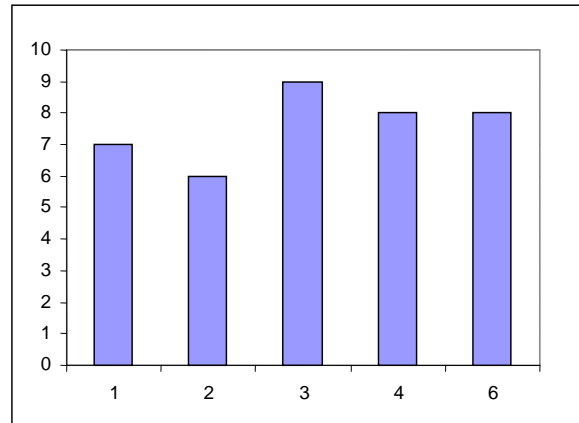
**Figure 1.** The length of the head of the specimens (cm)



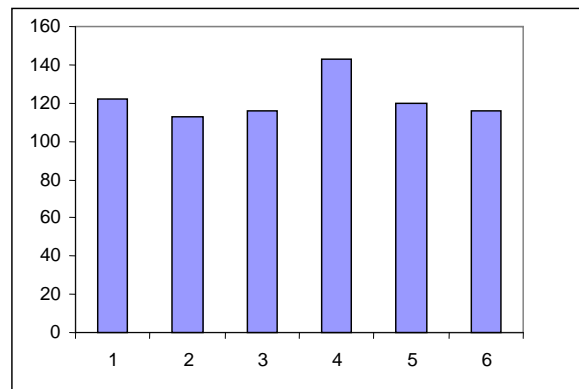
**Figure 2.** The length of the torso (cm)



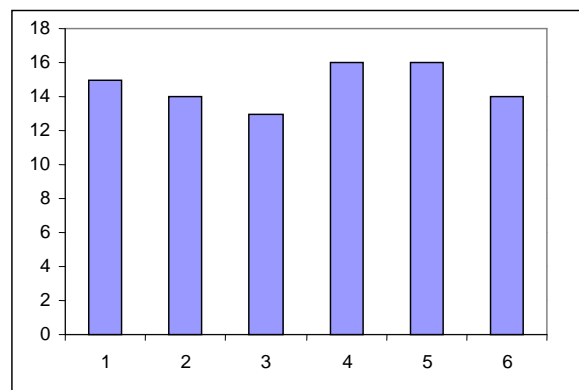
**Figure 3.** The length of the ears (cm)



**Figure 4.** The width of the ears (cm)



**Figure 5.** The thorax' perimeter (cm)



**Figure 6.** The ankle's diameter (cm)

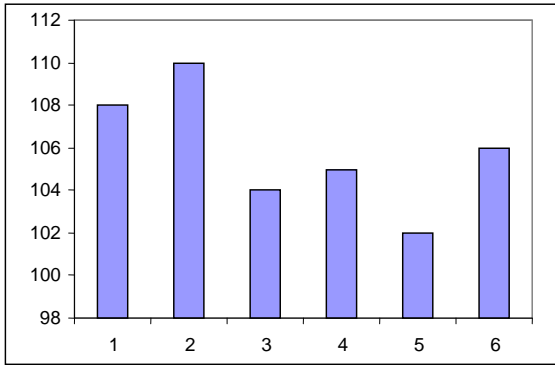


Figure 7. The height of the rump (cm)

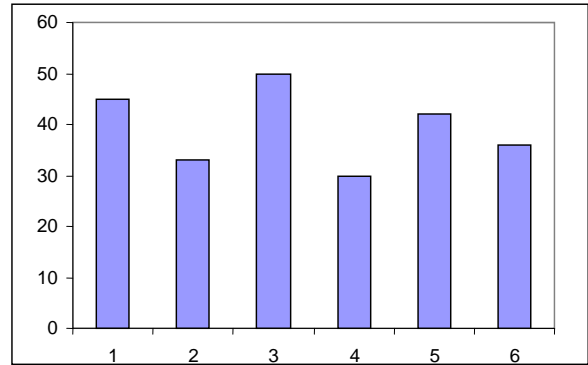


Figure 10. The length of the rump (cm)

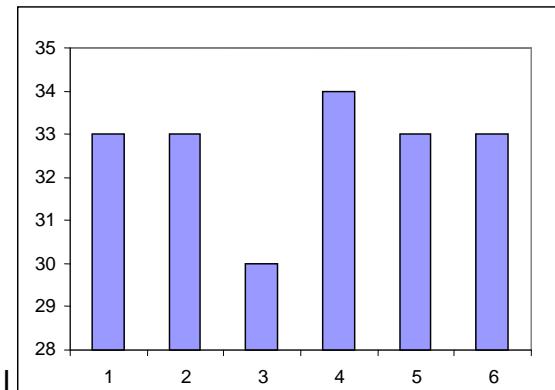


Figure 8. The width of the hip (cm)

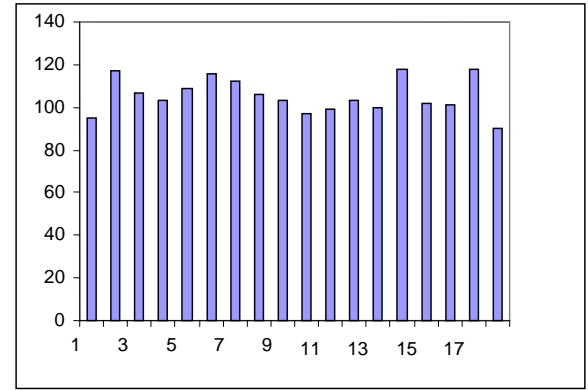


Figure 11. The height of the withers (cm)

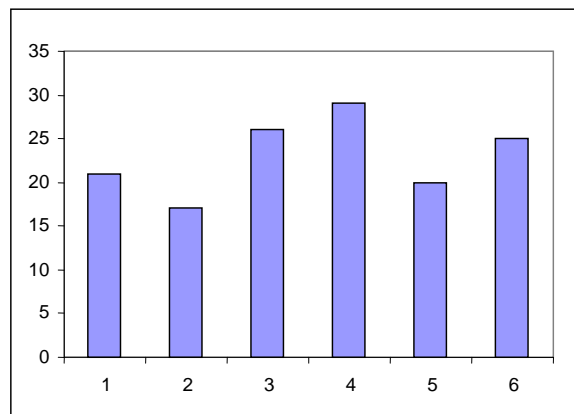


Figure 9. The width of the ischium (cm)

**Table 1.** The results of the statistics regarding the measurements on donkeys (cm)

Feature	Head's length	Trunk's length	Thorax' perimetre	Ear's length	Ear's width	Ankle diameter
Average Value	48.60	114.50	121.00	26.80	7.50	13.00
S <sub>s</sub>	2.26	3.20	10.00	1.65	0.73	2.00
± tS <sub>m</sub>	±2.60	±3.00	±5.00	±2.00	±0.80	±2.00
X ± tS <sub>m</sub>	48.60±2.60	114.50±3.00	121.00±5.00	26.80±2.00	7.50±0.80	13.00±2.00
X max	51.20	117.50	126.00	28.80	8.30	15.00
X min	42.00	111.50	116.00	24.60	6.70	11.00
S <sub>x</sub>	±0.40	±0.50	±1.00	±0.30	±0.13	±1.00
X ± S <sub>x</sub>	48.60±0.40	114.50±0.50	121.00±1.00	26.80±0.30	7.50±0.13	13.00±1.00
C <sub>v</sub>	±0.85	±0.40	±0.60	±0.01	±1.79	±3.00

Feature	Rump's height	Hip's width	Withers' height	Ischium's width	Rump's length
Average Value	106.00	33.00	105.00	22.00	36.00
S <sub>s</sub>	1.50	1.29	7.30	3.31	5.60
± tS <sub>m</sub>	±3.00	±2.00	±3.00	±5.00	±10.00
X ± tS <sub>m</sub>	106.00±3.00	33.00±2.00	105.00±3.00	22.00±5.00	36.00±10.00
X max	109.00	35.00	108.00	27.00	46.00
X min	103.00	31.00	102.00	17.00	26.00
S <sub>x</sub>	±1.00	±0.20	±1.00	±1.00	±1.00
X ± S <sub>x</sub>	106.00±1.00	33.00±0.20	105.00±1.00	22.00±	36.00±1.00
C <sub>v</sub>	±0.40	±0.05	±0.20	±3.30	±2.25

S<sub>s</sub> – standard deviation

S<sub>x</sub> – average error

± tS<sub>m</sub> – safety limit

X ± tS<sub>m</sub> – average trusted interval

Xmax – superior value of the average trusted interval

Xmin – inferior value of the average trusted interval

C<sub>v</sub> – variety coefficient

Reproduction. In Banat only natural mating occurs in the case of donkeys. No cases of artificial insemination have been registered.

Selection. There hasn't been and there isn't yet a programme for donkey selection. The owners are not interested in the selection of donkeys.

The shelters are very simple and the donkeys are usually kept together with other species.

The meat and milk production. At the beginning of the 20<sup>th</sup> century there used to be a recipe for Sibiu Salami which included donkey meat alongside meat from the Mangalitzza pig.

Nowadays donkey meat is eaten only rarely in Banat. Until the 1970s donkey milk was consumed as a cure for some illnesses such as convulsive cough or other lung diseases, a thing which doesn't happen nowadays [9].

In Banat (and in Romania in general) cross-breeding between donkey and horse is not a common practice. There was only one case in 2010 when a mule was found in the Timis county and it generated curiosity in terms of its appearance and qualities [10].



**Photo 1.** Donkey from Banat. Orig.



**Photo 2.** Donkey from Hungaria. Orig.

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## 4. Conclusions

- the great colour variety shows that the donkeys in Banat come from different parts of Romania and Europe.
- if we don't take immediate action, the donkeys as a species will soon disappear.
- the general public is not informed about the whereabouts and qualities of this species, with the exception of some small articles in the local press
- there is a continuously increasing demand for donkey milk in Europe. In 2010 the cost of 100 ml was of 6 euros. This is one reason why a center for donkey preservation should be formed in Banat.