

Studies Regarding Some Phenotype Parameters and the Evolution of Shepherd Dog Breeds in Romania

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Abstract

Now days, Romania have three dog breeds homologated by FCI (Federation Chynologique Internationale): Romanian Mioritic Shepherd Dog, Romanian Charpatian Shepherd Dog and Southeastern European Shepherd Dog. The fourth breed, Romanian Shepherd Dog Corby is in homologation. It was studied the evolution of the population and two phenotype parameters (weight and wither height) at the Romanian shepherd dogs. The first three breeds have a good homogeneity and a positive numeric evolution. Romanian Shepherd Dog Corby are less homogene and the selection process must be improve..

Keywords: parameters, phenotype, Romanian Shepherd Dogs

1. Introduction

Domestications and raising dogs on present territory of Romania dates back to times. The archaeological sites certify the existence of shepherd dogs since advanced Neolithic.[1,2].

After hundreds of years of selection and improvement, Romania have currently three shepherd dog breeds recognized by FCI (Federation Chynologique Internationale): Romanian. Mioritic Shepherd Dog, Romanian Charpatian Shepherd Dog and Southeastern European Shepherd Dog. The fourth shepherd dog breed is being approval.[3]

All four breed of dogs is characterized by large, more or less molossoïd type and good abilities for guard livestock and households.

The study wants to score structure and dynamics of Romanian shepherd dogs in the period 1999-2009.

2. Materials and methods

Situation of number evolution of Romanian Shepherd Dog belonging to the four breed and the dynamics of livestock were evaluated on the basis of making records in the Romanian Studbook.

Assessment of morphological parameters considered for the study was done by measurements and judging.

Assessment of body weight was done by weighing (kg) a number of 30 dogs from each breed, separate by sex.

The height at wither (cm) was performed on the same group.

All data were statistically processed and used for interpretation of results.[4]

3. Results and discussion

Analyzing data in tables 1,2,3 is observed that during 1999-2009, the three breeds: Romanian Mioritic Shepherd Dog, Romanian Charpatian Shepherd Dog and Southeastern Shepherd Dog have had a satisfactory numerical evolution.

Romanian Charpatian Shepherd Dog was registered in the Romanian Studbook A 199 litters

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with a total of 796 puppies. The studbook A contains data for dogs in the ascendant are known for a least three generation.

Table 1. Romanian Mioritic Shepherd Dog Population

Years	Studbook A		Studbook B	
	Litters	Puppies	Litters	Puppies
1999	-	-	48	241
2000	-	-	37	204
2001	-	-	58	335
2002	-	-	61	346
2003	-	-	59	316
2004	-	-	65	384
2005	14	68	41	212
2006	30	128	27	136
2007	24	108	34	140
2008	33	158	28	122
2009	20	105	22	113
total	121	567	480	2549
Total puppies studbook A+studbook B=3116				
Total dogs registered in studbook C=75				
Total dogs in Romanian Studbooc A+B+C=3191				

Table 2. Romanian Charpatian Shepherd Dog Population

Years	Studbook A		Studbook B	
	Litters	Puppies	Litters	Puppies
1999	-	-	54	154
2000	-	-	31	213
2001	-	-	49	292
2002	-	-	57	277
2003	-	-	39	204
2004	-	-	50	286
2005	10	63	29	176
2006	57	203	8	50
2007	35	174	8	35
2008	38	140	12	54
2009	59	216	6	33
total	199	796	343	1774
Total puppies studbook A + studbook B = 2570				
Total dogs registered in studbook C = 43				
Total dogs in Romanian Studbooc A+B+C=2613				

The dogs in the studbook B is known ascendant on a least three generation but incomplete. Studbook C contains whose membership was based on breed by typical morphology.

Romanian Mioritic Shepherd Dog is the best represented breed with a total of 3191 dogs of which 567 fall in the studbook A, followed by Romanian Charpatian Shepherd Dog with a total of 2613 dogs in which 796 to studbook A and

Southeastern Shepherd Dog with 2085 dogs in which 176 in studbook A.

Table 3. Southeastern Shepherd Dog Population

Years	Studbook A		Studbook B	
	Litters	Puppies	Litters	Puppies
1999	-	-	-	-
2000	-	-	-	-
2001	-	-	-	-
2002	-	-	27	112
2003	-	-	44	200
2004	-	-	27	188
2005	-	-	53	339
2006	-	-	31	175
2007	-	-	47	317
2008	-	-	48	357
2009	25	176	34	198
total	25	176	311	1886
Total puppies studbook A+studbook B=2062				
Total dogs registered in studbook C=23				
Total dogs in Romanian Studbooc A+B+C=2085				

Analyzing the evolution of this three breeds is seen as the most evolved population is Romanian Charpatian Shepherd Dog. From a total of 2613 dogs, 30.84% are employed in the studbook A.

The smallest share of dogs included in studbook A register at Southeastern Shepherd Dog (8.44%), part explained by the fact that this breed was separated from Romanian Charpathian Shepherd Dog only since 2002.

The average live puppies/litter was: 4.74%±0.35 for Romanian Charpatian Shepherd Dog, 5.18%±0.44% for Romanian Mioritic Shepherd dog and 6.13%± 0.15 for Southeastern Shepherd Dog, with a net ratio for females at all breeds.

Romanian Shepherd Dogs are large breeds and we believe that the number of puppies/parturition is placed bellow the average for other large breeds.[1,5]

It is necessary selection steps in improving birth index to all three breeds, a good number of puppies constitutes the further development basis for these breeds.

Romanian Shepherd Dog Corby, being in the process of selection and improvement, not yet submitted data to Romanian Studbook. In this breed no sufficiently accurate data on the overall population, number of litters and numerical evolution, which is why it could not make an accurate assessment of the breed. The reproductive nucleus of Romanian Shepherd Dog

Corby is located in a few small mountain regions of Romania. Currently efforts are being made for identifying and cataloging all existing specimens of this breed and their evaluation based on provisional standard and genealogy.

The two morphological parameters considered for the study: body weight and height at wither provided important data on breeds homogeneity. (table 4)

Body weight (kg) in the three breed considered for the study is framed within the parameters stipulated by the each breed standard.[6,7,8]

Table 4. Results of body weight measurement

Breed	Body weight (kg)	
	Male	Female
Romanian Mioritic Shepherd dog	(n=30) x=52.80 Sx=0.74 V%=6.71	(n=30) x=45.00 Sx=0.36 V%=3.85
Southeastern Shepherd Dog	(n=30) x=52.50 Sx=0.55 V%=5.04	(n=30) x=46.23 Sx=0.53 V%=5.50
Romanian Charpatian Shepherd Dog	(n=30) x=48.66 Sx=1.13 V%=11.17	(n=30) x=45.50 Sx=1.01 V%=10.65

Table 5. Results of height at wither measurement

Breed	Body weight (kg)	
	Male	Female
Romanian Mioritic Shepherd dog	(n=30) x=73.30 Sx=0.51 V%=3.34	(n=30) x=68.70 Sx=0.44 V%=3.07
Southeastern Shepherd Dog	(n=30) x=69.90 Sx=0.56 V%=3.84	(n=30) x=63.30 Sx=0.61 V%=4.09
Romanian Charpatian Shepherd Dog	(n=30) X=65.60 Sx=0.49 V%=3.61	(n=30) X=62.67 Sx=0.38 V%=2.88

The coefficient of variation of this character was very good. The lowest coefficient of variability we have at Southeastern Shepherd Dog (5.04 for male and 5.50 for female), followed by Romanian Mioritic Shepherd Dog (6.71 for male and 3.85 for female) which means that this parameter is

transmitted from ascendants to descendants faithfully and can easily be enhanced by selection. The height at wither is also at low variability in all three breeds (less than 5%) and consider it a very stable character, which can be easily consolidated in the right direction by selection.

Preliminary data reveal the existence of same aspects al Romanian Shepherd Dog Corby, body weight and height at wither can be used successfully to improve and strengthen the breed, so that breed can be approved in a short time.

4. Conclusions

Romanian Shepherd Dog breeds (approved by FCI) had taken a good numerical evolution in the last ten years.

Height at wither and body weight are morphological parameters with a small coefficient of variability and are recommended for selection and consolidation of Romanian Shepherd Dog breeds.

It is necessary to improve selection for birth index at all breeds considered in the study.

It should enhance selection for Romanian Shepherd Dog Corby to be further homologated by FCI.

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