Non Genetic Factors

Affecting Hunting Ability

in Italian Maremma Scent Hound

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ITALIAN MAREMMA SCENT HOUNDS

ENCI 192/03/SB (7 July 2003)

- FCI Code: 900
- Group: Hounds and Blood Hounds
- Coat: short haired or rough haired
- In 2014: 161 rough haired and 2207 short haired, for a total of 2369 registrations.

Aim of the study

Assessment of the effect of five non genetic factors (sex, coat colour, judges, type of competition, field of trial) on wild boar hunting performance in Italian Maremma Scent Hounds.

Materials

- A total of 763 Italian Maremma Scent Hounds (488 males and 275 females) were studied.

- Creation of a database using 1147 results from boar hunting field trials held in North-Central Italy, between 2010 and 2011.

TRAITS CLASSIFICATION (I)

VERIFICA ZOOTECNICA PER RAZZE DA SEGUITA SU CINGHIALE

FIN. PROV. COPPA ITALIA

di SERRA · IMPICCATI del 25/03/10

CONDUTTORE/I SIG. NERELLI - CLAUDIO

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FEDERAZIONE ITALIANA DELLA CACCIA F.I.D.C.

RAZZA: S. MAREMMANO	NOME DEI SOGGETTI	ZORRO	LILLO
TURNO N°	TATUAGGIO	ME 5054	ME 2356
1) DOTI FISICHE - STILE DI RAZZA - TIMBRO E TONO DELLA VOCE - OMOGENEITÀ	Punti 50	39	38
2) CERCA Maneggevolezza - Collegamento	Punti 30	25	25
3) ACCOSTAMENTO Spirito di muta	Punti 30	26	26
4) ATTITUDINE ALL'ABBAIO A FERMO Coraggio	Punti 40	33	33
5) SEGUITA Sicurezza - Persistenza - Coesione	Punti 50	40	39
TOTALE PUNTI DI MERITO		163	162
TOTALE PUNTI DI DEMERITO (Max 30)			
TOTALE PUNTI ASSEGNATI:		163	162
QUALIFICA		Ecc	Ecc

PARIGLIA QUALIFICATA Ecc 162,5

Relazione - Inizio Prova ore: Terreno buono assenza di vento, pilotta pariglia di S. maremmani, ~~ZORRO~~ reperisce traccia utile e in breve i cani trovano traccia utile e con voce accostano ed abbaiano a fermo, con pochi abbaiò, il cinghiale parte ed iniziano una seguita continua e incalzante fino alla chiusura del turno.

Fine Prova ore

Classifica

Il Giudice/i [signature]

TRAITS CLASSIFICATION (II)

Trait	Score	Judging criteria
Physical skills	1 - 50	Morphology, intelligence, homogeneity (pair, pack)
Search	1 - 30	Intelligence and sagacity
Approach	1 - 30	Speed and methodical approach to the prey
Aptitude to bark at standstill	1 - 40	Cautious courage
Tracking of prey	1 - 50	Accuracy and perseverance in pursuing prey

FIXED EFFECTS

Fixed Effects	Levels
Sex (S)	2
Coat Colour (CC)	2
Field of Trials (Site of Trial + Climatic conditions) (T.T.)	70
Judges (J)	3
Type of competition	3

CLASSIFICATION OF CLIMATIC CONDITION

Observed Climatic Conditions (C.C.)		
Wind	Absent (1)	Present (2)
Ground	Good (1)	Not Good (2)
Sky	Clear (1)	Cloudy (2)
Temperature	Pleasant (1)	Unpleasant (2)
Precipitation	Absent (1)	Present (2)
Total	10	

RESULTS
Sex *vs* Search

Trait	Sex	Mean	Std. Deviation	N	Sig.
Search	Males	38,26	1,220	734	,001
	Females	38,02	1,225	399	
	Total	38,17	1,227	1133	

RESULTS
Type of competition *vs* Search and Approach

Trait	Type of trial	Mean	Std. Deviation	N	Sig.
Search	Individual	38,37	1,180	374	,0001
	Pair	38,11	1,109	671	
	Pack	37,81	1,855	102	
	Total	38,17	1,225	1147	
Approach	Individual	25,09	1,144	374	,0001
	Pair	24,84	, 979	671	
	Pack	23,78	, 997	102	
	Total	24,82	1,080	1147	

RESULTS
Field of trial *vs* Search and Approach

Trait	Field of trial	Mean	Std. Deviation	N	Sig.
Search	C.C. + S.T.	38,17	1,226	1142	,0001
Approach	C.C. + S.T.	24,82	1,074	821	,0001

RESULTS
Judges vs Physical skills and Standstill barking

Trait	Judges	Mean	Std. Deviation	N	Sig.
Physical skills	1	35,34	1,638	67	,0001
	2	36,17	1,924	403	
	3	35,22	2,044	351	
	Total	35,70	2,008	821	
Standstill barking	1	38,93	1,579	67	, 0001
	2	38,23	1,544	403	
	3	38,72	2,050	351	
	Total	38,50	1,798	821	

Phenotypic correlation

Traits	Search	Approach	T. of prey	P. skills	S. barking
Search	1	-, 076*	-, 040	-, 100**	-, 037
		, 030	, 253	, 004	, 288
Approach	-, 076*	1	, 571**	, 071*	-, 063
	, 030		, 000	, 043	, 072
T. of prey	-, 040	, 571**	1	, 187**	, 037
	, 253	, 000		, 000	, 285
P. skills	-, 100**	, 071*	, 187**	1	, 015
	, 004	, 043	, 000		, 675
S. barking	-, 037	-, 063	, 037	, 015	1
	, 288	, 072	, 285	, 675	

*. Significant at the .05 level. **. Significant at the .01 level.

Conclusions (I)

- Coat colour had no effect on tested traits.

- Type of competition (individual, pair, and pack) had a significant effect on search (individual vs pair; $P<0.05$) and approach (all three types; $P<0.05$).

- A significant difference between males and females was observed only for search ($P<0.001$).

Conclusions (II)

•Field of trial (boar hunting site + observed climatic conditions) influenced significantly search ($P<0.05$) and approach ($P<0.05$).

•Judges factor was highly significant for physical skills ($P<0.000$) and standstill barking ($P<0.000$).

•A high significant positive phenotypic correlation was found between tracking of prey and approach ($P<0.005$). Physical skills were positively correlated with both, search ($P<0.005$) and approach ($P<0.005$). Approach was highly positively correlated with tracking of prey ($P<0.005$). Standstill barking showed no correlation with any traits.

Future implications

- Our findings are the first step toward the genetic quantification of aptitudes in scent hounds.
- To assess the link between standard breed traits and functional aptitudes.
- To provide genetic criteria to breeders to achieve more stringent selective choices.


IT'S ALL ABOUT APTITUDE