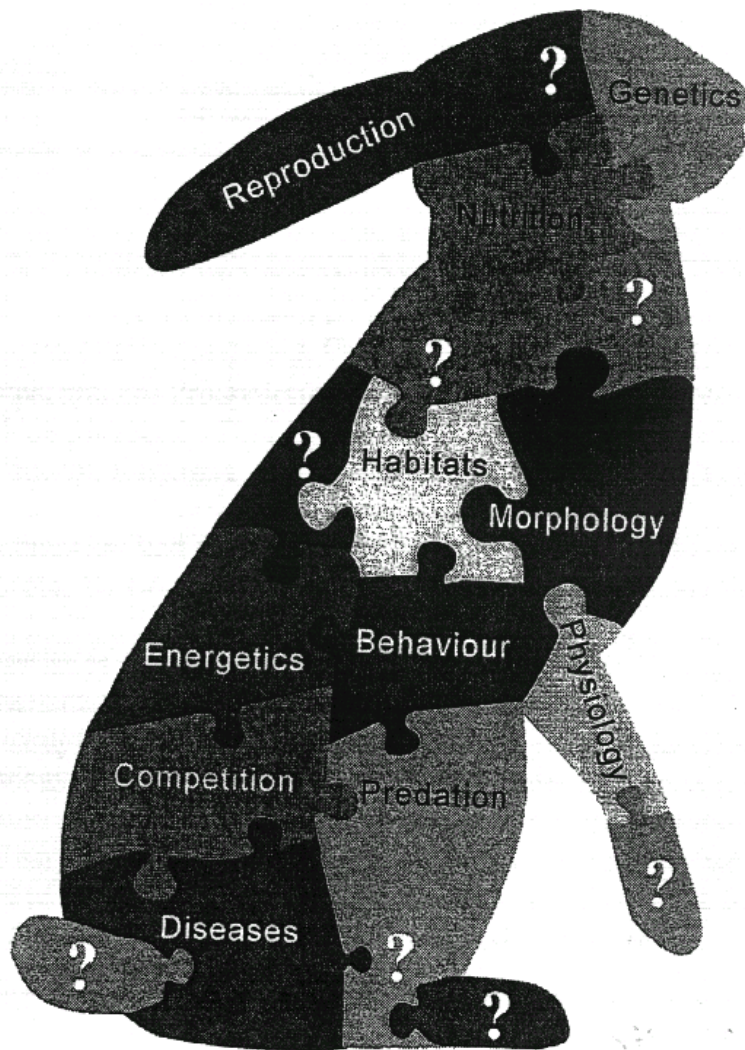


Abstracts

# *THE DECLINE OF EUROPEAN HARES*



an interdisciplinary  
European Research Task

Berlin 18 - 22 April 2001

**Symposium «Decline of the European hares:  
an interdisciplinary European research task»**

**Berlin, April 18 – 22, 2001**

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## ABSTRACT 14

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<p>RELATIONSHIP BETWEEN THE HABITAT CHARACTERISTICS, CENSUS AND HAEMATIC PARAMETERS OF BROWN HARES Paci G.<sup>(1)</sup>, Lavazza A.<sup>(2)</sup>, Profumo A.<sup>(1)</sup>, Ferretti M.<sup>(3)</sup>, Bagliacca M.<sup>(1)</sup> <sup>(1)</sup> Dipartimento Produzioni Animali, Facoltà Medicina Veterinaria, Università di Pisa, V.le piagge, 2 - Pisa.; <sup>(2)</sup> Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna, Via A. Bianchi 9 - Brescia; <sup>(3)</sup> ATC FI-5 Via Cittadella 25A - Firenze. ITALIA</p> <p>The authors studied body weights, metabolic profiles (glucose, urea, cholesterol, Ca, P, Mg, Na, K, Cl-, ALT, and AST) EBHS antisera levels, census results and some habitat traits of the forest-grassland landscape (altitude, sun-exposition ground-characteristics water-sources, vegetative-cover, predators-presence, habitat management, etc.) of brown hare populations.</p> <p>blood samples were collected from 200 brown hares captured in 34 protected areas of Tuscany (Central Italy). Hierarchical clusterings were performed separately for metabolic profiles, body weights, EBHS antisera, and habitat traits.</p> <p>Preliminary results suggest the possibility to use the body weight with the metabolic profiles of the hares to evaluate the habitat suitability while the EBHS antisera levels would be used for game management (animal relocation).</p>
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# RELATIONSHIP BETWEEN HABITAT TRAITS, CENSUS AND HAEMATIC PARAMETERS OF BROWN HARES

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## THE MESSAGE

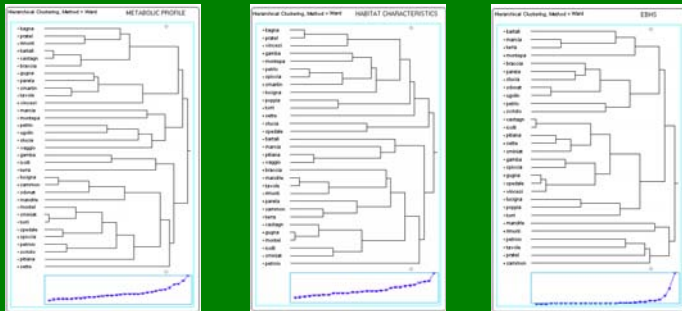
- Are you interested in **habitat evaluation and brown hares management**?
- Metabolic profile -> hare-knowledge and best safety
- EBHS, serum level -> where to move and where not to move.

## INTRODUCTION

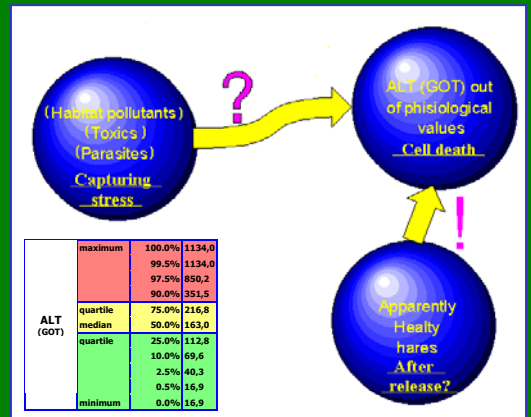
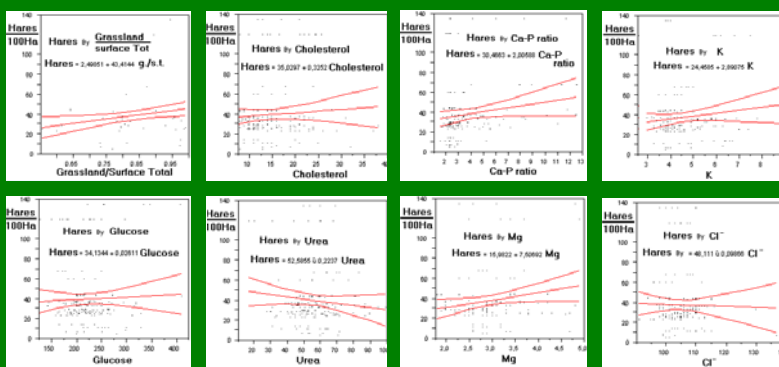
The authors studied live weights, body temperatures, metabolic profiles, EBHS antisera levels, census results and some habitat traits of some protected areas, particularly fitted for brown hare life and reproduction.

## MATERIALS AND METHODS

- ✓ 200 captured brown hares were checked up in 34 protected areas of a hunters managed district of Florence (ATC5-Florence).
- ✓ Live weights, body temperatures and sanitary general conditions were monitored.
- ✓ Blood samples (serum and Li-eparine plasma) were collected to evaluate EBHS antisera levels, glucose, urea, cholesterol, Ca, P, Mg, Na, K, Cl<sup>-</sup>, ALT, and AST.
- ✓ Census and capturing results were related to: habitat traits of the wood-grass-land landscapes (altitude, sun-exposition, ground physical characteristics, water availability, slope, human presence, vegetative-cover, raptor-presence and control, habitat improvement, habitat management).



PARAMETERS		AVG.	S.D.	PARAMETERS		AVG.	S.D.
Live weight	g	3500	411	Glucose	(mg/dl)	226	45,9
Sex ratio	m/(m+f)	0,51	0,227	Cholesterol	(mg/dl)	14,8	5,52
Age ratio	j/(j+a)	0,52	0,259	ALT (GOT)	(u/l)	178	106,6
Body temperature	°C	38,8	0,87	AST (GPT)	(u/l)	61,3	25,82
				Urea	mg/dl	55,5	13,68
EBHS positive to test	%	74,1	30,80	Na	mEq/l	136	5,2
level		156	276,6	K	mEq/l	4,58	1,061
Surface area	ha	589	304,7	Na/K		31,3	6,66
Woodland	ha	85	73,6	Cl	mEq/l	105	6,0
Grassland or tillage	ha	504	301,7	Ca	mg/dl	11,9	1,00
Grassland/(wood+grass)		0,86	0,116	P	mg/dl	3,82	1,415
Estimated density	n/100ha	53,8	66,76	Ca/P		3,84	2,335
Captured hares	n/100ha	25,6	68,10	Mg	mg/dl	2,97	0,660



## CONCLUSIONS

- Preliminary results suggest the possibility to use metabolic profiles with body weights in healthy hares to evaluate the nutritional conditions of the animals - Nutritional conditions of healthy hares, with census results, can be used to evaluate habitat management, effects of crops-left-for-wildlife and any other theoretical habitat improvement.
- Presence of ALT values, 2 times out of s.d., in apparently healthy hares, need to be investigated since may be due to local problems of pollution, diseases, or others unknown factors.
- EBHS serum levels should be used to choose the suitable areas for the release of the hares captured in the protected areas of reproduction.