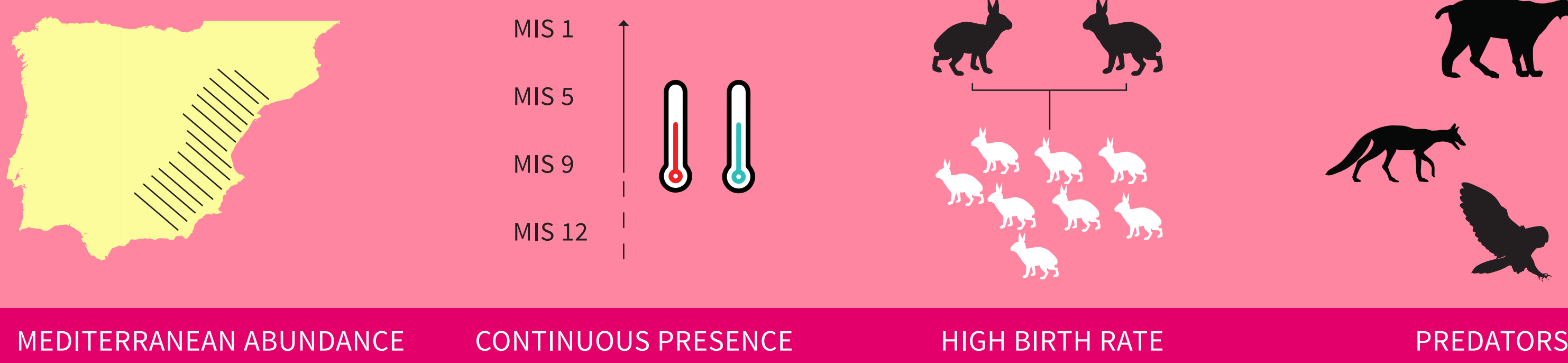


RABBIT ROLE IN PREHISTORIC HUMAN DIET: A REVIEW FROM THE IBERIAN MEDITERRANEAN CENTRAL REGION

Alfred Sanchis¹, Cristina Real^{1,2}, Juan V. Morales², Juan Gordón², Leopoldo J. Pérez^{3,4}, J. Emili Aura², Valentín Villaverde², Manuel Pérez Ripoll²

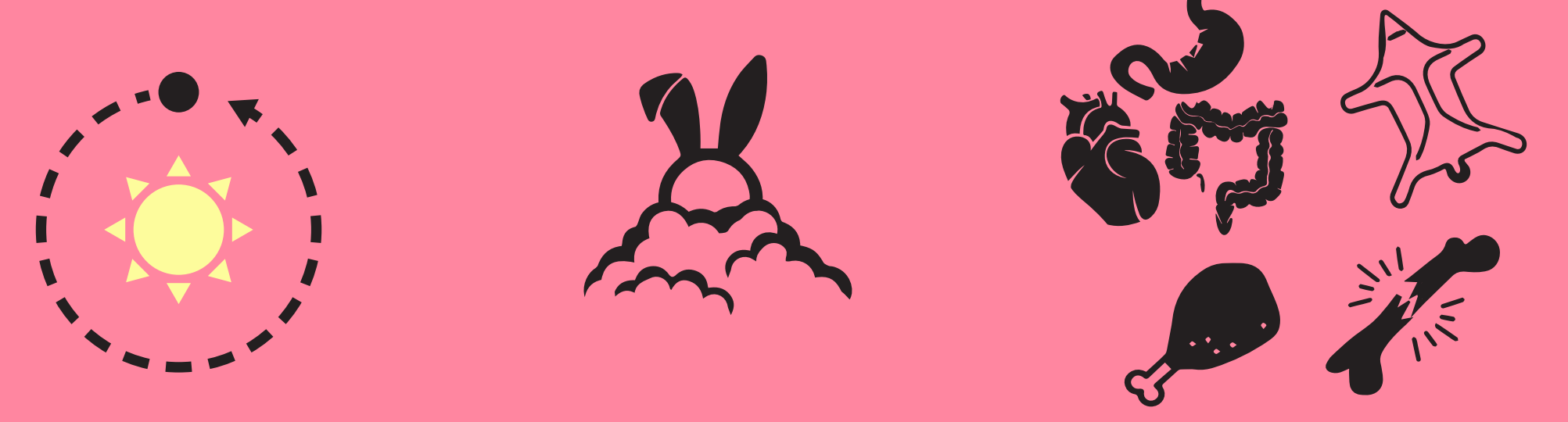
¹ Museu de Prehistòria de València. Servei d'Investigació Prehistòrica. Diputació de València. Corona 36, 46003 València, Spain. alfred.sanchis@diva.es
² Departament de Prehistòria, Arqueologia i Història Antiga. Universitat de València. Blasco Ibáñez 28, 46100 València, Spain. cristina.real@uv.es; juan.morales@gmail.com; gorbac@alumni.uv.es; emilio.aura@uv.es; valentin.villaverde@uv.es; manuel.perez@uv.es;
³ Institut Català de Paleontologia Humana i Evolució Social (IPHES), Tarragona, Spain. ljperrez@iphes.cat
⁴ Àrea de Prehistòria, Universitat Rovira i Virgili (URV), Tarragona, Spain

ORYCTOLAGUS CUNICULUS: WHY IS IT SO RELEVANT?



MEDITERRANEAN ABUNDANCE CONTINUOUS PRESENCE HIGH BIRTH RATE PREDATORS

WHY IS IT SO USED?



DURING ALL THE YEAR EASY CAPTURE LOTS OF RESOURCES

WHY IS THIS WORK NECESSARY?

WHAT WE KNEW?

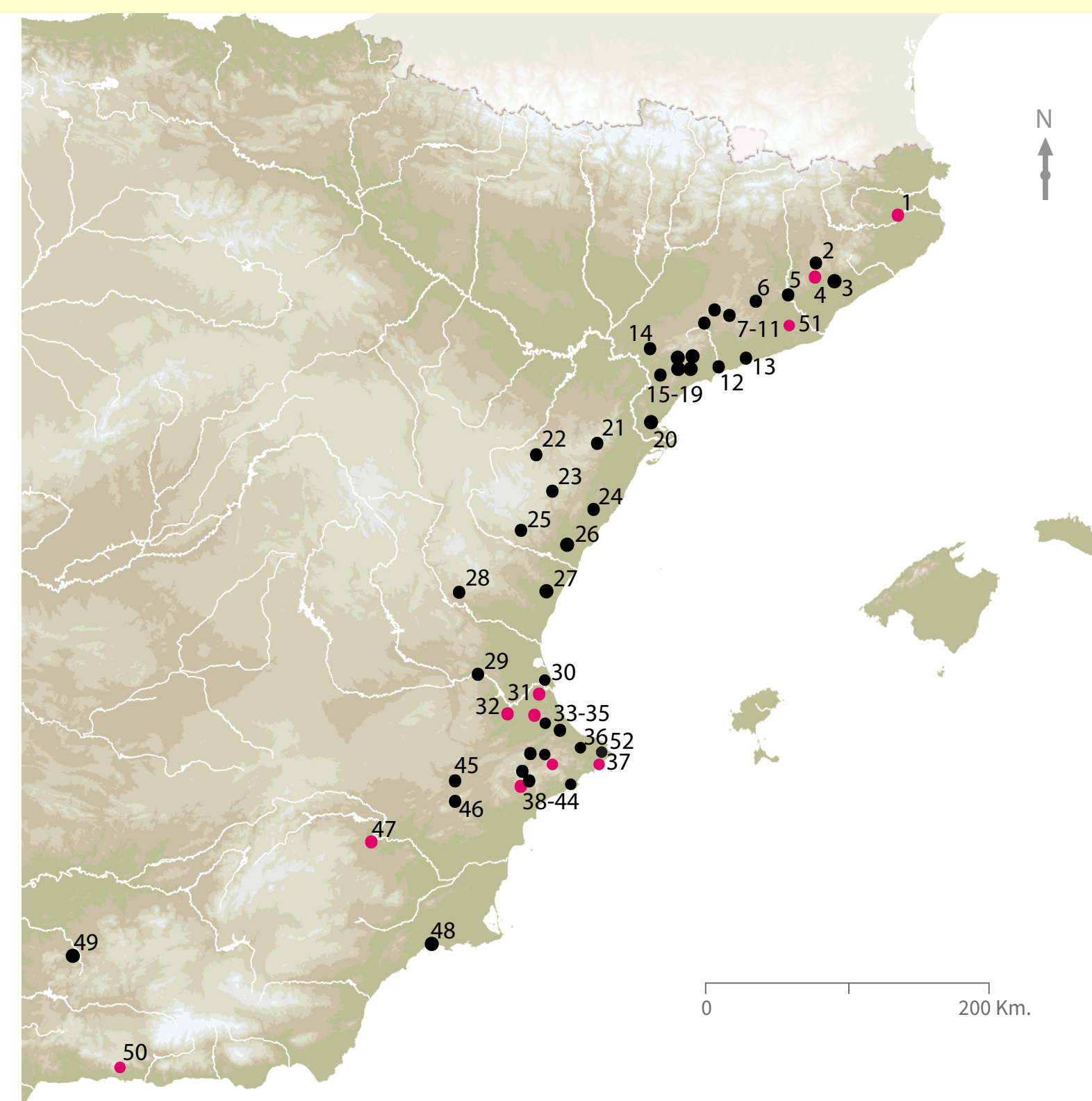
- Abundant NISP of rabbit bones in Mediterranean archaeological sites
- Old excavations and assemblages with integrity problems
- Few taphonomic studies

Iberian Mediterranean subsistence model:

- Generalist/opportunistic hunting in MP (horse, auroch, red deer, ibex, etc.)
- Low evidence of anthropogenic origin of rabbit assemblages in Middle Palaeolithic (MP)
- Specialized hunting based on one medium-sized prey (red deer or ibex) during Upper Palaeolithic (UP)
- High importance of rabbit in the human diets from the Early UP (Aurignacian)
- Filleting of rabbit meat in order to be preserved (deferred consumption) in UP

WHAT IS GOING ON NOW?

- Revision and new samples from more accurate excavations technics
- Methodological standardization of the archaeozoological studies
- New taphonomic studies
- Reformulation of the previous approaches



Archaeological site with rabbit presence in the Iberian Mediterranean region. Highlighted assemblage with taphonomic studies.

Middle Palaeolithic

- Cova de l'Arbreda
- Teixoneres
- Abric Romani
- Tossal de la Font
- Abrigo de la Quebrada
- Cova Bolomor
- Cova Negra
- Cova Beneito
- El Salt
- Abric del Pastor
- Cueva Antón

Upper Palaeolithic

- Cova de l'Arbreda
- Can Garriga
- Font Voldada
- Moli del Salt
- Balma de la Vall
- Abric dels Colls
- L'Hort de la Boquera
- Cova del Boix
- Balma de l'Auferi
- Mallada
- Cova Matutano
- Cova dels Blaus
- Volcán del Faro
- Cova de les Malladetes
- Cova Parpalló
- Cova del Comte
- Cova Foradada
- Cova de les Cendres
- Cova de la Barriada
- Cova Beneito
- Tossal de la Roca
- Coves de Santa Maira
- Cueva Caballo
- El Pirulejo
- Cueva de Nerja
- Terrasses de la Riera dels Canyars

Epipalaeolithic

- Balma del Gai
- Bolet
- Moli del Salt
- Guineu
- Cova del Filador
- La Griera
- San Gregori
- Clot de l'Hospital
- Cova Fosca
- Diablets
- Cova Matutano
- Cova dels Blaus
- Tossal de la Roca
- Coves de Santa Maira
- Cueva de Nerja

Mesolithic

- Abric Agut
- Moli del Salt
- Cova del Filador
- La Catiuera
- Cingle del Mas Cremat
- Cueva Cocina
- El Collado
- Tossal de la Roca
- Benàmer
- Coves de Santa Maira
- Mas del Gelat
- Cova de la Falguera
- Penya del Comptador
- Casa Corona
- Lagrimal
- Cueva de Nerja

SO...WHICH ARE OUR RESULTS ?

The NISP of rabbit in archaeological assemblages is relatively important (ca. 50%), but with sporadic presence in anthropogenic assemblages of MIS 9 (Bolomor XVIII), MIS 6 (Bolomor XII, XI) and MIS 3 (Salt Xa). However, a more intense use has been identified in MIS 5e (Bolomor IV), probably linked to more concrete and repetitive human occupations. Neanderthals show the same capabilities as AMH to catch these small preys, but with a different management of faunal resources, being still abundant the rabbit bone assemblages of natural origin (raptors, small carnivores and natural deaths).

At least from the Gravettian (Malladetes, Cendres), rabbit has an important presence (>80%) in the assemblages, mainly related to anthropogenic origin. The subsistence activities do not focus only on immediate consumption, but also on the preparation of skins and preservation activities (deferred consumption). This is a long-term strategy that continues during the Tardiglacial phases (Magdalenian and Epimagdalenian). In spite of resource diversification, due to the development and exploitation of the Mediterranean forest, the relative importance of the rabbit does not decrease.

There is a breakage of this tendency, and the rabbit presence drops off markedly (30-40%). The complex sequence of Santa Maira shows a sudden change in the presence of rabbit between Epimagdalenian and Mesolithic without an erosive hiatus. This does not fit with the long-term tendencies to diversification and exploitation of the new forest. Instead, it could be related to all the deep changes that occur with the arrival of the Mesolithic (different technologies and territorial conceptions).

MIDDLE PALAEOETHIC (MP)



UPPER PALAEOETHIC (UP) / EPIPALAEOETHIC

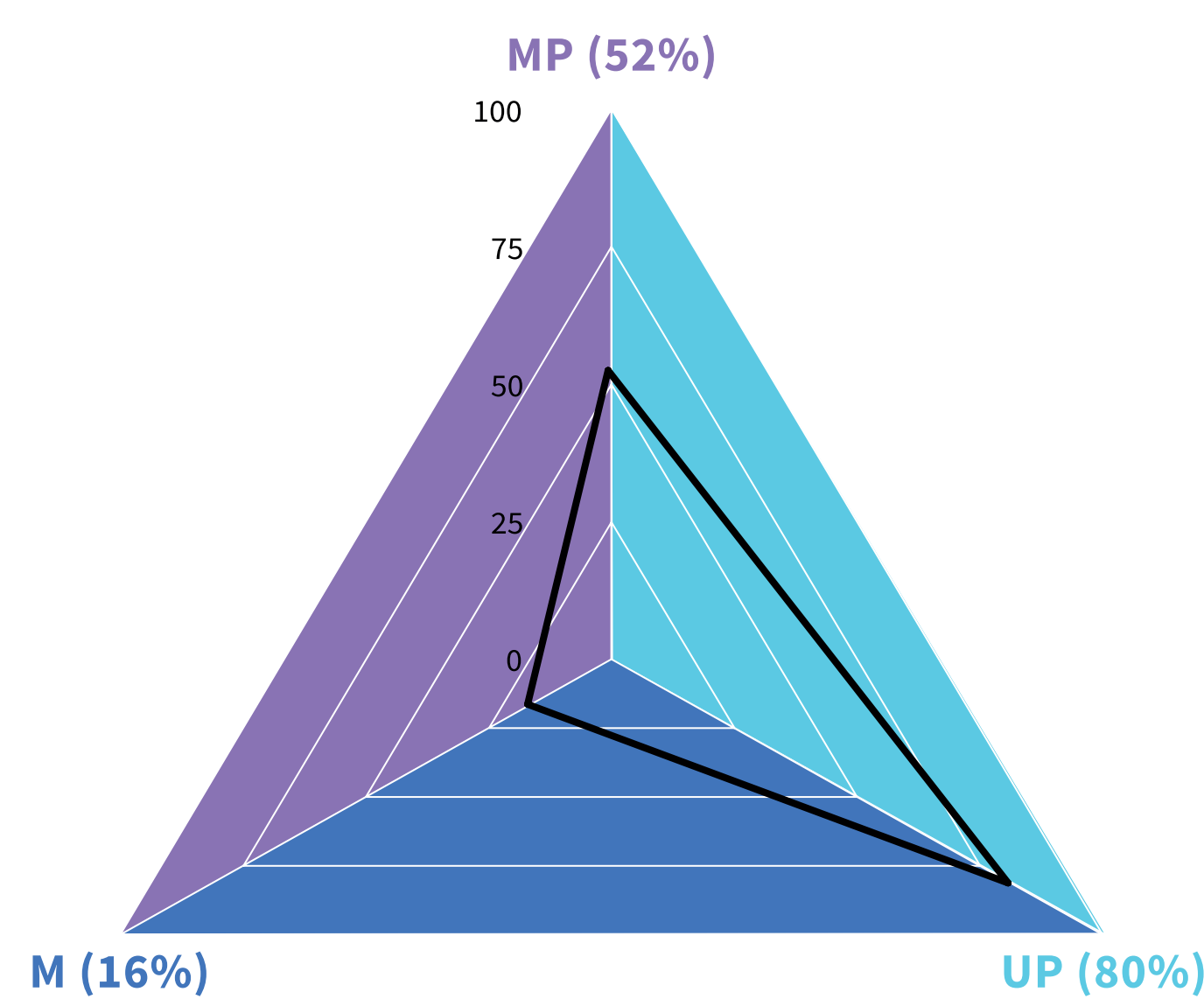


MESOLITHIC (M)



SITE	LEVEL	CRONOLOGY	CULTURE	DENSITY (bones/m3)	NISP	%NISP	MNI	cut marks	%NISP		Complete long bones	Ratio diaph/epiph
									tooth anthropic marks	non anthropic marks		
Bolomor	XVIII	MIS 9	Mousterian	356.7	428	58.7	10	3.7	1.6	7.2	0	41.9
	XII	MIS 6		45.0	135	19.1	10	4.5	0	0	0	-
	XI	MIS 6		87.3	262	47.2	7	10.7	4.2	0	0	76.6
	IV	MIS 5e		143.5	703	37.2	20	0.8	3.5	2.1	0	59.0
Salt	Xa	MIS 3	Mousterian	75.1	901	53.9	13	0.5	0	1.66	2	65.4
	V sup			64.7	437	94	5	0.7	0.23	3.89	1	91.7
Malladetes	East	MIS 3	Aurignacian	251.3	754	90.5	33	0.1	0	11.8	2	33.7
	West			5.7	119	21.8	16	0.8	0	13.5	1	66.7
Cendres	XVIa	MIS 2	Solutrean	10729.2	5150	88.6	80	7.2	-	0.04	6	39.4
	XIII		Gravettian	39320.0	1966	84.4	28	1.7	0.56	0	0	77.1
	XII		Magdalenian	7866.7	2360	87.9	33	4.9	3.74	0	7	42.9
	XI		Magdalenian	18720.0	14976	90.8	337	8.8	2.69 *	0 *	36	47.0
Cocina	1941 (13 layers)	MIS 1	Mesolithic	6.7	177	11.3	57	4.5	-	*	-	-
	1942 (12 layers)	MIS 1	Mesolithic	3.2	143	5.7	52	6.2	-	*	-	-

* Calculated from a reduced sample



WHICH COULD BE THE INFLUENCE FACTORS?

Probably the changes in the rabbit role in the human subsistence are not only due to prey availability, according to ecological or climatic variations. On the contrary, these could be as a result of different factors related to the human groups: more reduced mobility range, the characteristics of occupations (intensity, duration, recurrence), and/or the group size.

NEW FUTURE CHALLENGES

Improvement of taphonomic studies, generate new experiments, and obtain ethnographic references about rabbit use in subsistence activities (consumption, fur treatment, meat preservation tasks).