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Foreword

It is a well known fact that Italy is a nation with a particularly wide range of cultural expression, arising from past populations through to the present day. This wealth of culture constitutes one of the important characteristics of our national identity today. An awareness of the importance of preserving and making such a patrimony available to an ever increasing range of people, not only Italian, has progressively risen also due to state intervention. In fact, specific legislation was introduced last century, which defined the term *cultural heritage* of the nation. This was done not only to preserve our nation patrimony in order to comprehend our history through the centuries, but also to better understand it. Despite this interest, however, the concept of *cultural heritage* has been conditioned by a vision which, today, is considered restrictive because the expression has only been considered in humanistic, literary and artistic terms.

A change of direction to a more modern idea of *cultural heritage* took place at the end of the 1960's, when it was declared that everything that constitutes material testimony in matters concerning the values of civilisation should be considered *cultural heritage*. This declaration made it possible to overcome the traditional vision of many intellectuals of the first half of last century and attach other concepts of testimony to the term *cultural heritage* including the field of ethno-anthropology.

The practical transformation of this new idea of *cultural heritage* has taken place through the *Targeted Project Cultural Heritage* of the National Council of Research (C.N.R.), which commenced in 1996. In agreement with the guidelines established by the National Committee (specifically created for this objective) and based on previous experience promoted by the same C.N.R. in the preceding 3 years, the activity of the *Targeted Project Cultural Heritage* has been divided into 5 sub-projects. These sections contain the complete range of ideas concerning the concept *cultural heritage*. Together with artistic, architectural, literary and landscape research, a fifth sub-project has been created called *Biological Archive*. This aims at expanding research, studies, documentation and conservation of biological variability in all its forms, together with the study of the interactions of biotic communities, including the human ones.

The *Catalogue of Italian Fossil Human Remains from the Palaeolithic to Mesolithic* represents one of the most significant results of this sub-project. As mentioned in the introduction of the catalogue, there has been considerable interest taken in human fossils in Italy for many years. This is due both to the fact that they have played a significant role in the reconstruction and understanding of the more recent phases of the biological and cultural evolution of our species and to their diffusion over Italy. In reality, relatively recently many Italian and non-Italian researchers have taken an interest in the Italian human fossil remains from the time span considered in the catalogue. However, the most recent attempt to systematically present these fossil remains dates back to more than 30 years ago. Furthermore, this work contained only a part (albeit significant) of the remains present in Italy. This publication has, therefore, the merit of not only recuperating most of the known but not reported information from previous partially complete works, but also to have reported all the most important remains come to light over the past 30 years. Together with this updating, the catalogue also systematically organises and standardises all the available information regarding each individual finding. This includes a description of each finding, where it is conserved, the chronology and modality of its discovery and, finally, all the information regarding the vast bibliography connected to each find. The objective of the catalogue, therefore, is to act as a methodological instrument for the collection, description and organisation of information regarding paleoanthropological remains also in relation to the study of future findings. This means that the catalogue is intended for, above all, paleoanthropological researchers because it offers a complete and updated picture of the human remains discovered on Italian soil up to the present day, from the Palaeolithic to Mesolithic. I am sure that the catalogue will also be appreciated by colleagues working outside Italy. Furthermore, the catalogue is aimed at young enthusiasts and university students that are attracted by paleoanthropology and hope to work and achieve success in this sector of anthropology.

Finally, I feel I must draw your attention to the fact that Prof. Giancarlo Alciati of the University of Padova was responsible for the realisation of this catalogue within the *sub-project Biological Archive* of the *Targeted Project Cultural Heritage* of the C.N.R.. He was, to his merit, able to involve considerable number of specialists in paleoanthropology from every university in Italy where this type of research into the history of man has traditionally been object of scientific interest. In fact, his work is clearly evident if you consider the high number of individual contributions from different universities which went to create this catalogue.

Grateful thanks must go to Prof. Angelo Guarino, who as the President of the *Targeted Project Cultural Heritage* of the C.N.R. was the first to sustain the new wider vision of the term *cultural heritage*. In doing so he paved the way also for the *sub project Biological Archive*. Thanks are also due to Prof. Umberto Baldini, who acted as the General Director of the *Targeted Project Cultural Heritage* of the C.N.R.. Through his deep artistic culture, he has always been able to catch and appreciate the artistic beauty of nature. Finally, a big thank you must go to the entire scientific secretarial staff of the *Targeted Project Cultural Heritage* of the C.N.R. (Angelo Ferrari, Francesca Binarelli, Diomira Di Ciano, Oscar Di Giamberardino, Gian Carlo Fedeli, Enza Sirugo, Stefano Tardiola, Elvira Possagno) whose constant work and effort proved essential for the realisation of the project.

Gianfranco De Stefano

Coordinator of the *sub-project Biological Archive, Targeted Project Cultural Heritage, C.N.R.*

**Consiglio Nazionale delle Ricerche
Progetto Finalizzato
Beni Culturali**

**National Research Council
Targeted Project
Cultural Heritage**

Catalogue of Italian Fossil Human Remains from the Palaeolithic to the Mesolithic

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Contents

Index	1
Introductory notes by the Editors	5
Summary and comparison with previous Catalogues	7
The Multimedia Catalogue	7
References	10
Appendix 1 - Content of the catalogue card	11
Appendix 2 - List of sites and authors	13
Sites	
1 Altamura	15
2 Archi	17
3 Arene Candide, 1940-1942	18
4 Arene Candide, 1940-1971	20
5 Bisceglie	27
6 Breuil	28
7 Broion	30
8 Buca del Tasso	31
9 Ca' Verde	32
10 Calascio	33
11 Casal de' Pazzi	34
12 Castel di Guido	36
13 Cavallo, Baia di Uluzzo	39
14 Ceprano	41
15 Ciota Ciara, Monte Fenera	43
16 Ciutarun, Monte Fenera	45
17 Continenza	46
18 Corbeddu	49
19 Dalmeri	51
20 Fate	52
21 Finocchietto	56
22 Fontana Nuova	57
23 Fontana Ranuccio	59
24 Fossellone, Middle Palaeolithic	61
25 Fossellone, Upper Palaeolithic	62
26 Fredian	64
27 Fumane, Middle Palaeolithic	66
28 Fumane, Upper Palaeolithic	67
29 Grimaldi, Baouso da Torre	68
30 Grimaldi, Barma del Caviglione	70
31 Grimaldi, Barma Grande	72
32 Grimaldi, Grotte des Enfants 1874-1875	75
33 Grimaldi, Grotte des Enfants 1901	77
34 Grimaldi, Riparo Bombrini	80
35 Grotta del Poggio, Camerota	81
36 Grotta del Principe	83
37 Guattari, Monte Circeo	84
38 La Punta	87
39 Le Mura	88

Sites

40	Leuca	89
41	Levano, Grotta dei Genovesi	90
42	Maglie	91
43	Maritza	92
44	Melpignano, Cava Nuzzo	94
45	Mezzocorona	95
46	Molara	96
47	Molare, Scario	98
48	Mondeval de Sora	99
49	Nicotera	101
50	Ortucchio	102
51	Ostuni	104
52	Paglicci	106
53	Pofi, Cava Pompei	114
54	Polesini	116
55	Ponte Mammolo	119
56	Quinzano	120
57	Romanelli	122
58	Romito, Papasidero	126
59	Saccopastore	129
60	San Bernardino	131
61	San Teodoro	133
62	Sedia del Diavolo	137
63	Taddeo	139
64	Tagliente, Middle Palaeolithic	141
65	Tagliente, Upper Palaeolithic	142
66	Torre dell'Alto	144
67	Uzzo	145
68	Vado all'Arancio	150
69	Vatte di Zambana	152
70	Veneri	153
71	Venosa, Notarchirico	155
72	Villabruna	157
73	Visogliano	159

Notes

74	Farnesina	162
75	Grotta del Capelvenere	162
76	Olmo	162
77	Portalbera	163
78	Praia a Mare	163
79	Rapolano	164
80	Riparo Mezzena	164
81	Roccamonfina	165
82	Tana della Basura	165

Plates

		167
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Introductory notes by the Editors

The extension of the concept of “Cultural Heritage” to include the biology of prehistoric populations, the understanding of their culture, survival strategies and interaction with the environment, is a relatively recent acquisition. This extension suggests that the information regarding ancient populations constitutes a precious source of knowledge, to be added to and conserved.

Within this context, the “Catalogue of Italian Fossil Human Remains from the Palaeolithic to the Mesolithic” was developed within the framework of “Targeted Project - Cultural Heritage” of the *Italian National Research Council*. In the Catalogue, information of the most diverse nature (anthropological, geo-chronological, paleo-environmental) concerning sites and human remains has been gathered together, in order to create a source of knowledge which is essential for the valorisation and conservation of such “Cultural Assets”.

In 1953, Vallois and Movius recognized the need for a catalogue of European sites and human remains “d’age certainement pléistocène”, asserting that information about these remains could be sometimes found in excellent monographs, sometimes in magazine articles or journals, in editions that were difficult to find, or even in the form of simple citations.

The heterogeneous nature of such material depended not only on the different types of publication but also on their origin: sometimes systematic archaeological excavations, sometimes casual finds.

When analysing the state of information regarding Italian human fossil remains, the same needs that were recognized in 1953 are still urgently needed today.

Information concerning Italian human skeletal remains from the Palaeolithic and Mesolithic is not available from a single text, deriving as it does from discoveries made over a long period of time and from studies made using non-standardized and often dissimilar methodologies.

Recognition of these needs is at the origin of the project to create the “Catalogue of Italian fossil human remains from the Palaeolithic to the Mesolithic” developed within the framework of “Targeted Project- Cultural Heritage” of the *Italian National Research Council*.

The need to guarantee the highest level of access and diffusion of the collected information led to the development of the project using advanced technology for a multimedia stand-alone and networking presentation.

Information about Italian fossil human remains is available mainly in the following catalogues:

- “Catalogue des Hommes Fossiles” edited by Prof. H.V. Vallois and H.L. Movius in 1953, Italian section by C. Blanc e S. Sergi;
- “Catalogue of Fossil Hominids - Europe” published in 1971 by K.P. Oakley, B.G. Campbell and T.I. Molleson, Italian fossil remains are listed by S. Sergi, L. Cardini e P. Leonardi;
- “Hominid Remains - an up-date”, published by R. Orban in 1988, Italian section by P.F. Fabbri, G. Giacobini and F. Mallegni.
- “The Skeletal Remains of Mesolithic Man in Western Europe: an Evaluative Catalogue”, edited by R.R. Newell, T.S. Constandse-Westermann and C. Meiklejohn in 1979.

The first census was carried out by collating the index cards mentioned in the above catalogues and reviewing them for necessary up-dates and editorial standardization. This first census was completed with the inclusion of new sites and finds. The up-dating, standardization and indexing was performed by Italian specialists active in the field: G. Alciati, A. Ascenzi, S.M. Borgognini Tarli, A. Canci, V. Formicola, G. Giacobini, F. Mallegni, G. Manzi, V. Pesce Delfino and E. Vacca.

The definition of indexing criteria was performed making reference mainly to the catalogue by Oakley. 15 points per index card were identified, according to a criteria of easy consultation and agility. Illustrations were added to some points.

The index card (appendix 1), is composed of essential information items which: - identify and collocate the site geographically (name, geographical location); - give information about the circumstances of the discovery (discoverer and date of the discovery); - give information about the relative archaeological and palaeontological context (burials, stratigraphical age, archaeological context, palaeontological context, dating); - supply multiple points about the human remains (human remains: name, sex, age, inventory and conditions, teeth, pathologies); - give information about leading anthropological publications (anthropological description and relevant illustrations); - describe the collocation of the remains and, if existing, casts (repository of the fossil and mould for casts). Related bibliography is reported at the end of the card.

78 different sites were catalogued (69 sites have their index card, for 4 sites a double index card was written, differentiated on a stratigraphical basis, 9 sites are reported in the Notes) (appendix 2), deriving from studies and finds that, from 1860 to the present day, include human remains belonging to a time period of more than 800.000 years.

About 258 human remains are catalogued and include both whole burials and single skeletal remains. Considering the number of remains found from 1860, the following distribution is observed (fig. 1): after a long period characterized by a low number of findings, in the 50s the number of found sites raises significantly. A high rate of discoveries characterizes the 60s, 70s and 80s, most likely because of increasing building activity and road construction, among other causes; in the 90s the number of discoveries lessens.

Considering the distribution of the finds per region (figs. 2 and 3), the higher number of sites was found in Lazio; the higher number of remains was found in Puglia and Liguria. The reason is that in the latter two regions many remains and burials of the Upper Palaeolithic were found, while from Lazio come isolated remains deemed older.

The geographical distribution of human remains and lithic industry may confirm Broglio's suggestion regarding the penetration in Europe along the routes of the Morocco-Iberic peninsula and the Tunisia-Sicily-Italian peninsula (Broglio, 1991), even if, according to the same author "the paleogeographical aspects of the period are still to be fully understood".

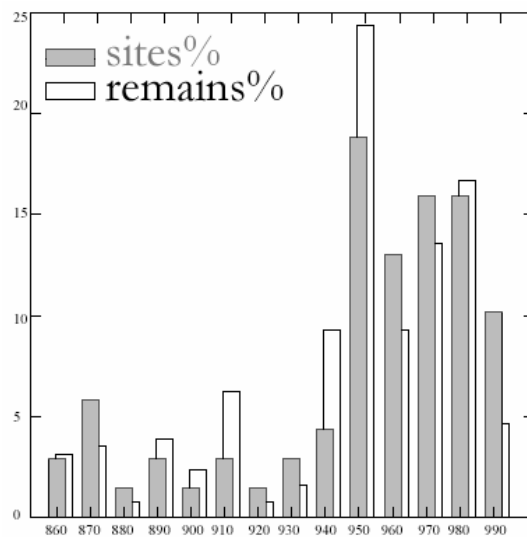


Fig. 1 - Findings (sites and remains excluding those reported as Notes), indexed in the catalogue; the sites are reported in percentage per decade, beginning in 1860; the remains are referred to the sites, but not always the date of the discovery and the date of the site are the same.

Summary and comparison with previous Catalogues

Readers are referred to the following sources:

- in the above mentioned “Catalogue des Hommes Fossiles” (Vallois and Movius, 1953), in the section dedicated to Italy, listed by C. Blanc and S. Sergi, 9 sites are reported (13 if the various caves of Balzi Rossi are separately listed), with a total of approximately 50 human remains;
- in the “Catalogue of Fossil Hominids - Europe” (Oakley, Campbell and Molleson, 1971) 31 sites with a total of about 90 human remains are presented for Italy by S. Sergi, L. Cardini and P. Leonardi;
- in the 1988 up-date (Hominid Remains) edited by R. Orban, 26 new sites and about 80 human remains are presented for Italy by P.F. Fabbri, G. Giacobini and F. Mallegni;
- in the final version of the Catalogue, developed as part of the present project, 78 sites (including 9 sites reported in the Notes) and a total of about 258 human remains, are presented.

The Catalogue is not, in itself, a complete guide on the populations of Italian prehistory. However, it represents, an important reference work and, we hope, an useful tool for the definition of the phenomena that, beginning from the most ancient human presence in the peninsula, makes it possible to sketch an outline of the way ancient human beings distributed according to territory and geo-climatic changes.

The Multimedia Catalogue

The need to guarantee the best diffusion and fruition of the information collected, suggested the realization of a multimedia version of the Catalogue to be released both stand-alone and on the Web. The development modalities adopted have made it possible to obtain some extra, functional results, such as immediate access in Internet without the necessity of adjustments or reconfiguration; this characteristic makes it a true on-line multi-platform tool.

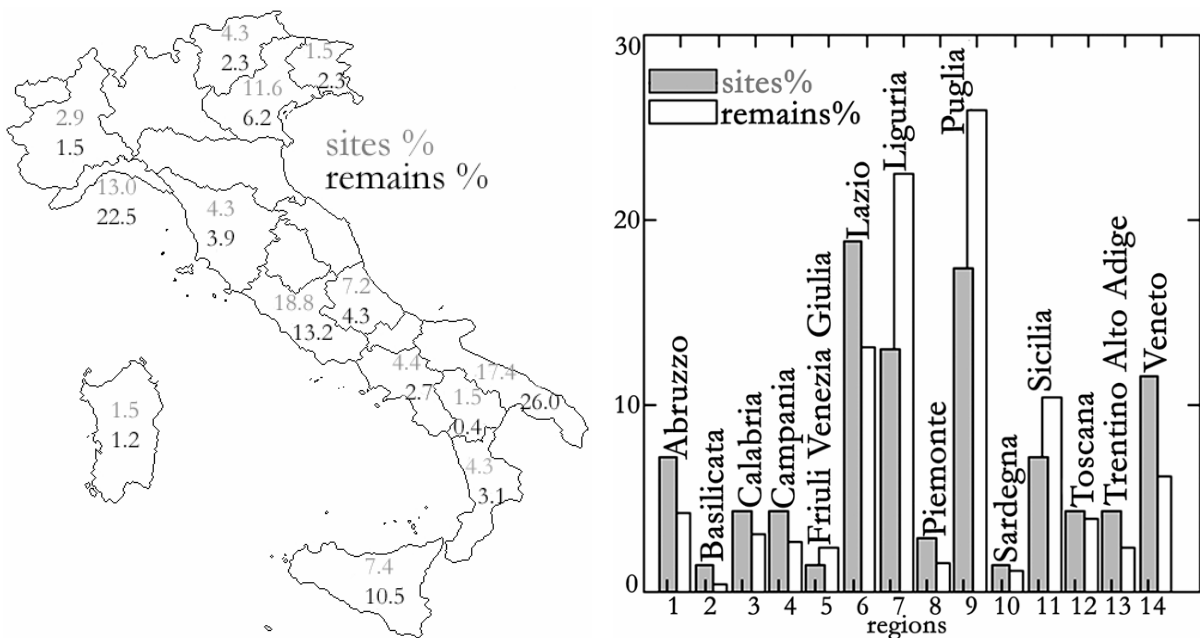


Fig. 2 - Geographical distribution (percentage values) of the sites and of the remains per region (excluding those reported as Notes).

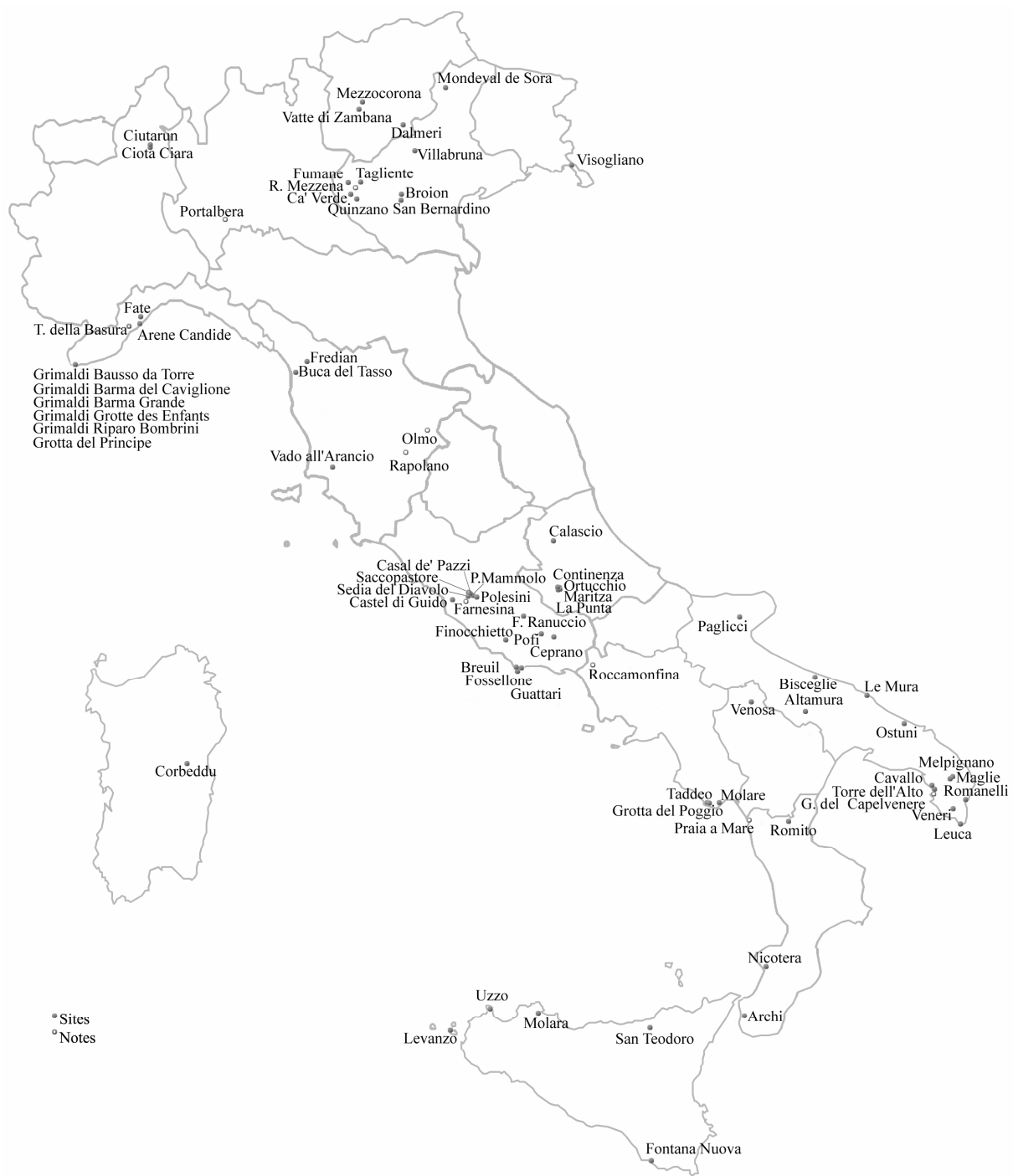


Fig. 3 - Geographical distribution of the sites.

There is a database associated to the Catalogue, whose records are in the form of cards of the palaeontological materials. Access to the cards is possible through indexes, but it is also possible to sort the information into geographical areas and time periods. It is also possible to search for keywords (place, name, age, sex, skeletal element). The query page, using a research engine, elaborates a dynamic results page using active links pointing to the requested index cards (fig. 4).

For each point, active links point to the related bibliographical data given in full at the end of each index card. In the same way, the illustrations (when present) are available.

The database associated to the Catalogue is up-dateable, and allows the creation of new indexes and new cards automatically (using a client/server configuration).

The development of a multimedia catalogue that can be up-dated adds, to the intrinsic value of the project, a unifying approach to the study of the biology of skeletons from the period, making it an essential instrument for the interpretation of the evolutionary phenomena which characterized the ancient populations of the Italian peninsula.

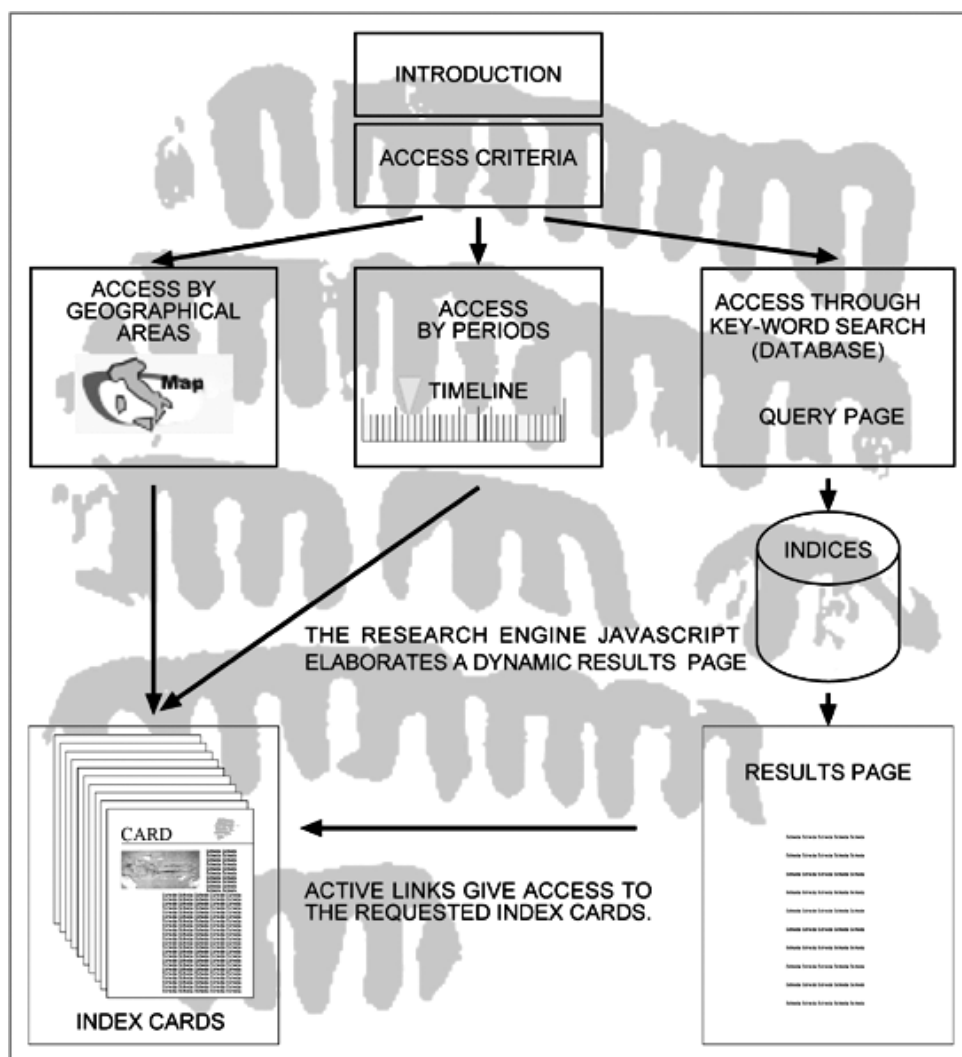


Fig. 4 - General architecture of the multi-media catalogue.

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Appendix 1 - Content of the catalogue card.

Title of the card and name of the author.

1. Name of the fossil.
Usually related to the site or place where it was found.
2. Description of the site and geographical position.
Geographical coordinates, latitude and longitude, accurate at least to the minute.
3. Name of the responsible for the research and/or the discoverer and date of the discovery.
4. Geological tipology of the site.
Alluvial deposits, loess, occupation deposits, cave deposits, etc.
5. Presence of burials.
With elements characteristic of the burial.
6. Stratigraphic period.
7. Archaeological context.
In reference to possible present industries.
8. Palaeontological context.
With indications of the fauna and, if available, floral/floristic presence.
9. Absolute dating.
 - 9.1 Direct dating of the finding.
 - 9.2 Dating of the deposit or associated materials.
 - 9.3 Dating by correlation.
10. Human remains, name and numeration relative to the site.
With indication of the origins of the observations (observations of the author of the card (*); observations reported in the literature (L); personal communications (PC)).
 - 10.1 Sex (diagnostic criteria).
 - 10.2 Age (diagnostic criteria).
 - 10.3 Inventory and state of skeletal remains.
Ordered in a cephalo-caudal direction with an indication of the state of preservation of the remains, reported separately for the right and left sides, in case of even elements, according to the notation: i, intact; d, damaged; f, fragmented; ff, very fragmented.
 - 10.4 Dentition.
Free teeth named singularly (I1, I2, C, P1, P2, M1, M2, M3), with an indication of the quadrant. Teeth on the maxilla, mandible or parts: arranged according to the following scheme (Zsigmondy system, in Scheuer and Black, 2000).

Deciduous teeth, arranged in quadrants with lowercase letters from “a” (central incisor) to “e” (second molar).

r												l											
			e	d	c	b	a	a	b	c	d	e											
			e	d	c	b	a	a	b	c	d	e											

Permanent teeth, numbered for quadrants from 1 (central incisor) to 8 (third molar).

r												l											
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8								
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8								

The following notation is used instead of numbers or letters if: - mandible or maxilla area are missing; X missing tooth; U tooth not erupted, but present; L tooth found free; R only root present. Caries and loss ante mortem are reported in the following point, between the pathologies.

Appendix 1 - (continued).

10.5 Pathologies.

11. Main publications of physical anthropology.
 12. Main iconographic sources.
 13. Address of the Institutions that house the remains.
 14. Address of the Institutions that house casts and/or cast moulds.
 15. Recapitulatory Bibliography.
-

Appendix 2 - List of sites and authors¹

1	Altamura	V. Pesce Delfino and E. Vacca
2	Archi	G. Giacobini and G. Manzi
3	Arene Candide 1940-1942	V. Formicola
4	Arene Candide 1940-1971	V. Formicola
5	Bisceglie	G. Giacobini and G. Manzi
6	Breuil	G. Giacobini and G. Manzi
7	Broion	G. Alciati and V. Formicola
8	Buca del Tasso	G. Giacobini and G. Manzi
9	Ca' Verde	G. Alciati and E. Vacca
10	Calascio	G. Giacobini and G. Manzi
11	Casal de' Pazzi	G. Giacobini and G. Manzi
12	Castel di Guido	F. Mallegni
13	Cavallo, Baia di Uluzzo	G. Giacobini and G. Manzi
14	Ceprano	A. Ascenzi
15	Ciota Ciara, Monte Fenera	G. Giacobini and G. Manzi
16	Ciutarun, Monte Fenera	G. Giacobini and G. Manzi
17	Continenza	F. Mallegni
18	Corbeddu	F. Mallegni
19	Dalmeri	G. Alciati and V. Formicola
20	Fate	G. Giacobini and G. Manzi
21	Finocchietto	F. Mallegni
22	Fontana Nuova	F. Mallegni
23	Fontana Ranuccio	A. Ascenzi
24	Fossellone, Middle Palaeolithic	G. Giacobini and G. Manzi
25	Fossellone, Upper Palaeolithic	F. Mallegni
26	Fredian	F. Mallegni
27	Fumane, Middle Palaeolithic	G. Giacobini and G. Manzi
28	Fumane, Upper Palaeolithic	G. Giacobini and G. Manzi
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30	Grimaldi, Barma del Caviglione	V. Formicola
31	Grimaldi, Barma Grande	V. Formicola
32	Grimaldi, Grotte des Enfants 1874 - 1875	V. Formicola
33	Grimaldi, Grotte des Enfants 1901	V. Formicola
34	Grimaldi, Riparo Bombrini	V. Formicola
35	Grotta del Poggio, Camerota	F. Mallegni
36	Grotta del Principe	F. Mallegni
37	Guattari, Monte Circeo	G. Giacobini and G. Manzi
38	La Punta	F. Mallegni
39	Le Mura	F. Mallegni
40	Leuca	G. Giacobini and G. Manzi
41	Levanzo, Grotta dei Genovesi	F. Mallegni
42	Maglie	G. Giacobini and G. Manzi
43	Maritza	F. Mallegni
44	Melpignano, Cava Nuzzo	G. Giacobini and G. Manzi
45	Mezzocorona	G. Alciati and V. Formicola
46	Molara	A. Canci and S.M. Borgognini Tarli
47	Molare, Scario	G. Giacobini and G. Manzi
48	Mondeval de Sora	G. Alciati and V. Formicola
49	Nicotera	G. Giacobini and G. Manzi

Appendix 2 - (continued).

50	Ortucchio	F. Mallegni
51	Ostuni	E. Vacca
52	Paglicci	F. Mallegni
53	Pofi, Cava Pompei	F. Mallegni
54	Polesini	F. Mallegni
55	Ponte Mammolo	F. Mallegni
56	Quinzano	G. Alciati and E. Vacca
57	Romanelli	F. Mallegni
58	Romito, Papisidero	F. Mallegni
59	Saccopastore	G. Giacobini and G. Manzi
60	San Bernardino	G. Alciati and E. Vacca
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65	Tagliente, Upper Palaeolithic	G. Alciati and V. Formicola
66	Torre dell'Alto	E. Vacca
67	Uzzo	A. Canci and S.M. Borgognini Tarli
68	Vado all'Arancio	F. Mallegni
69	Vatte di Zambana	G. Alciati and V. Formicola
70	Veneri	F. Mallegni
71	Venosa, Notarchirico	F. Mallegni
72	Villabruna	G. Alciati and V. Formicola
73	Visogliano	F. Mallegni

¹**Sites are listed by name given by the authors.**

Notes (by E. Vacca)

74	Farnesina
75	Grotta del Capelvenere
76	Olmo
77	Portalbera
78	Praia a Mare
79	Rapolano
80	Riparo Mezzena
81	Roccamonfina
82	Tana della Basura



ALTAMURA

V. Pesce Delfino and E. Vacca.

1. Altamura.
2. Lamalunga cave, karstic cave near Altamura, Bari, entrance opening at 455 m asl (Martimucci and Perrucci, 2000). 40° 52' 21" N, 16° 35' 17" E.
3. Lamalunga cave was found by the local speleo club C.A.R.S. (Centro Altamurano Ricerche Speleologiche) in the fall 1993. The human remains were sighted during the early explorations of the cave, organized by C.A.R.S. with the participation of the speleo club C.A.I. (Club Alpino Italiano) from Bari, in October 1993, (Marvulli, 1993). The announcement of the discovery and the proposal for a philetic attribution, on morphological base, was made on October 8th 1993 by V. Pesce Delfino and E. Vacca.
4. Karstic cave (Pieri, 1995; Agostini, 1996).
5. -
6. Faunistic evidences, found in the exposed and accessible layers of the cave, indicate a paleontological horizon comprised between the later Middle Pleistocene and all the Upper Pleistocene (Tagliacozzo, 1995).
7. -
8. Faunistic bone specimens recognized: *Cervus elaphus*, *Dama dama*, *Equus caballus*, *Bos/Bison*, (Tagliacozzo, 1995).
- 9.1 -
- 9.2 -
- 9.3 -

10. Altamura 1, largely complete skeleton (*).

- 10.1 Male (pelvic morphology and robusticity).
- 10.2 Adult (morphology of pelvis and skull, dental wear).
- 10.3 Skull (i), mandible (i), humeri (i/i), ulna ? (i), radius ? (i), ilei (i/i), femora (i/i), tibiae (i/i), fibulae (i/i). Several rib elements are recognizable, at least one vertebral body and a carpal element.
- 10.4

r														l					
8	7	6	5	X	3	2	1	1	2	3	4	5	X	7	8				
8	7	6	5	X	3	2	X	X	X	3	4	5	6	7	8				

- 10.5 -

Note: all of the elements described are covered by several amounts of limestone concretions. The proximal ends of the tibiae and of the left femur are partially eroded.

11. Pesce Delfino e Vacca, 1993; 1995.
12. Pesce Delfino e Vacca, 1993; 1995, AA VV, 1996, 1997.
13. The remains are stored in situ in Lamalunga cave; it is possible to observe the remains telematically from the stations in the near Masseria Ragone in Contrada Lamalunga and from the Museo Archeologico Statale di Altamura, Via Santeramo 8, I 70022 Altamura.
14. -
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ARENE CANDIDE, 1940-1942

V. Formicola.

1. Arene Candide (1940 - 1942).
2. Cave in a cliff above Via Aurelia between Borgio Verezzi and Finale Marina, Savona. 44° 10' N, 8° 20' E.
3. L. Bernabò Brea and L. Cardini, may 1942.
4. Cave-earth, 89 m above sea level. Soft, black charcoal-rich soil (Cardini, 1942; Bietti and Molari, 1994; Macphail *et al.*, 1994).
5. Ceremonial burial on bed of red ochre. Skeleton in supine position with extraordinarily rich grave goods (perforated shells and canines of deer, ivory pendants, large flint blade, carved elk antler “batons de commandement”), (Cardini, 1942; Giacobini and Malerba, 1995). Stratigraphic position: layer 10, at the bottom of hearth V (Bietti and Molari, 1994).
6. Late Pleistocene, Würm III (Bietti and Molari, 1994).
7. Gravettian (Cardini, 1994; Bietti and Molari 1994; Bietti, 1994).
8. *Marmota marmota*, *Felis (Lynx) pardina*, *Mustela nivalis*, *Capra ibex*, *Crocota crocuta*, *Panthera pardus*, *Ursus spelaeus* (Cassoli and Tagliacozzo, 1994) and Aves: *Perdix perdix*, *Columba livia*, *Pyrrhocorax graculus*, (Cassoli, 1980).
- 9.1 23440 ± 190 BP (OxA-10700), based on a direct AMS radiocarbon date (Pettitt *et al.*, 2003).
- 9.2 > 20470 ± 320 BP (R-2541), based on ¹⁴C dating of charcoals from layer 9 (Bietti and Molari, 1994).
- 9.3 -

10. Arene Candide 1 “Il Principe” (L).

- 10.1 Male (pelvic and cranial morphology, postcranial robusticity).
- 10.2 Adolescent (about 15 yrs) (epiphyseal ossification, dental eruption).
- 10.3 Neurocranium (d), face (d), mandible (ff), vertebrae c. (6f), t. (7d), l. (5d), sacrum (f), sternum (d), scapulae (d/f), clavicles (d/f), ribs (i-f), humeri (i/f), radii (i/i), ulnae (i/i), carpals (7i/7i), metacarpals (5i/5i), phalanges (10i/13i), hip bones (d/d), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (5i/5i), metatarsals (5i/5i), phalanges (8i/10i).
- 10.4

r													l			
U	7	6	5	4	3	2	1	1	2	3	4	5	6	R	U	
U	7	6	5	4	3	2	1	-	-	-	-	-	-	-	-	

- 10.5 Possible fatal injury of the face and of the upper part of the thoracic cage. (Cardini, 1942; Sergi *et al.*, 1974).
11. Sergi *et al.*, 1974; Paoli, 1974.
12. Cardini, 1942; Sergi *et al.*, 1974.
13. Museo di Archeologia Ligure, Villa Durazzo Pallavicini, via Pallavicini 1, 16155 Genova Pegli.
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ARENE CANDIDE, 1940-1942, 1970-1971

V. Formicola.

1. Arene Candide (1940-1942, 1970-1971).
2. Cave in a cliff above Via Aurelia between Borgio Verezzi and Finale Marina, Savona. 44° 10' N, 8° 20' E.
3. L. Bernabò Brea and L. Cardini 1940-1942; L. Cardini 1970-1971.
4. Cave-earth, 89 m above sea-level. Clayey soil with gravel, reddened by abundant ochre, sometimes also with large boulders. (Cardini, 1980, 1994; Macphail *et al.*, 1994).
5. Ceremonial burials on bed of red ochre including two cases of double interment of an adult and a child. (Tomb V and VI). Skeletons in supine position, with rich grave goods: perforated and carved shells, perforated canines of deer, grinding stones, elongated pebbles with traces of color, elk antler, ornaments made of squirrel tails, and wing bones of *Pyrrochorax graculus* and of *Crex crex*.
6. Late Pleistocene (Cardini, 1946); Allerod (Bietti and Molari, 1994; Macphail *et al.*, 1994).
7. Late Epigravettian, microlithic industry (blades or backed microliths) without microburins or geometrical tools (Cardini, 1946, 1994; Bietti, 1994); painted pebbles (Cardini, 1972, 1980).
8. *Lepus sp.*, *Sus scrofa*, *Capreolus capreolus*, *Capra ibex*, *Cervus elaphus*, *Ursus arctos*, *Erinaceus europeus*, *Columba livia*, *Columba oenas*, *Lagopus lagopus*, *Perdix perdix*, *Alectoris graeca*, *Otis tarda*, *Crex crex*, *Coturnix coturnix* (Cassoli, 1980; Cassoli and Tagliacozzo, 1994).
- 9.1 Based on ¹⁴C dating of human bones from Tomb III: 11.605 ± 445 BP (GX-16960-A), and from Tomb X: 11.510 ± 385 BP (GX-16964-G) (Macphail *et al.*, 1994), new direct AMS dates obtained from bone samples from six different tombs place the formation of the necropolis between 9.925 ± 50 BP (OxA-10999) and 10.735 ± 55 BP (OxA-11003) (Formicola *et al.* 2005).
- 9.2 Based on ¹⁴C dating of charcoals from an unspecified "Mesolithic" level: 10.330 ± 95 BP (R-100) (Alessio *et al.*, 1966); and from charcoal from layers 1-2: 10.910 ± 90 BP (R-740), and from layers 3-4: 11.750 ± 95 BP (Bietti, 1987; Bietti and Molari, 1994).
- 9.3 -

10. Arene Candide 2 (unless differently indicated, specimens are numbered following Paoli *et al.*, 1980) (L).

- 10.1 Male (pelvic morphology).
- 10.2 Young adult (epiphyseal ossification, pubic symphyseal phase, suture closure).
- 10.3 Neurocranium (d), face (d), mandible (i), vertebrae c. (7i), t. (12i-f), l. (5i), sacrum (i), sternum (f), scapulae (f/ff), clavicles (f/i), ribs (i-f), humeri (d/i), radii (i/i), ulnae (i/i), carpals (5i-f/6i), metacarpals (6i-f/6i), phalanges (12i/12i), hip bones (i/i), femora (i/i), patellae (i/i), tibiae (i/i), fibula (i/i), tali (d/i), calcanei (f/i), other tarsals (4i/5i), metatarsals (5i-f/5i), phalanges (12i/12i).

10.4

r								l							
8	7	6	5	4	3	2	X	X	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

- 10.5 Bilateral absence of the lesser trochanter (possible traumatic avulsion) (Formicola *et al.*, 1990; Formicola, 1995).

10. Arene Candide 3 (skull n.1 of Paoli *et al.*, 1980) (L).

- 10.1 Male (cranial morphology).
- 10.2 Adult (suture closure).
- 10.3 Neurocranium (d), face (d), mandible (i).

10.4

r													l				
8	7	6	5	4	3	2	X	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	X	1	2	3	4	5	6	7	A		

10.5 Exuberant tendon calcification on the mental spine (possible indicator of an inherited form of rickets) (Formicola, 1995).

10. Arene Candide 4 (L).

- 10.1 Male (cranial morphology).
 - 10.2 Young adult (suture closure).
 - 10.3 Neurocranium (d), face (d), mandible (i).
- 10.4

r													l				
8	7	6	5	4	X	2	X	1	2	X	X	5	6	7	8		
8	7	6	5	4	3	2	1	X	2	3	4	X	6	7	8		

10.5 -

10. Arene Candide 5 (L).

- 10.1 Male (pelvic and cranial morphology, postcranial robusticity).
- 10.2 Middle-aged adult (suture closure).
- 10.3 Neurocranium (d), face (d), mandible (i), vertebrae c. (6i-d), t. (8d), l. (5i), sacrum (i), sternum (i), scapulae (f/f), clavicles (i/ff), ribs (f-ff), humeri (f/i), radii (f/i), ulnae (f/i), carpals (3i/5i-d), metacarpals (5i-d/5i), phalanges (12i/12i), hip bones (i/i), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (5i/5i), metatarsals (5i/4i-d), phalanges (7i/11i).

10.4

r													l				
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

10.5 -

10. Arene Candide 6 (L*).

- 10.1 Indeterminate. Male, based on DNA analyses (O. Rickards, pers. comm.).
- 10.2 Infans I (about 4-5 yrs), (dental eruption).
- 10.3 Neurocranium (f), face (f), mandible (d), vertebrae t. (5d-f), l. (5d-f), scapulae (f/ff), clavicles (d/-), ribs (i-ff), humeri (d/d), radii (d/-), ulnae (d/-), metacarpals (4d/-), phalanges (6d/1d), hip bones (f/ff), femora (d/f), tibiae (d/d), fibulae (d/d), tali (d/d), calcanei (d/d), other tarsals (3d/3d), metatarsals (5d/5d), phalanges (4d/1d).

10.4

r													l				
			e	d	c	b	x	a	x	c	d	e					
			e	d	c	x	a	x	x	c	d	e					

10.5 -

10. Arene Candide 7, skeleton of the child from Tomb VII (whereabouts unknown).

- 10.1 -
- 10.2 -
- 10.3 -
- 10.4 -
- 10.5 -

10. Arene Candide 8 (L*).

- 10.1 Indeterminate.
- 10.2 Infans II (about 6-7 yrs), (dental eruption).
- 10.3 Neurocranium (f), face (f), mandible (d), vertebrae c. (5d), t. (10d), l. (5 d), sacrum (f), clavicles (d/d), scapulae (ff/ff), ribs (f-ff), humeri (d/f), radii (d/f), ulnae (d/d), carpals (6d/5d), metacarpals (4d/5d), phalanges (7d/5d), hip bones (d/d), femora (d/d), tibiae (d/d), fibulae (d/d), tali (d/d), calcanei (d/d), other tarsals (3d/5d), metatarsals (4d/3d), phalanges (5d/3d).

10.4

r								l							
			e	d	x	x	a	a	b	c	d	e	6		
		6	e	d	c	b	x	a	b	c	d	e	6		

10.5 -

10. Arene Candide 9, skeleton of the child from Tomb IX (whereabouts unknown).

- 10.1 -
- 10.2 -
- 10.3 -
- 10.4 -
- 10.5 -

10. Arene Candide 10 (L*).

- 10.1 Male (limb bones robusticity), and DNA analyses (O. Rickards, pers. comm.).
- 10.2 Young adult (epiphyseal ossification, dental wear).
- 10.3 Neurocranium (ff), vertebrae c. (3i), sacrum (i), sternum (f), scapulae (-/f), clavicles (i/i), ribs (d-ff), humeri (i/d), radii (f/f), ulnae (f/-), femora (d/f), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (5i/5i), metatarsals (5i/5i), phalanges (10i/9i).

10.4 Isolated maxillary teeth.

r								l							
8	7	6	5	4	X	X	X	X	2	3	4	5	6	7	8

10.5 -

10. Arene Candide 11 (L*).

- 10.1 Indeterminate. Male, based on DNA analyses (O. Rickards, pers. comm.).
- 10.2 Infans I (about 3-4 yrs), (dental eruption).
- 10.3 Neurocranium (ff), face (ff), mandible (ff), vertebrae t.-l. (12d-f), scapulae (f/f), clavicles (-/d), ribs (ff), humeri (d/d), radii (-/d), ulnae (-/d), phalanges (-/3d), hip bones (f/f), femora (d/d),

- 10.1 Male (hip bone morphology).
- 10.2 Adolescent (epiphyseal ossification).
- 10.3 Neurocranium(d), face (ff), vertebrae c. (5i-ff), t. (3d), l. (1d), sacrum (d), sternum (ff), scapulae (f/ff), clavicles (-/ff), ribs (i/ff), humeri (f/d), radii (f/d), ulnae (f/i), carpals (8d), metacarpals (6d), phalanges (13d), hip bones (d/d), femora (i/d), patellae (d/i), tibiae (d/d), tibiae (d/d), fibulae (f/d), calcanei (f/d), tali (i/i), other tarsals (5i), metatarsals (8d-f), phalanges (7d),.

10.4

r										l							
8	7	6	5	4	3	2	1	1	X	X	4	5	6	7	8		
-	-	-	-	-	-	-	-	-	-	-	-	5	-	7	-		

10.5 Malposition of the mandibular P2.

10. Arene Candide 17 (*) (specimen 18 of Paoli *et al.* 1980).

- 10.1 Indeterminate.
- 10.2 Adolescent/adult (dimensions of the bone).
- 10.3 Frontal bone (f).
- 10.4 -
- 10.5 -

10. Arene Candide 18 (*) (specimen n. 20 of Formicola, 1986a).

- 10.1 Indeterminate.
- 10.2 Young adult (dental eruption and wear).
- 10.3 Mandible (d).
- 10.4 Right and left mandibular M1, M2, M3.

r										l							
8	7	6	-	-	-	-	-	-	-	-	-	-	6	7	8		

10.5 -

10. Unnumbered remains (*). Groups of postcranial bones found scattered in the whole area of the necropolis, and resulting from skeletons disturbed to make room for new burials. These groups of bones are indicated by Cardini (1980) as Tombs I, III, IV, XII, XIII, and XIV.

Taking into account morphological and metric attributes, and reciprocal bone position, an attempt has been made for an individual attribution of the material (see Paoli *et al.*, 1980). In the absence of specifications, the bones should be considered as belonging to adult individuals.

Scapulae (2i-f/2d-f), clavicles (2i/4i), sternum (2i-f), ribs (4i, 5d, 5f), vertebrae c. (7i), t. (15i), l. (4i), sacrum (2i), humeri (3i, 2i sub-adults/3i, 1f), radii (2i/2i), ulnae (3i/3i,1d), carpals (-/2i), metacarpals (1i/-), phalanges (6i), hip bones (2i, 1d/1d, 1f), femora (2i/3i), tibiae (1i/3i), fibulae (2i/2i, 1d), tali (2i/-), calcanei (3i/2i), other tarsals (5i/-), metatarsals (3i/3i), phalanges (2i).

A few bones show deformations probably resulting from an inherited form of rickets (Formicola, 1995), and from degenerative processes.

- 11. Paoli *et al.*, 1980 (AC 2-17 and unnumbered remains); Scarsini, 1987(AC 12); Formicola, 1986a (AC 18); Formicola, 1986b (dentition).
- 12. Paoli *et al.*, 1980 (AC 2-17 and unnumbered remains); Formicola *et al.*, 1990 (AC 2); Formicola and Scarsini, 1987; Scarsini, 1987 (AC 12); Formicola, 1986a (AC 18); Cardini, 1980 (burials).

13. Museo di Archeologia Ligure, Villa Durazzo Pallavicini, via Pallavicini 1, 16155 Genova Pegli (AC 3-11 and unnumbered bones); Civico Museo del Finale, Chiostrì di Santa Caterina, 17024 Finale Ligure (SV) (AC 2, AC 18); Museo di Antropologia, via del Proconsolo 12, 50122 Firenze (AC 12 reg. n. 6725, AC 13 reg. n. 6727, AC 15 reg. n. 6728); Dipartimento di Etologia, Ecologia ed Evoluzione. Sez di Antropologia, via S. Maria 55, 56126 Pisa (AC 16, AC 17).
14. Cast of burial VIII (AC 8) c/o Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, 10126 Torino.
15. Alessio M., Bella F., Bachechi F. and Cortesi C. 1966. University of Rome Carbon 14 dates IV. *Radiocarbon* 8: 401-412.
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BISCEGLIE

G. Giacobini and G. Manzi.



1. Bisceglie.
 2. Cave Santa Croce, on the right flank of the Lama di Santa Croce, 7 km South of Bisceglie, Bari. 41° 11' N, 16° 31' E.
 3. L. Cardini and P. Cassoli, June, 1955.
 4. In the inner part of the cave: from layer 4, composed of red breccia with lenses of grey soils and hearths (Mallegni et al., 1987).
 5. -
 6. Final Würm I / early Würm II (Mallegni et al., 1987).
 7. Charentian Mousterian of Quina type (Mallegni et al., 1987).
 8. *Crocota crocuta*, *Panthera (Leo) spelaea*, *Ursus spelaeus*, *Dicerorhinus mercki*, *Bos primigenius*, *Cervus elaphus*, *Equus caballus* (Cardini, 1955; Mallegni et al., 1987).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Bisceglie 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Adult (general morphology and dimensions).
 - 10.3 Right femur diaphyseal shaft (including the lesser trochanter and a portion of the neck) (d).
 - 10.4 -
 - 10.5 -
 11. Mallegni et al., 1987.
 12. Mallegni et al., 1987; Mallegni, 1992.
 13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
 14. -
 15. Cardini L. 1955. Giacimento musteriano della Grotta Santa Croce in Bisceglie e scoperta di un femore umano neandertaliano. *Quaternaria* II: 312.
- Mallegni F., Piperno M. e Segre A.G. 1987. Human remains of *Homo sapiens neanderthalensis* from the Pleistocene deposit of Santa Croce Cave, Bisceglie (Apulia), Italy. *Am. J. Phys. Anthropol.* 72: 421-429.
- Mallegni F. 1992. Il più antico popolamento umano. In A. Guidi e M. Piperno (eds). Roma-Bari: Laterza.pp. 103-138.



BREUIL

G. Giacobini and G. Manzi.

1. Breuil.
2. Breuil Cave, along the coastal profile of Monte Circeo (Latina), at the opposite (western) side as to Guattari Cave, at about 800 m from the NW edge of the promontory. 41° 14' N, 13° 05' E.
3. In the course of regular excavations directed by A. Bietti, on September, 19th, 1986 (Breuil 1), August 10th, 1988 (Breuil 2) and August 24th, 1989 (Breuil 3).
4. Cave deposit overlying the Tyrrhenian beach. Four major stratigraphical complexes have been recognised (Bietti et al., 1991; Manzi e Passarello, 1995). Hominid remains Breuil 1 and 2 were found in the surface levels of the slope that secondarily overlapped the lower in situ strata. Breuil 3 was found in layer XI of the upper stratigraphical sequence.
5. -
6. Late OIS 3, postdating the beginning of the Würm II stadial (Bietti et al., 1991; Manzi e Passarello, 1995).
7. Pontinian (Local Mousterian), with presence of elongated flakes in the uppermost levels of the stratigraphical sequence (Taschini, 1970; various papers in Bietti e Manzi, 1991).
8. *Cervus elaphus*, *Capra ibex*, *Bos primigenius*, *Capreolus capreolus*, *Equus hydruntinus* (Stiner, 1991).
- 9.1 -
- 9.2 The uppermost levels of the sequence were preliminary dated by ESR to 36.6 ± 2.7 ka (Schwarcz et al., 1991).
- 9.3 -
- 10. Breuil 1 (*)**.
- 10.1 Indeterminate.
- 10.2 Adult (dimensions, especially thickness)
- 10.3 Postero-inferior portion of left parietal bone (f).
- 10.4 -
- 10.5 -
- 10. Breuil 2 (*)**.
- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Crown of left mandibular molar (probably M₂).
- 10.5 -
- 10. Breuil 3 (*)**.
- 10.1 Indeterminate.
- 10.2 Juvenile of 13-14 years (according to the attribution to M₃).
- 10.3 -
- 10.4 Crown of unerupted left mandibular molar (probably M₃).
- 10.5 -
11. Manzi e Passarello, 1991, 1995.
12. Manzi e Passarello, 1991 (Breuil 1-3); Tattersall, 1998 (Breuil 2 and 3).
13. Dipartimento di Biologia Animale e dell'Uomo, Università di Roma "La Sapienza", P.le A. Moro 5, 00185 Roma.
14. -
15. Bietti A., and Manzi G. (eds) 1991. The Fossil Man of Monte Circeo. Fifty Years of Studies on the Neandertals in Latium. Quaternaria Nova 1 (proceedings of the homonymous symposium; Sabaudia, October 1989).

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BROION

G. Alciati and V. Formicola.

1. Broion.
2. Cave, Grotta del Broion, Colli Berici near Lumignano, Vicenza. 45° 28' N, 11° 33' E.
3. P. Leonardi, summer 1951.
4. Cave deposit. Layer C: brownish-grey soil with rubble, charcoal and fragmented bones (Leonardi, 1951, 1954).
5. -
6. Würm; II Pleniglacial (Broglia, 1984).
7. Epigravettian lithic industry, perforated deer canines (Leonardi, 1962; Sergi *et al.* 1971).
8. *Marmota marmota*, *Myotis bechsteini*, *Ursus spelaeus*, *Capra ibex*, *Rupicapra rupicapra*, *Microtus*, (Pasa, 1953).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Broion 1 (L).**
- 10.1 Indeterminate.
- 10.2 Adult (dental eruption).
- 10.3 Neurocranium (ff), phalanges (?).
- 10.4 3 incisors, 1 premolar.
- 10.5 -
11. -
12. -
13. Dipartimento di Scienze Geologiche e Paleontologiche, Corso Ercole I d'Este 32, 44100 Ferrara.
14. -
15. Broglia A. 1984. Paleolitico e Mesolitico. In: Il Veneto nell'Antichità. Banca Popolare di Verona.
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 Leonardi P. 1954. Nuove ricerche sulla stratigrafia e sulle industrie del Paleolitico superiore della Grotta del Broion nei colli Berici (Vicenza). *Rivista di Scienze Preistoriche* 9: 89-104.
 Leonardi P. 1962. Nuova stazione musteriana con resti di Leone speleo nella Grotta del Broion sui Colli Berici (Vicenza). *Atti Accademia Nazionale dei Lincei Mem. Ser. 8, 6*: 141-151.
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 Sergi S., Cardini L. and Leonardi P. 1971. Italy. In: Oakley K.P., Campbell B.G. and Molleson T.I. (eds). *Catalogue of fossil hominids*. The British Museum of Natural History, London.

BUCA DEL TASSO

G. Giacobini and G. Manzi.



1. Buca del Tasso.
 2. Rockshelter Buca del Tasso, left flank of the valley of the river Carpigna (415 m asl and 15-20 m above the present river bed), 1 km SE of Metato (Alpi Apuane, Lucca). 43° 57' 05" N, 10° 20' 27" E.
 3. N. Puccioni during excavations 1919-1922.
 4. Cave deposit (Stefanini et al., 1922).
 5. -
 6. Würm I / Early Würm II (Cotrozzi et al., 1985).
 7. Mousterian (Puccioni, 1922; Palma di Cesnola, 1970, 1980; Cotrozzi et al., 1985).
 8. *Ursus spelaeus*, *Capra ibex* (Stefanini et al., 1922).
 - 9.1 -
 - 9.2 -
 - 9.3 >40 ka (Th/U) based on comparison with deposits in the nearby Grotta dell'Onda and Buca della Iena (Cotrozzi et al., 1985).
- 10. Buca del Tasso 1 (L).**
- 10.1 Indeterminate.
 - 10.2 Child of about 9 yrs. (dimensions)
 - 10.3 Diaphysis of left femur (d).
 - 10.4 -
 - 10.5 -

Note: Buca del Tasso 1 originally indicated a femur which was subsequently demonstrated to belong to a cervid (Cotrozzi et al., 1985); consequently, the hominid femur now Buca del Tasso 1 was indicated as Buca del Tasso 2 (or BdT 2).

11. Cotrozzi et al., 1985.
12. Cotrozzi et al., 1985.
13. Museo di Antropologia ed Etnologia, via del Proconsolo 12, 50122 Firenze, Italy.
14. Dipartimento di Scienze Archeologiche, Università di Pisa, V. Santa Maria 53, 56100 Pisa.
15. Cotrozzi S., Mallegni F. and Radmilli A.M. 1985. Fémur d'un enfant néandertalien dans la Buca del Tasso a Metato, Alpi Apuane (Italie). *L'Anthropologie* 89: 111-116.

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CA' VERDE

G. Alciati and E. Vacca.

1. Ca' Verde.
 2. Clay-pit near Sant'Ambrogio di Valpolicella, Verona. 45° 28' N, 10° 50' E.
 3. Consigned to F. Zorzi by a workman, 1949, (Zorzi, 1959).
 4. Green-blue clay, at a depth of 15 m, (Corrain 1963).
 5. -
 6. Early Würm, (Corrain 1963).
 7. Middle Palaeolithic, (Zorzi 1959, 1960; Corrain 1963; Leonardi and Broglio 1962).
 8. Animal bones most likely belonging to the Early Würm age (fide A. Pasa, in Corrain 1963).
 - 9.1 -
 - 9.2 -
 - 9.3 -
- 10. Ca' Verde 1 (L).**
10. Indeterminate.
 - 10.2 Indeterminate.
 - 10.3 Frontal, glabellar region (f).
 - 10.4 -
 - 10.5 -
11. Corrain, 1963.
 12. Corrain, 1963.
 13. Museo Civico di Storia Naturale di Verona, Lungadige Porta Vittoria 9, 37129 Verona.
 14. Museo Civico di Storia Naturale di Verona, Lungadige Porta Vittoria 9, 37129 Verona.
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CALASCIO

G. Giacobini and G. Manzi.

1. Calascio.
 2. Rockshelter I “Grottoni di Calascio”, on the southern slope of the Gran Sasso (near Calascio, L'Aquila). 42° 19' 12" N, 13° 20' 27" E.
 3. F. Giustizia, summer, 1978.
 4. Cave deposits; found below a large rock, laying on the surface in the inner part of the shelter (Giustizia, 1979; Mallegni, 1981).
 5. -
 6. Würm I (?).
 7. Mousterian (Giustizia, 1979).
 8. *Bos primigenius*, *Equus caballus*, *Cervus elaphus*, *Canis lupus*, *Hyaena spelaea* (Giustizia, 1979). Contemporaneity of the Mousterian layers with faunal remains on the basis of bone Nitrogen content (Mallegni, 1981).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Calascio 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Juvenile (incomplete fusion, approximately between 12 and 14 years according to Mallegni, 1981).
 - 10.3 Right caput femoris(d-f).
 - 10.4 -
 - 10.5 -
 11. Mallegni, 1981.
 12. -
 13. Sezione di Paleontologia Umana, Dipartimento di Scienze Archeologiche, Università di Pisa, via S. Maria 53, 56100 Pisa (Italy).
 14. -
 15. Giustizia F. 1979. Stanziamenti del Paleolitico inferiore e medio sul massiccio del Gran Sasso d'Italia. Nuovi rinvenimenti. *Geoarcheologia* 7: 29-42.
- Mallegni F. 1981. Testa di femore di *Homo antiquus neanderthalensis* rinvenuto nel riparo musteriano “I Grottoni” a Calascio (L'Aquila). *Arch. Antropol. Etnol.* CXI: 289-290.



CASAL DE' PAZZI

G. Giacobini and G. Manzi.

1. Casal de' Pazzi.
 2. Open-air site at the NE outskirts of Rome, in a recently urbanised area generally referred to as Rebibbia-Casal de' Pazzi. The site is located in the Lower Aniene Valley at about 32 m asl. 41° 56' N, 12° 44' E.
 3. M. Ruffo, May 1983, during regular excavations directed by A.P. Anzidei (e.g., Anzidei and Ruffo, 1985).
 4. Fluvio-lacustrine levels referable to the middle terrace of the river Aniene; the human specimen was found at the base of the archaeological deposit (layer 4), containing redeposited fragments of the overlying layers and directly laying on the lithoid tuff (Segre, 1983; Anzidei et al., 1984; Anzidei and Ruffo, 1985).
 5. -
 6. Late Middle Pleistocene ("Riss complex") (Segre, 1983).
 7. Protopotinian (i.e., early Mousterian) (Anzidei et al., 1984; Bietti, 1985).
 8. *Elephas (Palaeoloxodon) antiquus*, *Dicerorhinus* sp., *Hippopotamus amphibius*, *Bos primigenius*, *Cervus elaphus*, *Dama* sp., *Capreolus capreolus*, *Hyaena crocuta*, *Canis lupus*, *Anser albifrons*, *Anas penelope*, *Anas crepera*, *Anas crecca*.
 - 9.1 -
 - 9.2 Amino-acid racemisation on *Bos primigenius* teeth provided a dating of 360 ± 90 ka (aile/ile = 0.12 \pm 0.02 [4]) (Belluomini et al., 1986).
 - 9.3 -
 - 10. Casal de' Pazzi 1 (*)**.
 - 10.1 Indeterminate.
 - 10.2 Adult (dimensions, especially tichness).
 - 10.3 Postero-superior portion of a right parietal bone (f-d).
 - 10.4 -
 - 10.5 Circular depression (mm 13) with ipervascularisation, possibly in relationship with a traumatic lesion.
 11. Passarello et al., 1985; Manzi et al., 1990.
 12. Passarello et al., 1985, 1989; Manzi et al., 1990.
 13. Soprintendenza Archeologica di Roma, P.za delle Finanze 1, 00185 Roma.
 14. Soprintendenza Archeologica di Roma, P.za delle Finanze 1, 00185 Roma.
 15. Anzidei A.P. and Ruffo M. 1985. The Pleistocene deposit of Rebibbia-Casal de' Pazzi (Rome, Italy). In C. Malone e S. Stoddart (eds), Papers in Italian Archaeology IV. I: The human landscape. BAR Internat. Series, 243. pp. 69-85.
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CASTEL DI GUIDO

F. Mallegni.



1. Castel di Guido.
2. Area between 12th and 20th km of Via Aurelia, Roma. Hilly landscape with small differences in gradient, cut by rounded, moderately steep-sided valleys, now watered by more or less seasonal streams. Westwards, these hills fall away towards the Tyrrhenian, to a geographically different area, with undulating surfaces, modest altitude above sea level, and dune features. 41° 53' 59" N, 12° 16' 33" E.
3. Longo E., September 1980.
4. From bottom: A) clayey and/or sandy marine deposits with no traces of stratification. B) deltaic, sandy and conglomeratic deposits, with cross-stratification at base; C) Mainly pyroclastic volcanic deposits, with intercalations of fluvial and lacustrine sediments. The following succession is distinguished inside this deposit: C1) striped *peperino*, C2) tuff and lava, C3) ignimbrite, almost certainly the product of a single eruption and therefore a good guideline layer in local stratigraphy, C4) pyroclasts and lava produced by many explosive events, often intercalated with reworked products and lacustrine deposits, C5) hydromagmatic tuff; D) lacustrine and travertine deposits, E) sandy or sandy-conglomeratic deposit, with human remains, F) coastal deposits in dune or marshy facies (Accordi *et al.*, 1988; Bertini *et al.*, 1971; Pitti *et al.*, 1983a, 1984, 1985; Radmilli, 1992; Radmilli *et al.*, 1980).
5. -
6. Lower or Middle Pleistocene (deposits A - C5), Middle or Upper Pleistocene (deposits D - E), Holocene (deposit F), (Accordi *et al.*, 1988; Bertini *et al.*, 1971).
7. Lower Paleolithic, with lithic (bifacial) and bone industry (Orban, 1988; Pitti *et al.*, 1985).
8. Surface: *Elephas antiquus*, *Rhinoceros sp.*, *Equus caballus*, *Hippopotamus amphibius*, *Sus scrofa*, *Bos primigenius*, *Cervus elaphus*, *Dama dama*, *Capreolus capreolus*, *Felis leo spelea*, *Canis lupus*. Surrounding hills: *Panthera Felis leo silvestris schr.*, *Ursus sp.*, *Castor fiber L.*, *Hystrix sp.*, *Microtus sp.*, *Arvicola sp.*, *Cygnus* (cf. *Bewickii yarr*), *Testudo sp.*, *Rana sp.* (fide Mariani) (Orban, 1988).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Castel di Guido 1 (*, L).**
- 10.1 Female (bone size and robusticity).
- 10.2 Adult (see the note and CdG2).
- 10.3 Femur (f/-).
- 10.4 -
- 10.5 -

Note: Probably belonging to same individual as CdG2

- 10. Castel di Guido 2 (*, L).**
- 10.1 Female (bone size and robusticity).
- 10.2 Adult (osteon count).
- 10.3 Femur (-/f).
- 10.4 -
- 10.5 -
- 10. Castel di Guido 3 (*, L).**
- 10.1 Undetermined.
- 10.2 Undetermined.
- 10.3 Occipital (f).

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CAVALLO, BAIA DI ULUZZO

G. Giacobini and G. Manzi.



1. Cavallo.
2. Cave Grotta del Cavallo in the Uluzzo Bay (15 m asl), 3 km from Santa Caterina di Nardò (Lecce, Puglia). 40° 09' 15" N, 17° 57' 36" E.
3. A. Palma di Cesnola, excavations 1963-1965.
4. Cave deposit; hominid remains were found in layer "I" or "X" (Cavallo 1) and "e" or "IV" (Cavallo 2 and 3) (Palma di Cesnola e Messeri, 1967; Palma di Cesnola, 1975; Messeri e Palma di Cesnola, 1976).
5. -
6. Würm W/ Würm I-II (1), Würm II-III/Würm III (Cavallo 2 and 3) (Palma di Cesnola, 1975; Messeri e Palma di Cesnola, 1976).
7. Mousterian (Cavallo 1) and Uluzzian (Cavallo 2 and 3) (Palma di Cesnola e Messeri, 1967; Palma di Cesnola, 1975).
8. *Bos primigenius*, *Cervus elaphus*, *Dama dama* (layer)X; mainly represented by *Equus caballus* (layer IV) (Palma di Cesnola, 1975; Messeri e Palma di Cesnola, 1976).
- 9.1 -
- 9.2 Cavallo 2 and 3: >1 ka, ¹⁴C (Palma di Cesnola, 1975; Messeri e Palma di Cesnola, 1976).
- 9.3 -

10. Cavallo 1 (L).

- 10.1 Indeterminate.
- 10.2 Child, less than 12 yrs. (dental eruption).
- 10.3 -
- 10.4 Left mandibular m₂.
- 10.5 -

10. Cavallo 2 (L).

- 10.1 Indeterminate.
- 10.2 Child, less than 11 yrs. (dental eruption).
- 10.3 -
- 10.4 Left maxillary m¹.
- 10.5 -

10. Cavallo 3 (L).

- 10.1 Indeterminate.
- 10.2 Child, less than 12 yrs. (dental eruption).
- 10.3 -
- 10.4 Right maxillary m².
- 10.5 -

Note: Originally, the three specimens had been respectively indicated as "tooth A", "tooth B" and "tooth C" (Palma di Cesnola e Messeri, 1967).

11. Palma di Cesnola e Messeri, 1967; Messeri e Palma di Cesnola, 1976.
12. Palma di Cesnola e Messeri, 1967.
13. Università di Siena, Dipartimento di Archeologia e Storia delle Arti, Sezione di Preistoria, via delle Cerchia 3, 53100 Siena (Italy).
14. -
15. Palma di Cesnola, A. and Messeri, P. 1967. Quatre dents humaines paleolithiques trouvees dans des cavernes de l'Italie meridionale. *L'Anthropologie* 71: 249-261.

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Messori P. and Palma di Cesnola A. 1976. Contemporaneità di paleantropi e fanerantropi sulle coste dell'Italia meridionale. *Zephyrus* 26-27: 7-30.

CEPRANO

A. Ascenzi.[†]

1. Ceprano.
2. The site, called Campogrande of Ceprano, is about 3.7 km South-West of the centre of Ceprano (Frosinone). 41° 31' 42" N, 13° 54' 16" E.
3. Discovered by I. Biddittu, March 13th 1994. Excavations for a highway through the Campogrande area exposed fragments of a damaged and scattered human calvarium, which were found in situ within a clay layer. A methodical exploration of the site allowed to recover all of the remaining bone fragments. Researches directed until 2000 by: Segre A.G. and Ascenzi A. (Ascenzi et al., 1994, 1996, 2000; Ascenzi and Segre, 1997a); further developed by researchers of the Italian Institute of Human Paleontology (Manzi et al. 2001, 2003; Mallegni et al., 2003; Manzi, 2004; Bruner and Manzi 2005); systematic excavations in the area are in progress (Biddittu et al., 2002).
4. Pleistocene series about 53 m deep, in the central part of the Ceprano basin. Within this series, the 23 m deep upper layer is made of fluvio-colluvial facies containing gravels, pyroclastic sands, silts and travertines, with clay at the lower levels. The lower layer, which is 30 m deep, is made of lake facies made mainly of clays and silts associated with lignite and freshwater malacofauna (Ascenzi et al., 1994, 1996, 2000; Ascenzi and Segre, 1997a).
5. -
6. Lower Middle Pleistocene (Ascenzi et al., 1994, 1996, 2000; Ascenzi and Segre, 1997a; Ascenzi et al., 1996; Ascenzi and Segre, 1997a).
7. Correlated archaeological material is represented by pebble/flake assemblages referred to an archaic, or "Mode 1", Lower Paleolithic (Biddittu, 1971, 1972, 1974, 1980; Ascenzi et al., 1996; Ascenzi et al., 2000).
8. Correlated faunal remains includes *Mammuthus trogontherii*, *Bison sp.* and *Panthera sp.* (Ascenzi and Segre, 2000; Ascenzi et al., 2000).
- 9.1 -
- 9.2 In the upper series, at the bottom of the pyroclastic materials: K-Ar 700 Kyr BP; at the bottom of the upper series (boundary with the lower series): fission tracks, 980 and 1100 Kyr BP (Ascenzi and Segre, 2000; Ascenzi et al., 1996, 2000).
- 9.3 -
- 10. Ceprano 1 (*).**
- 10.1 Male (morphology).
- 10.2 Adult (morphology and sutures).
- 10.3 Calvarium, incomplete (f).
- 10.4 -
- 10.5 A large lateral recess of the sphenoidal sinus penetrates into the great wing of the left sphenoidal; healed fracture from compression of the right supraorbital torus; possible ossified subperiosteal haematoma of the right frontal squama.

Notes: The original reconstruction by Ascenzi and co-workers (1996) was submitted to limited but significant revisions (Clarke, 2000; Ascenzi et al., 2000; for a synopsis see Manzi, 2004: p. 18).

11. Ascenzi et al., 1994, 1996, 2000; Ascenzi and Segre, 1997a, 1997b, 2000; Clarke, 2000.
12. Ascenzi et al., 1994, 1996, 2000; Ascenzi and Segre, 1997a, 1997b, 2000; Clarke, 2000.
13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
14. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
15. Ascenzi A., Benvenuti A. and Segre A. G., 1997. On the paleopathologic Findings exhibited by the late *Homo erectus* of Ceprano, Italy. *Human Evolution* 12: 189-196.

Ascenzi A., Biddittu I., Cassoli P.F., Segre A.G. and Segre-Naldini F. 1994. A Calvaria of a lower Pleistocene Hominid from Southern Latium, Central Italy. In: *The hominids and their*

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Clarke R.J. 2000. A corrected reconstruction and interpretation of the *Homo erectus* Skull from Ceprano, Italy. J. Hum. Evol. 39: 433-442.

Mallegni F., Carnieri E., Bisconti M., Tartarelli G., Ricci S., Biddittu I., Segre A.G. 2003. *Homo cepranensis* sp. nov. and the evolution of African-European Middle Pleistocene hominids. C.R. Palevol 2: 153-159.

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Manzi G., Mallegni F. and Ascenzi A. 2001. A cranium for the earliest Europeans: Phylogenetic position of the hominid from Ceprano, Italy. Proc. Natl. Acad. Sci. USA 98: 10011-10016.

† Prof. A. Ascenzi died in December 2000: in homage to his work, the text was updated only to insert new references.



CIOTA CIARA, MONTE FENERA

G. Giacobini and G. Manzi.

1. Ciota Ciara.
2. Cave Ciota Ciara, 670 m asl on the Western side of Monte Fenera, left flank of the Sesia Valley near the Town of Borgosesia (Vercelli). 45° 42' 36" N, 4° 8' 35" E.
3. Identified by A. Mottura among material deriving from uncontrolled excavations carried out in 1955-'56 (Ciota Ciara 1); P. Gallo and F. Strobino, May, 1989 (Ciota Ciara 2 and 3).
4. Unknown (Ciota Ciara 1); from the eroded surface of the Mousterian deposit, in the vestibular area of the main entrance of the cave (Ciota Ciara 2 and 3; Strobino, 1993).
5. -
6. -
7. Mousterian (Fedele, 1966; Fedele et al., 1966).
8. -
- 9.1 -
- 9.2 -
- 9.3 -

10. Ciota Ciara 1 (L, *).

- 10.1 Indeterminate.
- 10.2 Adult (morphology and dimensions).
- 10.3 Squamous portion of right temporal bone (d-f).
- 10.4 -
- 10.5 -

10. Ciota Ciara 2 (*).

- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right mandibular molar, M₂.
- 10.5 -

10. Ciota Ciara 3 (*).

- 10.1 Indeterminate.
- 10.2 Juvenile (permanent tooth, no wear).
- 10.3 -
- 10.4 Right maxillary premolar, P¹.
- 10.5 -

Note: Ciota Ciara 2 and 3 have been respectively indicated as Fenera 2 and Fenera 3 by Villa e Giacobini (1996).

11. Mottura, 1980 (Ciota Ciara 1); Giacobini, 1992; Villa e Giacobini, 1996 (Ciota Ciara 2 and 3).
12. Mottura, 1980 (Ciota Ciara 1); Villa e Giacobini, 1996 (Ciota Ciara 2 and 3).
13. Soprintendenza Archeologica di Torino, Piazza S. Giovanni 1, 10122 Torino (Ciota Ciara 1); Dipartimento di Anatomia Farmacologia e Medicina Legale, Università di Torino, Corso M. d'Azeglio 52, 10126 Torino (Ciota Ciara 2 and 3).
14. Dipartimento di Anatomia Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
15. Fedele F. 1966. La stazione paleolitica del Monfenera (Borgosesia). Riv. Studi Liguri 32: 5-105.

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CIUTARUN, MONTE FENERA

G. Giacobini and G. Manzi.

1. Ciutarun.
2. Cave Ciutarun, 650 m asl on the Western side of Monte Fenera, left flank of the Sesia Valley near the Town of Borgosesia (Vercelli). 45° 42' 40" N, 4° 8' 35" E.
3. Identified by G. Giacobini and G. Villa (1995) among material deriving from excavations carried out by C. Conti in June, 1955.
4. Cave deposit (Conti, 1960). Breccia near the left wall of the cave at a depth of 3.80 m (according to the notes by Conti, Villa and Giacobini, 1996).
5. -
6. -
7. Mousterian (Fedele, 1966).
8. *Ursus spelaeus*, *Cervus elaphus*.
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Ciutarun 1 (*)**.
- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right mandibular premolar (P₁).
- 10.5 -

Note: the specimen was formerly indicated as Fenera 4 (Villa e Giacobini, 1996).

11. Villa e Giacobini, 1996.
12. Villa e Giacobini, 1996.
13. Dipartimento di Anatomia Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
14. Dipartimento di Anatomia Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
15. Conti C. 1960. Esplorazione della grotta Ciutarun del Monfenera (Borgosesia). In Atti e Memorie del Congresso di Varallo Sesia. Torino: SPABA. pp. 205-212.

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CONTINENZA

F. Mallegni.

1. Continenza.
2. Name of cave derives from that of family which inhabited it during second world war. Cave opens on slopes of M. Labrone, along south bank of Fucino, at 710 m, near village of Trasacco (L'Aquila). 45° 57' 30" N; 1° 05' 30" E.
3. After discovery of a few ceramic fragments in shelter by U. Irti, excavations began in 1978 and are still in progress.
4. Cave first appeared as a large shelter near a fault. A large internal chamber and a tunnel were only discovered in 1981.
5. Neolithic burials (3 individuals buried with incineration rites, about 30 from cave and shelter); also Epipaleolithic-Mesolithic (layers 28-29), Paleolithic (layers 30-35, Final Epigravettian, with burials in stone circles) and many scattered remains, above all teeth, coming from clearing operations, landslides and rectifications of excavations, still under study (Grifoni Cremonesi and Mallegni, 1978; Vitiello and Mallegni, 1991; Grifoni Cremonesi *et al.*, 1995; Mallegni and Bertoldi, in prep.).
6. Upper Paleolithic to Bronze Age.
7. Stratigraphy includes disturbed layers of Bronze Age and Final Neolithic, a series of old Neolithic layers with impressed ceramics (layers 2-24), Mesolithic layers (25-29) with Sauveterrian industry and Epigravettian layers (30-36). Industry of "Bertonian" type appears in layers 37-43.
8. Micro-mammals: *Talpa romana*, *Glis glis*, *Rhinolophus mehelyi*, *Eliomys quercinus*, *Apodemus sylvaticus*, *Arvicola terrestre*, *Pitymiys savii* Remains of deer, boar, roe-deer, wild cat, fox, pine marten, hare, badger, chamois and wild goat, together with fish, molluscs and birds (Bevilacqua, 1994).
- 9.1 -
- 9.2 ¹⁴C dating, layer 7: 6170 ± 75 BP; layer 20: 6590 ± 75 BP; layer 25: 9490 ± 100 BP; layer 26: 9100 ± 100 BP; layer 27: 9330 ± 100 BP e 9650 ± 100 BP; layer 28: 9680 ± 100 BP; layer 32: 10280 ± 110 BP; layer 34: 10230 ± 110 BP, (Bevilacqua, 1994).
- 9.3 -
10. **Continenza 1** (layers 28-29, Epipaleolithic-Mesolithic), (*, L, PC).
 - 10.1 Probably female (size).
 - 10.2 Adult (mature bone).
 - 10.3 Patellae (i/i), tibiae (f/d), fibulae (f/f), tarsals (4i/2i), metatarsals (i/i), 11 toe phalanges.
 - 10.4 -
 - 10.5 Traces of periostitis on shaft of fibula and right tibia.

Note: Other remains belonging to at least two individuals were also found in layers 28-29: one XI thoracic vertebra; one I lumbar vertebra; one probably thoracic vertebra; a fragment of posterior neural arch; a fragment of a rib; one I right metacarpal; 7 finger phalanges; one right calcaneus, and one fragment of calcaneus, unassociated; one right I cuneiform; one right V metatarsal; left IV and V metatarsals; one toe phalanx.

10. **Continenza 2, 3, 4** (*, L, PC), mixed remains (layer 30, latest Epigravettian), calculated as belonging to a minimum of 3 individuals.
 - 10.1 One male, one female, one undetermined (according to skeletal size and features of mandibles).
 - 10.2 Adults (degree of skeletal development).
 - 10.3 Fragments of skull, including one frontal (ff), fragments of mandible, including one chin portion (ff), 3 right mandibular rami (f), fragments of left radial shaft (ff), fragments of left ulna, associated (ff), complete left ulna (i), right radius, without proximal epiphysis (f), one metacarpal (i), two cervical vertebrae (i), one thoracic vertebra (i), complete sacrum (i), fragments of right

- 10.2 Adult (mature bone).
- 10.3 Vertebrae t. (10 i), l. (5d), sacrum (d), clavicles (f/-), scapulae (ff/ff), sternum (d), humeri (i/d), radii (d/i), ulnae (i/i), almost complete carpus and metacarpus, finger phalanges, hip bones (ff/i), femora (d/i), patellae (i/i), tibiae (d/d), fibulae (d/d), few tarsal bones.
- 10.4 -
- 10.5 Arthrosis of arms and legs, ossification of tendons of femoral quadriceps and patella, trauma of tibial shaft, Harris lines.
11. Grifoni Cremonesi e Mallegni, 1978; Vitiello e Mallegni, 1991; Grifoni Cremonesi *et al.*, 1995; Mallegni e Bertoldi, In preparazione.
12. -
13. Dip. Scienze Archeologiche, Sezione di Paleontologia Umana. Università di Pisa, via S. Maria 53, Pisa.
14. Continenza 7, cast of the burial: Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, I-10126 Torino.
15. Barra Incardona A. and Grifoni Cremonesi R. 1991. Gli scavi nella Grotta Continenza. In: Il Fucino e le aree limitrofe nell'antichità. Atti Convegno, Roma: 54-64.
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DALMERI

G. Alciati and V. Formicola.

1. Riparo Dalmeri.
 2. Rockshelter at 1240 m above sea level on the Altopiano dei Sette Comuni, northern side of Piana di Marcesina (Grigno, Trento). 45° 59' N, 11° 36' E.
 3. G. Dalmeri, june 1994-96.
 4. Rockshelter carved in a cliff of oolithic limestone. US 14, 14a, 22, 26c. The anthropic deposit is characterised by a blackish silty-clay soil of hydromorphous origin (Bassetti *et al.*, 1998).
 5. -
 6. Late Wurm, Allerod (Dalmeri and Lanzinger, 1989; Bassetti *et al.*, 1998).
 7. Late epigravettian lithic industry (Dalmeri and Lanzinger, 1989; Bassetti *et al.*, 1998).
 8. *Capra ibex*, *Cervus elaphus*, *Ursus arctos*, *Capreolus capreolus*, *Marmota marmota*, *Salmo trutta*, *Leuciscus*, *Barbus* (Fiore *et al.*, 1998).
 - 9.1 -
 - 9.2 ¹⁴C dates of charcoals from late Epigravettian layers range from 11260 ± 100 BP (KI-3634) (US 14) to 10800 ± 110 BP (Rome 425 RD-1) (US 14b) (Bassetti *et al.*, 1998).
 - 9.3 -
 - 10. Dalmeri 1, 2, 3, 4 (L).**
 - 10.1 Indeterminate.
 - 10.2 Infans I.
 - 10.3 -
 - 10.4 Four isolated right maxillary decidual incisors, (i¹, i², i², i²).
 - 10.5 -
 11. Alciati *et al.*, 1998
 12. -
 13. Museo Tridentino di Scienze Naturali, via Calepina 14, 38100 Trento.
 14. -
 15. Alciati G., Coppa A., Dalmeri G., Giacobini G., Lanzinger M., Macchiarelli R. and Villa G. 1998. Human deciduos dental crowns from the Epigravettian layers at Riparo Dalmeri (Trento). A preliminary descriptive note. *Preistoria Alpina* 34: 197-200.
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FATE

G. Giacobini and G. Manzi.

1. Fate.
2. Caverna delle Fate on the Manie Plateau, left flank of the Valle di Ponci, 280 m asl, 4 km north-east of Finale Ligure (Savona, Liguria). 44° 11' 45" N, 8° 22' 03" E.
3. Fate 1-3, G. Giacobini, 1981, in revising the bone assemblage collected by G.B. Amerano, 1887-1888. Fate 4-16, regular excavations, 1983-1988 under the direction of the Soprintendenza Archeologica della Liguria (joint French-Italian team).
4. Cave deposit including occupation layers interposed among stalagmitic levels (Echassoux et al., 1989). All hominid remains were collected in sediments disturbed by ancient excavations.
5. -
6. Early Würm (de Lumley, 1969; Echassoux et al., 1989).
7. Typical Mousterian (de Lumley, 1969; Echassoux et al., 1989).
8. *Cervus elaphus*, *Capreolus capreolus*, *Capra ibex*, *Bos primigenius*, *Ursus spelaeus*, *Canis lupus* (de Lumley, 1969; Echassoux et al., 1989).
- 9.1 75 ± 21/-14 ka (²³¹Pa/²³⁵U); 82 ± 36/-25 (²³⁰Th/²³⁴U), non destructive gamma ray spectrometry on human remains Fate 1-3 (Giacobini et al., 1984).
- 9.2 78 ± 9 ka and 78 ± 13 ka ESR dating of stalagmitic levels close to the layers of probable origin of human remains (Echassoux et al., 1989).
- 9.3 -
- 10. Fate 1 (*).**
 - 10.1 Indeterminate.
 - 10.2 Child, 8-10 years (morphology and dimensions).
 - 10.3 Incomplete frontal bone (d).
 - 10.4 -
 - 10.5 -
- 10. Fate 2 (*).**
 - 10.1 Indeterminate.
 - 10.2 Child, 9-10 years (morphology, dimensions, dental eruption).
 - 10.3 Incomplete mandible (-/f).
 - 10.4 Left mandibular C, M₁ and M₂ (premolars radiologically visible).
 - 10.5 -
- 10. Fate 3 (*).**
 - 10.1 Indeterminate.
 - 10.2 Adult (morphology, dimensions, dental eruption).
 - 10.3 Incomplete mandible (ff).
 - 10.4 Right mandibular M₃.
 - 10.5 -
- 10. Fate 4 (*).**
 - 10.1 Indeterminate.
 - 10.2 Adult (morphology and dimensions).
 - 10.3 Portion of the occipital squama (d).
 - 10.4 -
 - 10.5 -
- 10. Fate 5 (*).**
 - 10.1 Indeterminate.

10.2 Child, 4-5 years (dental eruption).

10.3 -

10.4 Left mandibular m_2 .

10.5 -

10. Fate 6 (*).

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Crown of right mandibular M_1 .

10.5 -

10. Fate 7 (*). s

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Right maxillary P^1 .

10.5 -

10. Fate 8 (*).

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Left maxillary P^1 .

10.5 -

10. Fate 9 (*).

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Very fragmentary maxillary molar.

10.5 -

10. Fate 10 (*).

10.1 Indeterminate.

10.2 Adult (morphology and dimensions).

10.3 Hand phalanx (V ?).

10.4 -

10.5 -

10. Fate 11 (*).

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Fragmentary left maxillary incisor (I^2 ?).

10.5 -

10. Fate 12 (*).

10.1 Indeterminate.

10.2 Adult (dental maturation and wear).

10.3 -

10.4 Crown of left mandibular M_2 .

10.5 -

10. Fate 13 (*).

- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Crown of right maxillary M¹.
- 10.5 -

10. Fate 14 (*).

- 10.1 Indeterminate.
- 10.2 Child, 4-7 years (dental eruption).
- 10.3 -
- 10.4 Left maxillary m¹.
- 10.5 -

10. Fate 15 (*).

- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right mandibular I₂.
- 10.5 -

10. Fate 16 (*).

- 10.1 Indeterminate.
- 10.2 Child, 8-10 years (morphology and dimensions).
- 10.3 Incomplete right zygomatic bone (d).
- 10.4 -
- 10.5 -

Note: Fate 1 is represented by two connecting fragments, one collected by Amerano in 1887-88 and the other discovered during controlled excavations in 1983. The half-mandible Fate 2 and the zygomatic bone Fate 16 possibly belong to the same individual as Fate 1. It is also possible that the two premolars Fate 7 and 8 should be referred to one single adult individual.

- 11. Fate 1-3: Giacobini et al., 1984. Fate 1-13: Giacobini e de Lumley, 1988. Fate 1-16: Giacobini, 1992.
- 12. Giacobini et al., 1984; Giacobini e de Lumley, 1984, 1988; Giacobini, 1992.
- 13. Dipartimento di Anatomia, Farmacologia e Medicina Legale, Università di Torino, Corso M. d'Azeglio 52, 10126 Torino.
- 14. Dipartimento di Anatomia, Farmacologia e Medicina Legale, Università di Torino, Corso M. d'Azeglio 52, 10126 Torino.
- 15. Giacobini G. 1992. New discoveries of Palaeolithic human remains in Italy. In M. Toussaint (ed.), *Five Million Years, the Human Adventure*. Liège: ERAUL. pp. 199-205.

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Lumley H. de. 1969. Le Paléolithique inférieur et moyen du Midi méditerranéen dans son cadre géologique. *Gallia Préhistoire suppl* 5: 14-19.



FONTANA NUOVA

F. Mallegni.

1. Fontana Nuova.
2. Rock shelter on right bank of river Irminio, near Marina di Ragusa, Sicily. 36° 48' 09" N, 14° 34' 44" E.
3. L. Bernabò Brea, before 1950.
4. Deposit of surface materia Bernabò Brea, 1950).
- 5 -
6. Upper Pleistocene (Bernabò Brea, 1950; Laplace, 1964).
7. Middle-Upper Aurignacian (Laplace, 1964).
8. -
- 9.1 -
- 9.2 -
- 9.3 -

- 10. Fontana Nuova 1 (L).**
- 10.1 Undetermined.
- 10.2 Undetermined.
- 10.3 Parietal (ff).
- 10.4 -
- 10.5 -

- 10. Fontana Nuova 2 (L).**
- 10.1 Undetermined.
- 10.2 9-year-old child (dental development).
- 10.3 Left P¹.
- 10.4 -
- 10.5 -

- 10. Fontana Nuova 3 (L).**
- 10.1 Undetermined.
- 10.2 Undetermined.
- 10.3 Left M¹ or M².
- 10.4 -
- 10.5 -

- 10. Fontana Nuova 4 (L).**
- 10.1 Undetermined.
- 10.2 Adult (bone development).
- 10.3 Talus (-i/).
- 10.4 -
- 10.5 -

11. Orban, 1988.
12. -
13. Soprintendenza Archeologica di Siracusa, piazza Duomo 1, Siracusa.
14. -
15. Bernabò Brea L. 1950. Yacimientos paleolíticos del sudeste de Sicilia. *Ampurias* 12: 115-143.

Orban R. 1988 (ed.). Italy. In "Hominid Remains, an up-date". Department of Anthropology and Human Genetics, Université Libre de Bruxelles (U.L.B). Belgium.

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FONTANA RANUCCIO

A. Ascenzi.

1. Fontana Ranuccio.
2. Near the town of Anagni (Frosinone), hilly landscape at the confluence of the Fossi delle Mole and Civitella, on the Colle Ranuccio (279 m), 650 m SW from the top, at about 235 m asl. 41° 45' 35" N, 13° 16' 03" E.
3. Segre A.G., Ascenzi A., Biddittu I., 1972. Istituto Italiano di Paleontologia Umana.
4. Tuffitic series, pyroclastic and "Pozzolana" overlying cyneritic (pyroclastic agglomerate from a flow of mixed scoria erupted from the Lazian-Alban Volcano). Single archaeo-palaeontological layer with palaeopedogenic pyroclastic sand; the sand appears irregularly compact with variable manganese-ferrous insertions about 30 cm thick (Biddittu et al. 1979; Segre et al., 1984).
5. -
6. Middle Pleistocene (Biddittu et al. 1979; Segre and Ascenzi 1984).
7. Lithic industry (thin chips), very rare bifacials, frequent bone industry (Ascenzi and Segre 1996; Biddittu and Segre 1980; Biddittu and Segre 1982-84).
8. *Macaca florentinus*, *Palaeoloxodon antiquus*, *Stephanorhinus hemitaecus*, *Hippopotamus cfr anfibius*, *Bos primigenius*, *Bison schoetensacki*, *Cervus elaphus*, *Megaceroides verticornis*, *Dama clactoniana*, *Capreolus capreolus*, *Ursus deningeri*, *Panthera leo spelaea*, *Cuon alpinus*, *Castor fiber*, *Lepus capensis*, *Anser penelope*, *Anser acuta*.
- 9.1 -
- 9.2 K-Ar 458 ± 5.7 Kyr (leucitic sands) (Radicati et al. in: Biddittu et al., 1979; Fornaseri, 1985. Segre and Ascenzi, 1984).
- 9.3 -
- 10. Fontana Ranuccio 1 (*)**.
- 10.1 Possibly male (size).
- 10.2 Adult (dental wear).
- 10.3 -
- 10.4 Permanent lower left central incisor (I₁) and two permanent lower molars (both M₂, left and right), possibly belonging to the same individual.
- 10.5 Wearing of the incisor cutting edge; punctuated dentine exposure in all the cups of the molars; interstitial attrition facets in the molar crowns; linear furrows running transversally in a buccal-lingual direction on the mesial surface of the neck of M₂.

Notes: a fourth tooth is so badly worn that it is impossible to definitely assess that it is human. This tooth, therefore, is not considered here (Segre and Ascenzi, 1984).

11. Ascenzi and Segre, 1996; Segre and Ascenzi, 1984.
12. Ascenzi and Segre, 1996; Segre and Ascenzi, 1984.
13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
14. -
15. Ascenzi A. and Segre A.G. 1996. Artefacts and human teeth at the Fontana Ranuccio middle Pleistocene site (Central Italy). *Anthropologie* 3: 4 39-46.

Biddittu I., Cassoli P.F., Radicati F., Segre A.G., Segre Naldini E., Villa I. 1979. Anagni a K-Ar dated lower and middle Pleistocene site. Central Italy. *Quaternaria* 21: 53-71.

Biddittu I., Segre A.G. 1980. Utilizzazione dell'osso nel Paleolitico inferiore italiano. *Atti 23^a Riun. Sc. Ist. It. P.P. Firenze*: 89-105.

Biddittu I., Segre A.G. 1982. Industria su Scheggia e bifacciali. Nuovi reperti del Paleolitico inferiore ad Anagni-Fontana Ranuccio. *Atti 24^a Riun. Sc. Ist. It. P.P., Firenze* 1984: 105-112.

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Fornaseri M. 1985. Geochronology of volcanic rocks from Latium. *Rend. Soc. It. Mineralog. Petrolog.* *XL*: 73-106.

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FOSELLONE, MIDDLE PALAEO LITHIC

G. Giacobini and G. Manzi.



1. Fossellone.
2. "Antro Obermaier" in the Fossellone Cave, along the coastal profile of Monte Circeo, 1 km SW of the village of San Felice Circeo (Latina). 41° 14' N, 13° 05' E.
3. A.C. Blanc, April, 1953 (M₁ and M₂), October, 1954 (mandibular fragment and P₂) (Blanc, 1954).
4. Cave deposit overlying the tyrrhenian beach; human remains were found in level 4 within the Antro Obermaier sequence.
5. -
6. Late Würm I - Early Würm II (Sergi et al., 1971).
7. Pontinian (Local Mousterian) (Blanc, 1954; Vitagliano e Piperno, 1991).
8. *Hyaena spelaea*, *Pardus pardus*, *Equus caballus*, *Rhinoceros mercki*, *Cervus*, *Bos*, *Capra ibex*, *Balaenula*, *Elephas* (Blanc, 1954).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Fossellone 3 (L, *).**
- 10.1 Indeterminate.
- 10.2 Infant of about 10 years (morphology and dimensions).
- 10.3 Fragment of mandibular symphyseal region (f).
- 10.4 Left P₂, M₁ and M₂.
- 10.5 -

Note: the denomination "Fossellone 3" is in accordance with the proposal reported by Bietti e Manzi (1991), while the specimen was previously referred to as Circeo IV or Circeo 4. Note also that Fossellone 1 and 2 are specimens from the same site referred to Aurignacian levels.

11. Mallegni, 1992a, b.
12. Mallegni, 1992a, b.
13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
14. -
15. Bietti A., and Manzi G. (eds) 1991. Proposal for a new denomination of the Monte Circeo hominids. In A. Bietti and G. Manzi (eds), *The Fossil Man of Monte Circeo. Fifty Years of Studies on the Neandertals in Latium*; pp. 47-48. *Quaternaria Nova 1* (proceedings of the homonymous symposium; Sabaudia, October 1989).

Blanc A.C. 1954. Reperti fossili neandertaliani nella Grotta del Fossellone al Monte Circeo: Circeo IV. *Quaternaria 1*: 171-175.

Mallegni F. 1992a. Human remains (Fossellone 3; ex Circeo 4) referable to *Homo s. neanderthalensis* from Fossellone Cave (Monte Circeo, Latium, Italy). *Riv. Antropol.*, 70: 217-227.

Mallegni F. 1992b. Quelques restes humains immatures des niveaux mustériens de la Grotte du Fossellone (Monte Circeo, Italie): Fossellone 3 (olim Circeo IV). *Bull. Mém. Soc. Anthropol. Paris*, 4 (n.s.): 21-32.

Sergi S., Cardini L. and Leonardi P. 1971. Italy. In K.P. Oakley, B.G. Campbell e T.I. Molleson (Eds), *Catalogue of Fossil Hominids. Part II: Europe*. London: British Museum (Natural History). pp. 231-260.

Vitagliano S., and Piperno M. 1991. Lithic industry of level 27 beta of the Fossellone Cave (S. Felice Circeo, Latina). *Quaternaria Nova 1*: 289-304.

Blanc A. C. and Segre A G. 1953. Exursion au Mont-Circé. In Blanc A.C. (a cura di) 1956, Actes du IV Congrès de l'Association Internationale pour l'Etude du Quaternaire (INQUA) Rome-Pise. Roma.

Mallegni F. and Segre Naldini E. 1992. A human maxilla (Fossellone 1) and scapula (Fossellone 2) recovered in the Pleistocene layers of the Fossellone cave, Mt. Circeo, Italy. *Quaternaria Nova II*: 211-225.



FREDIAN

F. Mallegni.

1. Fredian.
2. Rock shelter in Apuan Alps at 360 m asl, on right bank of Turrite Secca, an affluent of the river Serchio, opposite Molino di Piastricoli, near Molazzana (Lucca). 44° 4' 21" N, 10° 25' 7" E.
3. C. Tozzi, shelter excavated between 1987 and 1990.
4. Rock shelter.
5. -
6. -
7. Stratigraphy of deposit subdivided into 8 lithological and 3 stratigraphic units: units 1-3, non-anthropogenic phase. Units 4-5 and 6-7: Mesolithic and latest Epigravettian (Boschian *et al.*, 1995).
8. *Capra ibex*, *Cervus elaphus*, *Sus scrofa*, *Bos primigenius*, *Capreolus capreolus*, *Ursus arctos*, *Canis lupus*, *Panthera leo*. Flora: pine, birch, oak, fir, (Boschian *et al.*, 1995).
- 9.1 -
- 9.2 Units 4 and 5 ¹⁴C dated to 9458 ± 91 BP and 10870 ± 119 BP (Boschian *et al.*, 1995).
- 9.3 -

Note: Examination of teeth, all free, indicate a minimum number of 5-6 individuals.

10. Fredian 1 (*).

- 10.1 Undetermined.
- 10.2 Child, 12-18 months (deciduous teeth).
- 10.3 Right i², left i²
- 10.4 -
- 10.5 -

10. Fredian 2 (*).

- 10.1 Undetermined.
- 10.2 Child, 18-24 months (deciduous teeth).
- 10.3 Right i¹, i², left i¹, i², m², i.
- 10.4 -
- 10.5 -

10. Fredian 3 (*).

- 10.1 Undetermined.
- 10.2 About 15 years (deciduous and permanent teeth).
- 10.3 Right P¹, I₂, P₁, left I², I₁, P₁.
- 10.4 -
- 10.5 Traces of enamel hypoplasia on two mandibular premolars.

10. Fredian 4 (*).

- 10.1 Undetermined.
- 10.2 Adult (dental wear).
- 10.3 Right M₂, M³, left M³.
- 10.4 -
- 10.5 -

10. Fredian 5 (*).

- 10.1 Undetermined.
- 10.2 Adult (dental wear).
- 10.3 3 premolars, one premolar or incisor, right P₂ and C, left P₂.

10.4 -

10.5 -

10. Fredian 6 (*).

10.1 Undetermined.

10.2 Mature adult (dental wear).

10.3 I¹_r, I¹_l, I²_l, C¹_l, PM¹_r, PM¹_l, M²_l, I_{1r}, I_{2r}, I_{2l}, PM_{2r}, PM_{2l}, M_{1l}, M_{2l}, M_{3r}.

10.4 -

10.5 -

Note: Together with these isolated teeth a left shaft of an adult humerus; left femur of a child; right ulna of a juvenile were also found.

Humerus and ulna show cut marks and traces made on fresh bone by pointed objects, due to intentional actions completely unknown in the Italian Upper Paleolithic. Traces of enamel hypoplasia on almost all teeth (figs. 2-4) (Boschian *et al.*, 1995).

11. Boschian *et al.*, 1995.

12. Boschian *et al.*, 1995.

13. Dipartimento di Scienze Archeologiche, Sezione di Paleontologia Umana. Università di Pisa, via S. Maria 53, Pisa.

14. -

15. Boschian G., Mallegni F. and Tozzi C. 1995. The Epigravettian and Mesolithic site of Fredian Shelter (in Tuscany). *Quaternaria Nova* V: 45-80.



FUMANE, MIDDLE PALAEOOLITHIC

G. Giacobini and G. Manzi.

1. Fumane.
2. Rockshelter enlarging into a cave called Riparo-grotta di Fumane, also known as “Stazione della Neve” or “Riparo Solinas”, near the village of Fumane (Valpolicella, Verona), 350 m asl on the left flank of the Vaio di Manune. 45° 35' N, 10° 54' E.
3. Excavations directed by A. Broglio and M. Cremaschi, September, 1989 (Fumane 1) and 1990 (Fumane 3).
4. Highly anthropised and very thick (10 metres) cave deposit, including several Mousterian levels. Neandertal specimens were found in layers A11 (Fumane 1) and A12 (Fumane 3).
5. -
6. End of Würm II (Bartolomei et al., 1992).
7. Mousterian (Bartolomei et al., 1992).
8. *Cervus elaphus*, *Capreolus capreolus*, *Megaloceros* cfr. *giganteus*, *Capra ibex*, *Rupicapra rupicapra*, *Bovidae ind.*, *Ursus spelaeus*, *Ursus arctos*, *Vulpes vulpes*, *Canis lupus*, *Crocuta crocuta*, *Marmota marmota*, *Hystrix cristata*. Micromammals from the pertinent strata indicate the transition from a continental steppe environment to a more humid and temperate wooded grassland (Bartolomei et al., 1992).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Fumane 1 (*)**.
- 10.1 Indeterminate.
- 10.2 Tooth lost at about 10 years (lost deciduous tooth).
- 10.3 -
- 10.4 Right mandibular deciduous molar m₂.
- 10.5 -

Note Fumane 2 (deciduous incisor) is an Upper Paleolithic specimen.

- 10. Fumane 3 (*)**.
- 10.1 Indeterminate.
- 10.2 Adult (premanent tooth, wear).
- 10.3 -
- 10.4 Fragment of left maxillary I².
- 10.5 -
11. Bartolomei et al., 1992; Giacobini, 1992.
12. Giacobini, 1992 (Fumane 1).
13. Dipartimento di Scienze Geologiche e Paleontologiche, Università di Ferrara, C.so Ercole I d'Este 32, 44100 Ferrara.
14. Dipartimento di Anatomia, Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
15. Bartolomei G., Broglio A., Cassoli P.F., Castelletti L., Cattani L., Cremaschi M., Giacobini G., Malerba G., Maspero A., Peresani M., Sartorelli A. and Tagliacozzo A. 1992. La Grotte de Fumane. Un site aurignacien au pied des Alpes. *Preistoria Alpina* 28: 131-179.

Giacobini G. 1992. New discoveries of Palaeolithic human remains in Italy. In M. Toussaint (ed.), *Five Million Years, the Human Adventure*. Liège: ERAUL. pp. 199-205.



FUMANE, UPPER PALEOLITHIC

G. Giacobini and G. Manzi

1. Fumane.
2. Rockshelter enlarging into a cave called Riparo-grotta di Fumane, also known as “Stazione della Neve” or “Riparo Solinas”, near the village of Fumane (Valpolicella, Verona), 350 m asl on the left flank of the Vaio di Manune. 45° 35' N; 10° 54' E.
3. Excavations directed by A. Broglio and M. Cremaschi, October, 1992.
4. Highly anthropised and very thick (10 metres) cave deposit. The numerous Middle Paleolithic levels are followed by an Aurignacian sequence (levels A3-A1, D6-D3a). The human tooth was found in layer A2.
5. -
6. Würm II / Würm III (Bartolomei et al., 1992).
7. Aurignacian (Bartolomei et al., 1992).
8. *Capra ibex*, *Rupicapra rupicapra*, *Bovidae ind.*, *Cervus elaphus*, *Capreolus capreolus*, *Megaloceros* *cf.* *giganteus*, *Ursus sp.*, *Vulpes vulpes*, *Alopex lagopus*, *Canis lupus*, *Crocuta crocuta*, *Gulo gulo*, *Mustela putorius*, *Mustela nivalis*, *Mustela erminea*, *Pantera leo*, *Lynx lynx*, *Marmota marmota*, *Castor fiber*, *Lepus* *cf.* *timidus*. The faunistic assemblage indicate a cold steppe and Alpine grassland environment (Bartolomei et al., 1992).
- 9.1 -
- 9.2 A number of ¹⁴C dates carried out on charcoal samples from layer A2 span from 40 +4/-3 ka to 31.6 ± 0.4 ka (Bartolomei et al., 1992).
- 9.3 -
- 10. Fumane 2 (*)**
- 10.1 Indeterminate.
- 10.2 Tooth lost at about 10 years (lost deciduous tooth).
- 10.3 -
- 10.4 Right maxillary deciduous incisor, i¹.
- 10.5 -

Note: Fumane 1 and 3 are Middle Paleolithic specimens.

11. Bartolomei et al., 1992.
12. -
13. Dipartimento di Scienze Geologiche e Paleontologiche, Università di Ferrara, C.so Ercole I d'Este 32, 44100 Ferrara.
14. Dipartimento di Anatomia, Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
15. Bartolomei G., Broglio A., Cassoli P.F., Castelletti L., Cattani L., Cremaschi M., Giacobini G., Malerba G., Maspero A., Peresani M., Sartorelli A. and Tagliacozzo A. 1992. La Grotte de Fumane. Un site aurignacien au pied des Alpes. *Preistoria Alpina* 28: 131-179.



GRIMALDI, BAOUSSO DA TORRE (BAUSU DA TURE)

V. Formicola.

1. Baouso da Torre.
2. Cave destroyed by quarrying activities. Second S of the railway in sea cliff at Balzi Rossi, 5 km W of Ventimiglia, 0.5 km SW Grimaldi village, close to the French border at Ponte San Ludovico, Liguria. 43° 47' N, 7° 37' E.
3. E. Rivière, february 1873 (BT 1), june 1873 (BT 2, 3).
4. Cave deposit. Soft, charcoal-rich soil mixed with small stones and burnt animal bones. At depth of 3.75 m (BT 1) and of 3.90 m (BT 2, 3). (Rivière, 1887).
5. Burials with red ochre and perforated shell and canines of deer (BT 1, 2). BT 3 buried without ochre and grave goods, and possibly in a prone position (Rivière, 1887).
6. Late Pleistocene, Würm III (Mussi, 2001).
7. Upper Paleolithic, Gravettian (Mussi, 2001).
8. *Lepus sp.*, *Mus sp.*, *Canis lupus*, *Canis vulpes*, *Hyena spelaea*, *Ursus spelaeus*, *Equus caballus*, *Sus scrofa*, *Cervus elaphus*, *Bos primigenius*, Mollusca (Sergi *et al.*, 1971).
- 9.1 -
- 9.2 -
- 9.3 About 23440 ± 190 BP and 24800 ± 800 BP, according to direct AMS radiocarbon dates of Arene Candide 1 (Il Principe) and Barma Grande 6 respectively.

10. Baouso da Torre 1 (L).

- 10.1 Indeterminate adult (epiphyseal ossification, dental wear).
- 10.2 Male (size of limb bones).
- 10.3 Neurocranium (ff), mandible (f), scapulae (?/f), clavicles (f/?), ribs (ff), vertebrae l. (3f?), sacrum (f), humeri (f/f), radii (f/ff), ulnae (f/-), carpals (3i?/-), metacarpals (3i-f/-), phalanges (9i/2i), hip bones (ff/-), femora (f/f), patellae (i?/i?), tibiae (d/f), calcanei (-/i?), other tarsals (2i?/-), metatarsals (3i-f/4i-f), phalanges (-/6i).
- 10.4 Mandibular right I1, and left I1 and I2.
- 10.5 -

10. Baouso da Torre 2 (L, PC).

- 10.1 Young adult (epiphyseal ossification, dental wear).
- 10.2 Male (size of limb bones).
- 10.3 Neurocranium (f), face (f), mandible (f), vertebrae (?ff), sacrum (ff), ribs (ff), clavicles (i/f), scapole (d/-), humeri (i/f), radii (ff/i), ulnae (ff/i), carpals (-/6i), metacarpals (-/5i), phalanges (-/11i), hip bones (ff/d), femora (d/d), tibiae (d/d), fibulae (d/-), tali (ff/-), phalanges (1i/-).
- 10.4

r											l										
-	-	6	5	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-	7	6	5	4	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-		

- 10.5 -

10. Baouso da Torre 3 (L).

- 10.1 Adolescent (epiphyseal ossification).
- 10.2 Male? (femur length).
- 10.3 Neurocranium (ff), face (ff), humeri (f/-), ulnae (f/-), hip bones (-/ff), femora (ff/d), patellae (-/d), tali (ff/i?), calcanei (-/d), other tarsals (1ff/4d), metatarsals (?d), phalanges (?d).
- 10.4 Maxillary left I2,C, M1.
- 10.5 -

11. Rivière, 1887 (BT 1-3); Verneau, 1906 (BT 2, 3).
12. -
13. Musée des Antiquités Nationales, 78103 St Germain-en-Laye, France (BT 2); BT 1, 3 whereabouts unknown.
14. -
15. Mussi M. 2001. *Earliest Italy: an overview of the Italian Paleolithic and Mesolithic*. New York, Kluwer Academic/Plenum.

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GRIMALDI, BARMA DEL CAVIGLIONE

V. Formicola.



1. Barma del Caviglione.
2. Cave to the N of the railway in sea cliff at Balzi Rossi, 5 km W of Ventimiglia, 0,5 km SW Grimaldi village, close to the French border at Ponte San Ludovico, Liguria. 43° 47' N, 7° 37' E.
3. E. Rivière, March 1872 (BC 1) and earlier (BC 2 and 3).
4. BC 1 Second layer, at depth of 6.55 m (Rivière, 1887).
5. Ceremonial burial. Skeleton lying on the left side with bent limbs, abundant ochre, perforated shells (*Cyclonassa*) and canines of deer on the head.
6. Late Pleistocene, Würm III (Mussi, 2001).
7. Upper Paleolithic, Gravettian (Mussi, 2001).
8. *Lepus sp.*, *Panthera pardus*, *Ursus spelaeus*, *Sus scrofa*, *Alces alces*, *Capreolus capreolus*, *Cervus canadensis*, *C. elaphus*, *Bos primigenius*, *Rupicapra rupicapra*, Mollusca. (Rivière, 1887).
- 9.1 -
- 9.2 AMS radiocarbon dates obtained from shells belonging to grave goods suggest a Gravettian age (A.M. de Lumley, personal communication).
- 9.3 About 23.440 ± 190 BP and 24.800 ± 800 BP, according to direct AMS radiocarbon dates of Arene Candide 1 (Il Principe) and Barma Grande 6 respectively.

10. Barma del Caviglione 1, “Homme de Menton” (L).

- 10.1 Young adult (epiphyseal ossification).
- 10.2 Male (?) (Rivière, 1887), female (hip bone morphology) (M.A. de Lumley, pers. comm.).
- 10.3 Neurocranium (d), face (d), mandible (i), vertebrae c. (7 i), t. (?f), l.(all?f), sacrum (d), clavicles (d/d), sternum (d), ribs (f), humeri (d/d), radii (d/d), ulnae (i/i), hand bones (all?i?), hip bones (f/d), femora (d/i), patellae (i/i), tibiae (d/i), fibulae (d/f), tali (i/i), calcanei (i/f), other tarsals (4i?/3i?), metatarsals (3i?/1i?), phalanges (1i/-).

10.4

r														l			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

- 10.5 Fracture of the left radius healed with residual deformation (Rivière, 1887).

10. Barma del Caviglione 2 (L).

- 10.1 Adult (?).
- 10.2 Indeterminate.
- 10.3 Right cuboid, distal phalanx of the hallux.
- 10.4 -
- 10.5 -

10. Barma del Caviglione 3 (L).

- 10.1 Subadult (?).
- 10.2 Indeterminate.
- 10.3 Incomplete radius.
- 10.4 -
- 10.5 -

11. Rivière, 1887; Verneau, 1906.
12. Rivière, 1887; Pales, 1970.
13. BC 1: Musée de l’Homme, Palais de Chaillot, Paris.
14. Burial cast of BC 1: Musée de l’Homme, Palais de Chaillot, Paris, France.

15. Mussi M. 2001. *Earliest Italy: an overview of the Italian Paleolithic and Mesolithic*. New York, Kluwer Academic/Plenum.
Pales L. 1970. Petite histoire de la Barma Grande. *Objets et Monde. La revue du Musée de l'Homme* 10:225-230.
Rivière E. 1887. *De l'antiquité de l'Homme dans les Alpes Maritimes*. Paris: Baillière et Fils.
Verneau R. 1906. *Les Grottes de Grimaldi*. Anthropologie. Monaco: Imprimerie de Monaco.

GRIMALDI, BARMA GRANDE

V. Formicola.



1. Barma Grande.
2. Cave, first S of the railway in sea cliff at Balzi Rossi, 5 km W of Ventimiglia, 0.5 km SW Grimaldi village, close to the French border at Ponte San Ludovico, Liguria. 43° 47' N, 7° 37' E.
3. L. Jullien and S. Bonfils, february 1884 burial I (BG 1); F. Abbo 1892 triplex burial (Barma Grande 2-4), 1894 burial III (BG 5) and IV (BG 6).
4. Cave deposit. Burial I at depth of 8.40 m under a thick layer rich of charcoal and ashes; burial II (the triplex) at depth of 8 m; burial III and IV at depth of 6.40 (Verneau, 1908).
5. Single and multiple ceremonial burials in bed of ochre and rich grave goods including large flint blades, ivory pendants, fish vertebrae, perforated canines of deer (Cartailhac, 1912; Verneau, 1906).
6. Late Pleistocene, Würm III (Mussi, 2001).
7. Upper Paleolithic, Gravettian (Mussi, 2001).
8. *Ursus spelaeus*, *Cervus elaphus*, *Bos primigenius*, Mollusca: *Strombus bubonius* (Sergi *et al.*, 1971).
- 9.1 24800 ± 800 BP (OxA-10093), based on direct AMS radiocarbon date of BG 6 (Formicola *et al.*, 2004)
- 9.2 -
- 9.3 About 23440 ± 190 BP, according to a direct AMS radiocarbon date of Arene Candide 1 (Il Principe).

10. Barma Grande 1 (L).

- 10.1 Male (cranial morphology).
- 10.2 Middle-aged adult (suture closure).
- 10.3 Neurocranium (f), face (f), mandible (f), femora (f/ff), tibiae (ff/ff), fibulae (-/ff).
- 10.4

r								l							
-	-	X	R	R	X	X	X	-	-	-	-	-	-	-	-
8	7	X	X	4	X	R	X	-	-	-	-	-	-	-	-

10.5 -

10. Barma Grande 2 (*).

- 10.1 Male (pelvic morphology, postcranial robusticity), and DNA analyses (O. Rickards, pers. comm.).
- 10.2 Middle-aged adult (suture closure, pubic symphyseal phase).
- 10.3 Neurocranium (ff), face (ff), mandible (f), clavicles (d/-), scapulae (f/f), vertebrae c. (1ff), t. (11f-ff), l. (5ff), sacrum (f), ribs (ff), humeri (d/d), radii (d/i), ulnae (d/i), carpals (5i/5i), metacarpals (3i-f/3i-f), phalanges (14i), hip bones (d/d), femora (d/i), patellae (i/i), tibiae (i/i), fibulae (d/i), tali (i/i), calcanei (i/i), other tarsals (3i/4i), metatarsals (5i/4i-f), phalanges (14i).

10.4

r								l							
-	X	6	5	4	3	X	-	-	2	3	4	5	6	7	8
8	7	6	5	R	3	X	X	-	-	-	-	-	6	7	X

10.5 Cranial osteoma, enthesopathies on lower limb bones (Formicola, 1988), and asymmetric development of upper limb bones, possibly linked to muscular trauma or to nerve injury. (Churchill and Formicola, 1997).

10. Barma Grande 3 (*).

- 10.1 Female ? (tooth crown dimensions). Female, based on DNA analyses (O. Rickards, pers. comm.).

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14. -
15. Boule M. 1906. Les grottes de Grimaldi. Géologie et Paléontologie. Monaco: Imprimerie de Monaco.
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GRIMALDI, GROTTA DES ENFANTS 1901

V. Formicola.

- 1 Grotte des Enfants (1901).
2. Cave, first and westernmost among Grimaldi caves in the sea cliff at Balzi Rossi, 5 Km W of Ventimiglia, 0.5 km SW of Grimaldi village, close to the French border at Ponte San Ludovico, Liguria. 43° 47' N, 7° 37' E.
3. L. De Villeneuve, April 1901 (GE 3), June 1901 (GE 4, 5 and 6).
4. Occupation levels with many hearths. At the depth of 1.90 m in a strongly cemented, marly deposit overlying hearth B (GE 3); at 7.05 m in a sterile deposit with rubble, overlying hearth H (GE 4); at 8.70 m in greyish-reddish deposit with rubble, overlying hearth I (GE 5 and 6). (Cartailhac, 1912).
5. Burials. Skeletons in extended supine position (GE 3 and GE 4) or flexed in prone position (GE 5) and on the right side (GE 6), with ochre and marine shell ornaments. GE 5 and 6 non-simultaneous burial (Cartailhac, 1912).
6. Late Pleistocene, Würm IV, Allerod (GE 3); Würm III (GE 4, 5 and 6). (Palma di Cesnola 1976; Mussi 1986).
7. Late Epigravettian (GE 3), Gravettian (GE 4, 5 and 6) (Palma di Cesnola, 1976; Mussi, 1986, 2001).
8. At depth of 1.90 m *Rangifer tarandus*, *Hyaena crocuta*; at depth of 7.05 m *Marmota arctomys*, *Felis pardus*, *Hyaena crocuta*, *Capreolus capreolus*, *Cervus elaphus*, *Alces alces*; at depth of 8.70 *Hyaena crocuta*, *Equus caballus*, *Cervus capreolus*, *Cervus elaphus*, *Capra ibex*, *Ursus spelaeus* (Boule, 1906).
- 9.1 -
- 9.2 GE 3: < 1220 ± 400 BP (MC-403), based on ¹⁴C dating of mollusc shells from the underlying hearth B (Thommeret and Thommeret, 1973);
- 9.3 GE 3: about 11130 ± 1 100 BP (GifA-94197), according to a direct AMS radiocarbon date of GE 1; GE 4, 5 e 6: about 23.440 ± 190 BP and 24800 ± 800 BP, according to direct AMS radiocarbon dates of Arene Candide 1 (Il Principe) and Barma Grande 6 respectively.

10. Grotte des Enfants 3 (*)

- 10.1 Female (hip bone morphology).
- 10.2 Adult (suture closure).
- 10.3 Neurocranium (d), face (ff), mandible (d), vertebrae c. (?ff), t. (?ff), l. (5f-ff), sacrum (f), clavicles (d/-), scapulae (-/ff), ribs (ff), humeri (d/i), ulnae (f/f), metacarpals (-/1i), phalanges (-/3d), hip bones (d/f), femora (d/d), tibiae (d/i).

10.4

r	8	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	l
R	X	X	5	4	3	2	1	1	2	3	4	5	R	R	X	-	-

10.5 -

10. Grotte des Enfants 4 (*)

- 10.1 Male (pelvic and cranial morphology, postcranial robusticity).
- 10.2 Adult (suture closure).
- 10.3 Neurocranium (d), face (d), mandible (i), vertebrae c (7d), t. (12d), l. (d5), sacrum (i), cocc. (i), clavicles (i/-), scapulae (d/d), ribs (d-f), humeri (i/i), radii (i/i), ulnae (i/i), carpals (4i/7i), metacarpals (5i/5i), phalanges (3i/8i), hip bones (d/d), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (5i/5i), metatarsals (5i/5i), phalanges (all?i/all?i).

10.4

r														l					
8	7	6	5	4	3	2	1	1	R	3	4	5	6	7	8				
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8				

10.5 Periapical abscess on the maxillary M¹.

10. Grotte des Enfants 5 (*).

10.1 Female (hip bone morphology).

10.2 Senile adult (suture closure, dentition).

10.3 Neurocranium (d), face (d), mandible (d), vertebrae (all? ff), sacrum (d), clavicles (-/d), scapulae (ff/ff), ribs (f-ff), humeri (d/i), radii (d/i), ulnae (d/i), phalanges (1d/-), hip bones (f/d), femora (d/i), patellae(-/i), tibiae (d/i), fibulae (d/i), tali (d/i), calcanei (d/i), other tarsals (all?d/all?i), metatarsals (4d/5i), phalanges (-/8i).

10.4

r														l					
8	7	6	5	X	X	2	1	1	2	3	X	5	6	7	8				
X	X	X	5	4	3	2	1	1	2	3	4	5	X	X	X				

10.5 -

10. Grotte des Enfants 6 (*).

10.1 Male ? (tooth crowns dimensions).

10.2 Adolescent (about 12-13 yrs) (dental eruption).

10.3 Neurocranium (d), face (d), mandible (d), vertebrae c. (?), t. (7 d-f), l. (2d), sacrum (f), ribs (f-ff), scapulae (-/f), humeri (-/d), radii (-/d), ulnae (-/d), carpals (-/5d), metacarpals (-/4d), phalanges (-/5d), hip bones (d/f), femora (d/d), patellae (d/d), tibiae (d/d), fibulae (d/d), tali (d/d), calcanei (f/d), other tarsals (5d/2d), metatarsals (3d/2d), phalanges (4f/-).

10.4

r														l					
U	7	6	U	4	3	2	1	1	2	U	4	e	6	7	U				
U	7	6	5	4	3	2	1	1	2	3	4	5	6	7	U				

10.5 Marked enamel hypoplasias.

11. Verneau, 1906 (GE 3-6); Legoux, 1963 (GE 5 and 6), Olivier and Mantelin, 1974 (GE 6); Formicola and Repetto, 1989 (GE 4, dentition).

12. Verneau, 1906 (GE 3-6); Simone, 1980 (double burial).

13. Musée d'Anthropologie préhistorique de Monaco, 56 bis bd du jardin exotique, MC 98000 Monaco.

14. Burial casts of GE 3, GE 4, GE 5 and 6: Musée d'Anthropologie préhistorique de Monaco, 56 bis bd du jardin exotique, MC 98000 Monaco.

15. Boule M. 1906. Les Grottes de Grimaldi Géologie et Paléontologie. Monaco: Imprimerie de Monaco.

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GRIMALDI, RIPARO BOMBRINI

V. Formicola.

1. Bombrini.
 2. Talus close to Riparo Bombrini. Near the southern pilon of the bridge of access to the caves, S of the railway in sea cliff at Balzi Rossi, 5 Km W of Ventimiglia, 0,5 Km SW of Grimaldi village, close to the French border at Ponte San Ludovico. 43° 47' N, 7° 37' E.
 3. G. Vicino, april 1976.
 4. Scree-slope deposit; yellow-reddish breccia. Layer III (Vicino, 1986).
 - 5 -
 6. Würm III (Vicino, 1986).
 7. Aurignacian with Dufour bladelets. Bone industry. (Vicino, 1986).
 8. *Ostrea carpinifolia*, Pinus, Poaceae (Arobba, 1986; Nisbet, 1986).
 - 9.1 -
 - 9.2 -
 - 9.3 32.280 ± 580 BP (OxA-3588) and 34.870 ± 800 BP (OxA-3592), inferred from ¹⁴C dating of cuts 50 and 60 of layer G at Riparo Mochi (Kuhn and Stiner, 1998) or possibly older (37.4 ± 1.3 ka) according to a ¹⁴C date of the hearth found at the bottom of the same layer (Alhaique *et al.*, 2000).
 10. Bombrini 1 (*).
 - 10.1 Indeterminate.
 - 10.2 Infans I (about 5-6 yrs).
 - 10.3 -
 - 10.4 Mandibular deciduous incisor i2
 - 10.5 -
 11. Formicola, 1986, 1989.
 12. Formicola, 1989.
 13. Museo Preistorico dei Balzi Rossi, via Balzi Rossi 9, 18039 Latte di Ventimiglia (IM).
 14. -
 15. Alhaique F., Bietti A., Del Lucchese A., Grimaldi S., Manzi G., Martini S., Negrino F. e Recchi A. 2000. Biological and cultural variability at the Neandertal/modern humans transition in Italian archaeological sites. *Rivista di Antropologia*. 78 : 105-116.
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GROTTA DEL POGGIO, CAMEROTA

F. Mallegni.



1. Grotta del Poggio.
 2. Cave opening more than 10 m above sea level, 400 m East Marina di Camerota (Salerno), Campania. 40° 00' 01" N, 15° 22' 55" E.
 3. P. Parenzan discovered the Poggio cave in 1954, and in 1956 M.V. Chiappella was able to ascertain the existence of Mousterian industry. Together with the Soprintendenza alle Antichità di Salerno, A. Palma di Cesnola excavated the cave between 1965 and 1969. Between 1965 and 1966, Grotta del Poggio 1 was found in layer 6, Grotta del Poggio 2 in layer 4A (15), and the head of a femur and a left talus in layer 4.
 4. The base of the deposit, not yet reached, is composed of large slumped masses, overlain by a Mousterian deposit about 6 m thick (layers 2-13), (Bartolomei *et al.*, 1975; Messeri e Palma di Cesnola, 1976; Palma di Cesnola, 1996; Sozzi e Mallegni, in press).
 5. -
 6. Middle Pleistocene (Messeri and Palma di Cesnola, 1976; Palma di Cesnola, 1969, 1996).
 7. Cave contains a Mousterian deposit (layers 2-13). Layers 13 to 3 contain small Mousterian lithic industry, with irregular non-Levallois flakes and archaic Tayacian. M¹ comes from layer 6 (Grotta del Poggio 1) and a left talus was found in layer 4 (Grotta del Poggio 2), associated with faunal remains (Bartolomei *et al.*, 1975; Messeri e Palma di Cesnola, 1976; Palma di Cesnola, 1996; Palma di Cesnola e Messeri, 1967; Sozzi e Mallegni, in press).
 8. *Cervus elaphus*, *Capreolus capreolus*, *Elephas* sp., *Rhinoceros* sp., *Bos primigenius*, *Equus caballus*, *Equus hydruntinus*, *Capra ibex*, *Rupicapra rupicapra*, *Ursus arctos*, *Panthera leo*, *Panthera pardus*, *Lynx spelaea*, *Canis aureus* (Bartolomei *et al.*, 1975; Messeri e Palma di Cesnola, 1976; Palma di Cesnola, 1996; Palma di Cesnola e Messeri, 1967; Sozzi e Mallegni, in prep.).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Grotta del Poggio 1 (*, L).**
 - 10.1 Undetermined.
 - 10.2 Adult (dental development).
 - 10.3 Left M¹.
 - 10.4 -
 - 10.5 -
 - 10. Grotta del Poggio 2 (*, L).**
 - 10.1 Probably female (small talus).
 - 10.2 Adult (mature bone).
 - 10.3 Talus (-/i).
 - 10.4 -
 - 10.5 -
- Note: A fragment of a femur head (Grotta del Poggio 3), probably right, initially believed to be human but in fact animal (Orban, 1988; Messeri, 1975; Messeri and Palma di Cesnola, 1976; Palma di Cesnola, 1996; Palma di Cesnola and Messeri, 1967; Sozzi and Mallegni, in press).
11. Orban, 1988; Messeri, 1975; Messeri e Palma di Cesnola, 1976; Palma di Cesnola, 1996; Palma di Cesnola e Messeri, 1967; Sozzi e Mallegni, in prep.)
 12. Messeri, 1975; Messeri e Palma di Cesnola, 1976; Palma di Cesnola e Messeri, 1967; Sozzi e Mallegni, in prep.)

13. Sezione di Preistoria, Dipartimento di Archeologia e Storia delle Arti, Università di Siena, via delle Cerchia 3, 53100 Siena (Italy).
 14. -
 15. Bartolomei G., Gambassini P. and Palma di Cesnola A. 1975. Visita ai giacimenti del Poggio e della cala a Marina di Camerota (Salerno). Atti XVII Riunione Scientifica Istituto Italiano di Preistoria e Protostoria., Firenze: 107-140.
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GROTTA DEL PRINCIPE

F. Mallegni.

1. Grotta del Principe.
 2. Cave facing the sea near Grimaldi, 5 km from Ventimiglia, Liguria. 43° 47' N, 7° 37' E.
 3. Preliminary research carried out by E. Rivière in 1871-75; in 1892, fauna and Mousterian industries were found. Further researches (October 1966 to 1973), by the Musée d'Anthropologie Préhistorique of Monaco, under the direction of L. Barral and S. Simone. The oldest layers and human remains were discovered in October 1968.
 4. Tyrrhenian and Würmian deposits. Br2: breccia of cryoclastic elements in a limestone deposit, varying in colour from light brown to very light brown (Barral and Simone, 1967, 1968, 1968; Simone, 1968-69).
 5. -
 6. Middle Pleistocene (Simone, 1968-69).
 7. Stratigraphic sequence formed of 13 layers: only the fourth, of Rissian age, contains a human finding: a fragment of iliac bone (Grotta del Principe 1), Acheulean fauna and lithic industry, composed of flint and sandstone splinters (Simone, 1968-69).
 8. Layer Br2 contains: *Capra ibex*, *Cervus elaphus*, *Capreolus capreolus*, *Canis lupus*, *Oryctolagus cuniculus*, *Eliomys quercinus bellari*, *Glis glis*, *Microtus arvalis*, *Arvicola terrestris*, *Apodemus sylvaticus*, *Pliomys lenki*, *Microtus brecciensis*, *Allocrietus bursae* (Lumley de, 1972; Simone, 1968-69).
 - 9.1 230000 BP (gamma spectrometry).
 - 9.2 Th/U dating of Br 2, approx. 210000 anni BP.
 - 9.3 Industry and fauna may be compared with those of Lazaret cave (Guanjun, 1986).
- 10. Grotta del Principe 1 (L).**
- 10.1 Probably female (incisura ischiatica maior).
 - 10.2 Adult (mature bone).
 - 10.3 Iliac bone (f/-).
 - 10.4 -
 - 10.5 -
11. Orban, 1988; Lumley de, 1972.
 12. Barral e Simone, 1967; Orban, 1988; Lumley de, 1972; Simone, 1968-69.
 13. Soprintendenza Archeologica della Liguria, via Balbi 10, Genova.
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10.5 -

Note: The denominations adopted here are in accordance with the proposal reported by Bietti e Manzi (1991). In the past hominid remains from Grotta Guattari were alternatively referred to by the various authors as: Monte Circeo, Circeo I, Circeo 1 (for Guattari 1). Mandible A, Circeo II, Circeo 2 (for Guattari 2). Mandible B, Circeo III, Circeo 3 (for Guattari 3).

11. Guattari 1, Sergi, 1939, 1974; various papers in Bietti and Manzi, 1991; Piperno and Scichilone, 1991. Guattari 2, Sergi, 1954; Mallegni, 1991. Guattari 3, Sergi and Ascenzi, 1955; Mallegni, 1991.
12. Guattari 1, Sergi, 1974; Manzi and Passarello, 1991; Piperno and Scichilone, 1991. Guattari 2, Sergi, 1954, 1958; Mallegni, 1991. Guattari 3, Sergi and Ascenzi, 1955; Sergi, 1958; Mallegni, 1991.
13. Guattari 1, Museo Preistorico Etnografico "L. Pigorini", Piazzale G. Marconi 14, 00144 Roma. Guattari 2 e 3, Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
14. Guattari 1, Museo Preistorico Etnografico "L. Pigorini", Piazzale G. Marconi 14, 00144 Roma. Guattari 2 e 3, Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma.
15. Ascenzi A. 1991. Can the Circeo cranium yield information on the extinction of Würmian Neandertal humans. *Quaternaria Nova* 1: 565-574.

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LA PUNTA

F. Mallegni.

1. La Punta
2. Cave 50 m above plain of Fucino (L'Aquila), at foot of rock wall on Mt. Praticelli slopes; between villages of Ortucchio (3 km) and Trasacco, 14° 57' N; 13° 37' E.
3. A. M. Radmilli and E. Tongiorgi, 1958-59 (Radmilli, 1963).
4. Cave created by fracture in Cretaceous limestone, 12 m long and 8 m wide, opening facing N. (Cremonesi, 1968; Radmilli, 1997)
5. The term 'burial' is not suitable here, since bones were found scattered on the surface.
6. Late Würm (Cremonesi, 1968).
7. Late Epigravettian (Cremonesi, 1968; Radmilli, 1997).
8. Absence of large mammals (cuts 33 - 35); remains of small mammals such as hare and shrew; equal proportions of both terrestrial and aquatic birds; cuts 32-27: increase in duck and shrew, prevailing over hare; cuts 26-21, more macrofauna, shrew, hare and birds (Capasso, 1988; Cremonesi, 1968; Ferrara *et al.*, 1961; Radmilli, 1997).
- 9.1 -
- 9.2 10581 ± 100 (BP 1961) by ¹⁴C on upper layer where bones was found.
- 9.3 -

10. La Punta (L).

- 10.1 Probably male (robusticity of mandible).
- 10.2 Probably adult (dental wear).
- 10.3 Neural cranium (ff), maxilla (i/i); mandible (d/d).
- 10.4

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	8	7	6	5	4	X	2	X	X	X	3	4	5	6	7	8		8	7	6	5	4	3	2	1	1	2	3	4	5	6	X	8

- 10.5 -

Note: Six fragments of flat bone, not belonging to La Punta skeleton. It was not possible to establish if the remains are those of more than one individual. The fragmentary nature and poor preservation of the remains do not allow the number, sex or age of the specimens to be established (Capasso, 1988; Parenti, 1961; Radmilli, 1959, 1997).

11. Parenti, 1961.
12. Capasso, 1988.
13. Museo Archeologico Nazionale di Chieti, Via Villa Comunale 66100 Chieti.
14. -
15. Capasso L. 1988. I primi uomini del Fucino; Rassegna Antropologica. Catalogo della mostra. Castello Piccolomini-Celano (L'Aquila).

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LEUCA

G. Giacobini and G. Manzi.

1. Leuca.
 2. Cave Grotta del Bambino, 4,30 m asl in the karstic system of Grotta delle Tre Porte, West of Capo di Leuca, near Santa Maria di Leuca (Lecce). 39° 47' N, 18° 22' E.
 3. A.C. Blanc and co-workers, 15 ottobre, 1958.
 4. Red-violet sandy soil partially covered by speleothem and overlying the Tyrrhenian beach (Blanc, 1961).
 5. -
 6. Early Würm (following the Post-Tyrrhenian II marine regression, but before the local extinction of *Elephas antiquus*, according to Blanc, 1961).
 7. -
 8. *Bos primigenius*, *Bos sp.*, *Cervus elaphus*, *Cervus sp.*, *Dama dama*, *Equus caballus*, *Rhinoceros sp.*, *Sus*, *Hyaena crocuta v. spelaea*, *Felis (Leo) spelaea*, *Elephas antiquus* (Cardini, 1961).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Leuca 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Child, about 10 years (dental maturation).
 - 10.3 -
 - 10.4 Left M², with small residual root portions.
 - 10.5 -
 11. Blanc, 1961.
 12. Blanc, 1961.
 13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, 00198 Roma (Italy).
 14. -
 15. Blanc A.C. 1961. L'ottavo reperto neandertaliano d'Italia, ed il primo del Salento: un dente infantile associato con industria musteriana e fauna ad Elefante e Rinoceronte nella Grotta delle Tre Porte al Capo di Leuca. *Quaternaria V* (1958-61): 313-314.
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LEVANZO, GROTTA DEI GENOVESI

F. Mallegni.



1. Levanzo.
 2. Cala dei Genovesi, island of Levanzo, Egadi (Trapani, Sicily). 38° 00' N, 12° 20" E.
 3. P. Graziosi, 1950-1953.
 4. Small cave subdivided into two sections (Segre and Vigliardi, 1983; Vigliardi, 1982).
 5. -
 6. Late Würm (Segre and Vigliardi, 1983).
 7. Late Epigravettian; cave art (Graziosi, 1954, 1962). Style of cave art recalls that of Addaura, Niscemi and Romito (Alessio *et al.*, 1970).
 8. Fauna of layer 2: domestic animals in upper levels; *Bos primigenius* and *Equus hydruntinus* in lower levels. Birds well represented; abundant marine and terrestrial molluscs (*Trochus*, *Patella*, *Triton*, *Helix*); fish; one specimen of turtle and one of monk seal. Fauna of layer 3: *Cervus elaphus*, *Bos primigenius*, *Equus hydruntinus*, *Vulpes vulpes* (Vigliardi, 1982).
 - 9.1 -
 - 9.2 - ¹⁴C, 11180 ± 120 BP layer 3, A2.
 - 9.3 -
- 10. Levanzo 1 (L, PC).**
- 10.1 Undetermined.
 - 10.2 Undetermined.
 - 10.3 II or III right metatarsal.
 - 10.4 -
 - 10.5 -
11. Orban, 1988.
 12. -
 13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, Roma.
 14. -
 15. Alessio M., Bella F., Improta S., Belluomini G., Cortesi C. and Turi B. 1970. University of Rome Carbon 14 dates VIII. *Radiocarbon* 12: 599-616.
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MAGLIE

G. Giacobini and G. Manzi.

1. Maglie.
 2. Fondo Cattie, 2 km west of Maglie (Lecce, Puglia). 40° 12' 45" N, 18°16' 20" E.
 3. P.F. Liguori, 1980.
 4. Filling of a huge dolina (Cremonesi et al., 1984).
 5. -
 6. Upper Pleistocene (Cremonesi et al., 1984).
 7. Mousterian of La Quina type (Cremonesi et al., 1984).
 8. *Equus caballus*, *Equus (Asinus) hydruntinus*, *Cervus elaphus*, *Bos primigenius*, *Crocuta spelaea* (Borgognini Tarli, 1983).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Maglie 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Adult (dental maturation and wear).
 - 10.3 -
 - 10.4 Right mandibular molar, probably M₃.
 - 10.5 -
 11. Borgognini Tarli, 1983.
 12. Borgognini Tarli, 1983.
 13. Museo Comunale di Paleontologia, Maglie (Lecce), Italy.
 14. -
 15. Borgognini Tarli S. 1983. A Neanderthal lower molar from Fondo Cattie (Maglie, Lecce). *J. Hum. Evol.* 12: 383-401.
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i), ribs (ff), humeri (f-d/d), radii (i/-), ulnae (d/d), tibiae (d/d), fibulae (f/f), calcanei (i/-), tali (i/-), tarsals (-/2i).

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	8	7	6	5	X	3	2	X	X	2	X	4	5	6	7	8		8	7	6	5	4	X	X	1	X	X	X	4	X	X	X	8
	X	7	6	5	4	X	X	1	X	X	X	4	X	X	X	8		X	7	6	5	4	X	X	1	X	X	X	4	X	X	X	8

10.5 Left M₁ and M₂ and right M₃ lost ante-mortem.

10. Maritza 3 (*, L, PC).

- 10.1 Indeterminate.
- 10.2 Young subject (morphology).
- 10.3 Radius (ff)
- 10.4 -
- 10.5 -

Note: Near Maritza 2, scattered on cave surface, a more precise context cannot be determined (Borgognini Tarli, 1969; Capasso, 1988; Favati Vanni, 1964; Radmilli, 1997).

- 11. Borgognoni Tarli, 1969. Favati Vanni, 1964.
- 12. Capasso, 1988.
- 13. Museo Archeologico Nazionale di Chieti, Via Villa Comunale, 66100 Chieti.
- 14. -
- 15. Borgognini Tarli S. 1969. Studio antropologico di uno scheletro rinvenuto nella grotta Maritza presso Avezzano, (L'Aquila). Riv. Antrop. *LVI*: 135-156.
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 Favati Vanni V. 1964. Studio antropologico dello scheletro d'un bambino del Paleolitico superiore, rinvenuto nella grotta Maritza presso Avezzano. Atti della Società Toscana di Sc. Nat. A, *71*, II: 475-487.
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MELPIGNANO, CAVA NUZZO

G. Giacobini and G. Manzi.



1. Melpignano.
2. Nuzzo quarry, Melpignano area (Lecce, Puglia). 40° 9' 32" N, 18° 17' 34" E.
3. C. Petronio and coll., 1993.
4. Filling of a karst cavity (ventarole), (Bologna et al., 1994).
5. -
6. Late Pleistocene (Bologna et al., 1994).
7. -
8. *Elephas* cf. *antiquus* Falconer and Cautley, *Stephanorhinus* sp., *Equus caballus* L., *Equus hydruntinus* Regalia, *Sus scrofa* L., *Bison priscus* Bojanus, *Bos primigenius* Bojanus, *Cervus elaphus* L., *Dama dama* (L.), *Capreolus capreolus* (L.), *Canis lupus* L., *Vulpes vulpes* (L.), *Lynx lynx* (L.), *Crocota crocota* Erxleben, *Meles meles* L., *Lupus europaeus* Pallas, *Oryctolagus cuniculus* (L.), *Erinaceus europaeus* L., *Aves* indet.
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Melpignano 1 (*)**
- 10.1 Indeterminate
- 10.2 Young adult (dental maturation and wear).
- 10.3 -
- 10.4 Right upper premolar, probably P¹.
- 10.5 Hypoplasia on both the crown and the root.
11. (Bologna et al., 1994).
12. (Bologna et al., 1994).
13. Dipartimento di Biologia Animale e dell'Uomo, Università di Roma "La Sapienza", P.le Aldo Moro 5, 00185 Roma.
14. -
15. Bologna P., Di Stefano G., Manzi G., Petronio C., Sardella R. and Squazzini E. 1994. Late Pleistocene mammals from Melpignano (LE) "Ventarole": preliminary analysis and correlations. *Boll. Soc. Paleontol. Ital.* 32(2): 265-274.



MEZZOCORONA

G. Alciati and V. Formicola.

1. Mezzocorona.
 2. At the foot of the cliffs of Monte Mezzocorona 250 m above sea level, near the village of Mezzocorona-Borgonuovo, nord of Trento at the confluence of the Noce stream into the Adige river. 46° 13' N, 11° 02' E.
 3. Dalmeri G., Mottes E. and Nicolis F., november 1995
 4. Silty soil with clasts (Dalmeri *et al.*, 1998).
 5. Single burial with the skeleton lying in supine position without grave goods. At the base of cut V, US 148 (Dalmeri *et al.*, 1998).
 6. Early Holocene, Boreal (Dalmeri *et al.*, 1998).
 7. Sauveterrian lithic industry (Dalmeri *et al.*, 1998).
 8. -
 - 9.1 Four direct AMS radiocarbon dates of the skeleton range from 6005 ± 75 BP (ETH-15980) to 6380 ± 50 BP (UtC-7201) (Dalmeri *et al.*, 1998).
 - 9.2 AMS C14 dating of animal bone from the US151 overlying the burial: 6410 ± 75 BP (ETH-15984) (Dalmeri *et al.*, 1998).
 - 9.3 Archaeological evidence suggest relationships with the late Sauveterrian layers from the nearby site Vatte di Zambana dated to 7810 ± 95 BP (cut 7) (Broglia and Kozlowsky, 1984; Dalmeri *et al.*, 1998).
- 10. Mezzocorona 1 (L).**
- 10.1 Female (cranial morphology).
 - 10.2 Adult (dentition).
 - 10.3 Largely complete skeleton.
 - 10.4 Incomplete dentition.
 - 10.5 *Ante mortem* tooth loss (Dalmeri *et al.*, 1998).
11. -
 12. Dalmeri *et al.*, 1998.
 13. Ufficio Beni Archeologici, Provincia Autonoma di Trento, Via Bernardo Clesio 1, 38100 Trento.
 14. Burial cast c/o Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, I-10126 Torino.
 15. Broglia A., and Kozlowsky S. K. 1984. Tipologia ed evoluzione delle industrie mesolitiche di Romagnano III. *Preistoria Alpina* 19: 93-148.
- Dalmeri G., Mottes E. and Nicolis F. 1998. The mesolithic burial of Mezzocorona-Borgonuovo (Trento): some preliminary comments. *Preistoria Alpina* 34: 129-138.



MOLARA

A. Canci and S.M. Borgognini Tarli.

1. Molara.
2. Cave, about 90 m above sea-level, near the village of Pitrazzi (Palermo), on the slopes of Billiemi hills. 38° 05' N, 13° 18' E.
3. G. Mannino, 1975.
4. Cave earth.
5. Burial without grave goods (Molara 2). Skeleton in supine position and flexed lower limbs (Mannino, 1975, 1978).
6. Early Holocene (Gowlett *et al.*, 1987).
7. Mesolithic (Tusa, 1976-77).
8. Cervids, bovids and equids, and a few remains of *Patella ferruginea* and of *Patella coerulea* (Mannino, 1975; 1978).
- 9.1 Based on ¹⁴C dating of collagen from Molara 2 skeleton: 8600 ± 100 BP (OxA-534) (Gowlett *et al.*, 1987).
- 9.2 -
- 9.3 -

10. Molara 1 (*).

- 10.1 Male (cranial morphology).
- 10.2 Middle-aged adult (suture closure, dental wear).
- 10.3 Neurocranium (d), face (f), mandible (d).
- 10.4

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-	-	-	X	X	3	X	1	1	2	3	-	5	6	X	X			
X	7	6	5	4	3	2	1	1	2	3	4	5	-	-	-			

- 10.5 Caries, abscesses and ante mortem tooth loss (Canci *et al.*, 1995).

10. Molara 2 (L,*).

- 10.1 Male (cranial morphology and postcranial robusticity).
- 10.2 Mature adult (over 50 yrs) (suture closure, dental wear, changes in the spongy substance of proximal humerus).
- 10.3 Neurocranium (d), face (d), mandible (d), vertebrae t. (8ff), l. (5ff), sacrum (f), scapulae (ff/ff), clavicles (i/d), ribs (f/f), humeri (d/i), radii (f/ff), ulnae (f/ff), carpals (6i/5i), metacarpals (4i/4i), phalanges (8i/2i), hip bones (f/f), femora (i/f), patellae (f/-), tibiae (f/f), fibulae (d/ff), tali (i/d), calcanei (i/d), other tarsals (5i/5i), metatarsals (4i/4i), phalanges (1i/2i).
- 10.4

r														l				
X	7	X	5	4	3	2	1	1	2	3	4	5	X	7	8			
X	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			

- 10.5 Ante mortem tooth loss, acromial and vertebral osteoarthritis; myositis ossificans of traumatic origin affecting lower limb bones, fracture of the left fibula healed with pseudoarthrosis (Borgognini Tarli, 1976; Canci *et al.*, 1995).

10. Molara 3 (*).

- 10.1 Indeterminate.
- 10.2 Indeterminate adult (dental wear).
- 10.3 Face (ff), mandibula (ff).
- 10.4



MONDEVAL DE SORA

G. Alciati and V. Formicola.

1. Mondeval de Sora.
 2. High altitude terrace to the north of the small valley of Rio Cordon, 2100 m above sea level in the area between Passo Giau and Col Duro in the Italian Dolomites (S. Vito di Cadore, Belluno). 46° 27' N, 12°, 05' E.
 3. A. Guerreschi, 1987.
 4. Open air campsite. Pit filled with sandy sediment in a brown black, silty-clay soil (Alciati *et al.*, 1994).
 5. Single burial (US 4B) with the skeleton lying in a supine position and covered with selected stones in the lower part. Grave goods include bone and antler artifacts, and flint blades. Small agglomerates of resins and of wax (propolis) were also found (Alciati *et al.*, 1994).
 6. Early Holocene; Late Boreal-Early Atlantic (Alciati *et al.*, 1994).
 7. Castelnovian lithic industry (Alciati *et al.*, 1994).
 8. *Capra ibex*, *Cervus elaphus*. Pollen spectrum consisting of *Compositae liguliflorae*, *Pinus sp.* and *Picea sp.* (Alciati *et al.*, 1994).
 - 9.1 7425 ± 55 BP (Ox-7468), based on direct dating of human bone samples by means of AMS technique (Guerreschi, pers. comm.)
 - 9.2 ¹⁴C dates were obtained from charcoal samples from the burial pit. The most likely date, considering the archeological context, is: 7330 ± 59 (R-1939) (Alciati *et al.*, 1994).
 - 9.3 -
 - 10. Mondeval de Sora 1 (*)**.
 - 10.1 Male (pelvic and cranial morphology).
 - 10.2 Middle-aged adult (suture closure, bone histology)
 - 10.3 Neurocranium (i), face (i), mandible (i), hyoid bone (d), vertebrae c. (7i), t. (12i-d), l. (5i), sacrum (i), cocc. (2i), clavicles (i/i), scapulae (i-d/i-d), sternum (f), ribs (i-f), humeri (i/i), radii (i/i), ulnae (i/i), carpals (8i/8i), metacarpals (5i/5i), phalanges (14i/14i), hip bones (i-d/i-d), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), calcanei (i/i), tali (i/i), other tarsals (5i/-), metatarsals (5i/5i), phalanges (13i/5i).
 - 10.4

r													l				
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
 - 10.5 Radiographic and histologic examination of ribs and tibiae suggest a rare form of Paget's disease of unknown etiology, in the framework of poliostotic dysplasias, reported as Rosy-Cajal disease. Healed fracture of the second metacarpal (Alciati *et al.*, 1994, 1997).
 11. Alciati *et al.*, 1994, 1995.
 12. Alciati *et al.*, 1994, 1995.
 13. Museo della Val Fiorentina, via IV Novembre 55, 32020 Selva di Cadore (Belluno).
 14. Burial cast c/o Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, I-10126 Torino.
 15. Alciati G., Cattani L., Fontana F., Gerhardinger E., Guerreschi A., Milliken S., Mozzi P. and Rowley-Conwy P. 1994. Mondeval de Sora: a high altitude Mesolithic campsite in the Italian Dolomites. *Preistoria Alpina* 28: 351-366.
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NICOTERA

G. Giacobini and G. Manzi.

1. Nicotera.
 2. Contrada Ianni di San Calogero, between Nicotera and Gioia Tauro on the northern side of the Gioia Tauro Plain at the entrance of the Mesima river valley (Catanzaro, Calabria), at about 65 m asl. 38° 31' 14" N, 15° 59' 58" E.
 3. A. Solano, after, 1978.
 4. Aeolian sand deposits with alternating reddish grained levels (unit C, bed 6). Unit C is superimposed on littoral marine deposit referable to the Tyrrhenian cycle (Bonfiglio et al., 1986).
 5. -
 6. Upper Pleistocene (Bonfiglio et al., 1986).
 7. Quartzite artefacts typologically non-diagnostic (Bonfiglio et al., 1986).
 8. *Elephas antiquus*, *Dicerorhinus sp.*, *Hippopotamus sp.*, *Bos primigenius*, *Crocuta sp.*, *Aythya ferina*, *Ardea cinerea*, *Emys sp.* (Bonfiglio et al., 1986). Contemporaneity of the human specimen with faunal remains on the basis of fluorine ratio (Mallegni, 1981).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Nicotera 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Child, about 3 yrs. (morphology and dimensions).
 - 10.3 Almost intact left parietale (i).
 - 10.4 -
 - 10.5 -
 11. Bonfiglio et al., 1986.
 12. Bonfiglio et al., 1986; Mallegni, 1992.
 13. Museo Archeologico di Reggio Calabria, Piazza De Nava 26, 89100 Reggio Calabria (Italy).
 14. Museo Preistorico-Etnografico "L. Pigorini", P.za Lincoln 1, 00144 Roma (Italy).
 15. Bonfiglio L., Cassoli P., Mallegni F., Piperno M. and Solano A. 1986. Neanderthal parietal, vertebrate fauna and stone artifacts from the Upper Pleistocene deposits of Contrada Ianni di San Calogero (Catanzaro, Calabria, Italy) *Am. J. Phys. Anthropol.* 70: 241-250.
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OSTUNI

E. Vacca.

1. Ostuni.
2. Grotta Santa Maria di Agnano, 169 m asl, Ostuni (Brindisi, Puglia). 40° 44' 53" N, 17° 32' 51" E.
3. D. Coppola, excavations 1991 - 1992. Ostuni 1 was discovered on October, 24th 1991, during the exploration of a cavity under the floor of the cave, caused by the collapse of the breccia. Ostuni 2 was discovered during the excavation of Ostuni 1 (December 1991 - January 1992). Both the burials were removed as a block, and further excavations were conducted at the Museo di "Civiltà Preclassiche" in Ostuni.
4. Breccia, sometimes very caked, clustered near the fracture at the base of the murgian slope made by Monte Rissieddi, with the litostratigraphic features of the "Calcere di Altamura".
5. Ostuni 1, skeleton partially lying on the left side, lower limbs bent at the coxo-femoral articulation and at the knee; the bones of the right arm lie through the abdominal region, the bones of the hand touch the left ilium. The upper left limb is strongly bent at the *articulatio cubitis*, the left hand lies under the skull, flexed to the left. In the pelvic area is found a fetal skeleton: the head of the foetus is inside the small pelvis, the body and the limbs are in the great pelvis near the mother's lumbar vertebrae. Red ochre near the skull and the hip bones; perforated shell ornaments (*Cyclope neritea*) and perforated deer canine on the skull; perforated shell ornaments at the wrists (*Cyclope neritea*, *Ciprea lurida*, *Trivia europea*, *Columbella rustica*). Ostuni 2, laid down mainly on the right side in bent position; shell ornaments (*Ciprea lurida*) and perforated deer canines on the skull.
6. Würm (Coppola, 1992).
7. Gravettian.
8. *Equus caballus*, *Bos primigenius*, *Cervus*.
- 9.1 -
- 9.2 Ostuni 1, 24 410 ± 320 BP (Gif 9247), ¹⁴C on charcoal samples from the burial pit.
- 9.3 -
- 10. Ostuni 1 (*)**.
- 10.1 Female (pelvic morphology).
- 10.2 18-20 years (epiphyseal ossification, morphology of the pubic symphyseal phase, dental development).
- 10.3 Neurocranium (f), face (f), mandible (i), vertebrae c. (7 i-d-ff), t. (12 i), l. (5 i), sacrum (d), clavicles (i/i), scapulae (ff/ff), sternum (f), ribs (i-f), humeri (i/i), radii (d/i), ulnae (i/i), carpals (7i/8i), metacarpals (5i/3i), phalanges (10i/7id), hip bones (i-d/i-d), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (f/i), tali (i/-) calcanei (i/-), cuboidei (i/-).

Note: feet bones are at present only partially visible, since they were not entirely freed from the deposit.

10.4

r	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	l
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	8	

10.5 -

10. Ostuni 1b, foetus (*)

- 10.1 Indeterminate.
- 10.2 Near term (size of some elements of the skull, of the hip and long bones).
- 10.3 Occipital pars squama (d), pars lateralis right and left (i/i), pars basilaris (i), parietal (d/ff), frontal (d/d), sphenoid (body, lesser and greater wings) (i-d), left temporal (d) (pars squama, pars petrosa), zygomatic (d/d), mandible (i/i), palatine (d/d), nasal (i/i), maxilla (d/d), humerus (i/i),

ulna (i/i), radius (i/i), ilium (i/d), ischium (i/i), pubis (i/i), femur (ff/d), tibia right (i), fibula right (i), ribs (i-d/i-d), several vertebrae (neural hemi-arches and centra) and elements from hands and feet.

10.4 Dental germs are present on the mandible and maxilla, moreover, some isolated dental germs are present.

10.5 -

10. Ostuni 2 (*).

10.1 Indeterminate.

10.2 Adult (dental wear).

10.3 The burial area was recovered in a single block; the skeleton is completely embedded in a tenacious sediment and very concreted, so that the recovery is difficult; many fragments of the skull and part of the upper maxilla with a molar were recovered.

10.4 -

10.5 -

11. Vacca et al. 1992; Vacca e Coppola, 1993, 1995.

12. Vacca et al. 1992; Vacca e Coppola, 1993, 1995.

13. Museo di "Civiltà Preclassiche", Via Cattedrale 15, 72017 Ostuni, Brindisi, Italy.

14. Mould of the cast and cast of burials Ostuni 1 and Ostuni 2: Museo di "Civiltà Preclassiche", Via Cattedrale 15, 72017 Ostuni, Brindisi, Italy. Cast of Ostuni 1 burial: Istituto di Anatomia Umana, Corso M. d'Azeglio 52, I-10125 Torino, Italy.

15. Coppola D. 1992. Nota preliminare sui rinvenimenti nella grotta di S. Maria di Agnano (Ostuni, Brindisi): i seppellimenti paleolitici ed il luogo di culto, Riv. Scienze Preist. XLIV: 223-227.

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PAGLICCI

F. Mallegni.

1. Paglicci.
2. Cave near Rignano Garganico (Foggia, Puglia). 41° 40' N; 13° 37' E.
3. Reported in 1955 by R. Battaglia, explored and excavated between 1961 and 1963 by F. Zorzi and F. Mezzena. A survey which revealed Lower and Middle Paleolithic in a shelter outside the cave was carried out in 1970 by A. Palma di Cesnola and F. Mezzena. Paglicci 12 was discovered in 1971, Paglicci 25 in 1988-89, Paglicci 1-11 in 1960 and Paglicci 13-24, near the wall of the cave, in 1971. Paglicci 26-37 came to light in 1989-1991. Research continues.
4. Cave and open-air shelter (Mezzena and Palma di Cesnola, 1967, 1972; Galiberti, 1980; Palma di Cesnola, 1990, 1991, 1992).
5. Two burials, one, of an adolescent, at the bottom of layer 21 (Paglicci 12) and one, of a woman, in the same layer (Paglicci 25). Remains scattered between layers 18-21 and 4-6, with probable burial from layer 5 (Paglicci 11). (Mallegni and Parenti, 1972; Mezzena and Palma di Cesnola, 1983; Mallegni et al., 1999).
6. Würm.
7. Layers 23-22: Gravettian, with backed points facies; 21: industry similar to Périgordian Va; 20 and 19: Gravettian, with truncated backed artifacts; 19a and 18b: facies with small angled and backed points; 18a: ancient early Epigravettian; 17: facies with foliated artifacts; 16-10: facies à cran; 9 and 8: Late Epigravettian; 7-1: Final Epigravettian (Mezzena and Palma di Cesnola 1967, 1972; Galiberti, 1980; Palma di Cesnola, 1990, 1991, 1992).
8. *Equus caballus*, *Equus hydruntinus*, *Bos primigenius*, *Cervus*, *Capra ibex*, *Sus*, *Capreolus capreolus*, *Canis lupus*, *Vulpes*, *Arvicola*, *Microtus*, *Apodemus* (Mezzena and Palma di Cesnola, 1967, 1972. Galiberti, 1980; Palma di Cesnola, 1990, 1991, 1992).
- 9.1 -
- 9.2 Layer 21, containing an adolescent, was dated (¹⁴C) to 24720 ± 420/23000 ± 350 BP. Two datings for Paglicci 25 give 23470 ± 370 and 23040 ± 380 BP. Layers 24A1 and 24B1 and B2: 29300 ± 20 and 34300 ± 800 BP, for 23A and 23B: 28100 ± 400 and 26300 ± 400, for 22B 26800 ± 300; 19b: 22630 ± 390 to 21260 ± 340, 19a-18b: 20720 ± 290 to 20160 ± 160 (Paglicci 13-24), 10: 15320 ± 250, 9 and 8: 15270 ± 220 and 15460 ± 220, 7c-2: 14820 ± 210 and 11440 ± 180, (Mezzena and Palma di Cesnola, 1967, 1972; Galiberti, 1980; Palma di Cesnola, 1990, 1991, 1992).
- 9.3 -
10. Paglicci 1 (layer 4-6), (L).
 - 10.1 Undetermined.
 - 10.2 Adult (mature bone; maturity and type of pathological degenerations).
 - 10.3 V lumbar (ff), body only.
 - 10.4 -
 - 10.5 Vertebral body with signs of compression and osteophytes.
10. Paglicci 2 (layer 4-6) (L).
 - 10.1 Undetermined.
 - 10.2 Adult (mature bone).
 - 10.3 Sacrum (ff), fragment.
 - 10.4 -
 - 10.5 -
10. Paglicci 3 (layer 4-6) (L).
 - 10.1 Female (small size and robusticity).
 - 10.2 Adult (mature bone).

- 10.3 Clavicle (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 4 (layer 4-6) (L).
- 10.1 Female (small size).
- 10.2 Adult (mature bone).
- 10.3 Left humerus (f), lacking proximal epiphysis.
- 10.4 -
- 10.5 -

- 10. Paglicci 5 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Juvenile (unfused distal epiphysis).
- 10.3 Left humerus (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 6 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Phalanx of left finger (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 7 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Left metacarpal (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 8 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Left metacarpal (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 9 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Left metacarpal (i).
- 10.4 -
- 10.5 -

- 10. Paglicci 10 (layer 4-6) (L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Metatarsal (i).
- 10.4 -
- 10.5 -

10.3 Crown of left M¹ without root, in process of formation, with enamel not definitively formed. Carabelli cusp.

10.4 -
10.5 -

10. Paglicci 23 (layer 18b3-21d) (*, PC, L).

10.1 Undetermined.
10.2 4-6 years (dental development).
10.3 Crown of left M¹ with root in process of formation.
10.4 -
10.5 -

10. Paglicci 24 (layer 18b3-21d) (*, PC, L).

10.1 Female (size).
10.2 Adult (dental wear).
10.3 Right hemi-mandibula incomplete, reconstructed starting from a dozen fragments.
10.4

r											l										
X	X	6	X	4	X	-	-														

10.5 Calculus, parodontosis, parodontitis, periapicitis on root of M1

10. Paglicci 25 (layer 21) (*, PC, L).

10.1 Female (skull and pelvis morphology).
10.2 18-20 years (degree of dental wear, morphology of pubic symphysis).
10.3 Neurocranium (d), mandibular body and branches (d/d), vertebrae (i), clavicles (i/i), scapulae (d/d), ribs (d), humeri (i/i), radii (i/i), ulnae (i/i), almost complete bones of hand, sacrum (i), hip bones (d/i), femora (i/i), tibiae (d/f), patellae (i/i), tarsals (2f/-).

10.4

r											l										
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	X						
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8						

10.5 -

10. Paglicci 26 (layer 20C1-23B) (*, PC, L).

10.1 Undetermined.
10.2 Child (dental development).
10.3 Left M₂ lacking mesial root.
10.4 -
10.5 Traces of disrupted amelogenesis on vestibular face of crown.

10. Paglicci 27 (layer 20C1-23B) (*, PC, L).

10.1 Undetermined.
10.2 About 2 years (dental development).
10.3 Maxilla (f/-) lacking frontal, palatine and alveolar processes. Two deciduous molars, m² with a small Carabelli cusp.

10.4

r											l										
			e	d	X	X	X														

- 10.5 Slight traces of calculus on vestibular face of m² and m¹.
10. Paglicci 28 (layer 20C1-23B) (*, PC, L).
- 10.1 Male (size and robusticity).
- 10.2 Adult (mature bone).
- 10.3 Fibula (ff), right shaft (distal third), particularly large and with strong muscular attachments.
- 10.4 -
- 10.5 Tubercle due to traumatic event on distal part of shaft.
10. Paglicci 29 (layer 20C1-23B) (*, PC, L).
- 10.1 Undetermined.
- 10.2 Adult (size of fragment).
- 10.3 Humerus (f), left shaft between attachment of deltoid and fourth distal.
- 10.4 -
- 10.5 -
10. Paglicci 30 (layer 20C1-23B) (*, PC, L).
- 10.1 Undetermined.
- 10.2 Adult (mature bone).
- 10.3 Ulna (f), right upper half of shaft.
- 10.4 -
- 10.5 -
10. Paglicci 31 (layer 20C1-23B) (*, PC, L).
- 10.1 Undetermined.
- 10.2 Adult (size).
- 10.3 Radius (f), left shaft.
- 10.4 -
- 10.5 -
10. Paglicci 32 (layer 20C1-23B) (*, PC, L).
- 10.1 Male (bone robusticity).
- 10.2 Adult (size of fragment).
- 10.3 Ulna (f), fragment of right shaft.
- 10.4 -
- 10.5 Osteophytes as a consequence of intra vitam ossification of attachments of long and short extensor muscles of thumb, due to repeated microtrauma (excessive use of thumb).
10. Paglicci 33 (layer 20C1-23B) (*, PC, L).
- 10.1 Undetermined.
- 10.2 About 2 years (eruption of teeth).
- 10.3 Right m₂ with two-thirds of root.
- 10.4 -
- 10.5 -
10. Paglicci 34 (layer 20C1-23B) (*, PC, L).
- 10.1 Male (very large mastoid).
- 10.2 Adult (mature bone).
- 10.3 Right temporal (f) with damage to anterior part and apex of mastoid.
- 10.4 -
- 10.5 -

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POFI, CAVA POMPI

F. Mallegni.

1. Cava Pompei di Pofi.
2. *Pozzolana* quarry in S. Lucia, about 6 km from Pofi (Frosinone), Latium. 41° 33' N, 13° 26' E.
3. Site discovered by P. Fedele in 1956: surface findings of fauna and preliminary reports. A survey was carried out in 1959, and in autumn 1961 excavations begun, carried out by A.C. Blanc, L. Cardini, P.F. Cassoli and M. Taschini. Work started anew in 1977 by I. Biddittu and A.G. Segre.
4. The Quaternary formations of the site include fluvio-lacustrine and alluvial sediments. The latter contain two cycles, respectively Pleistocenic and Holocenic; pyroclastic products are also found. The fluvio-lacustrine sediments show three phases, linked by both lateral and vertical heteropic ratios: lower lacustrine silt, normal lacustrine facies and late lacustrine facies. Malacofauna indicates that all the lacustrine sediments were deposited in a cold climate during a glacial period (Biddittu and Segre, 1978; Fedele *et al.*, 1961).
5. -
6. Middle Pleistocene (Biddittu and Segre, 1978; Fedele *et al.*, 1961).
7. Anthropic layer lies under a lava flow dated to 400000 years. Both human (Pofi 1, Pofi 2, Pofi 3) and animal bones were found. Industry mainly on lava, with choppers, scrapers and bone flakes. The stratigraphic provenance of human findings is not indicated (Biddittu and Segre, 1978; Fedele *et al.*, 1961).
8. *Elephas antiquus*, *Rhinoceros merckii*, *Bos primigenius*, *Sus scrofa ferus*, *Equus caballus*, *Cervus* sp., *Megacer* sp., *Felis lynx*, *Lepus* sp., *Macaca sylvana* (Blanc and Taschini, 1961; Fedele *et al.*, 1961; Passarello and Palmieri, 1968).
- 9.1 -
- 9.2 Dating on leucite from Roccamonfina (K/Ar), 368000 years BP; anthropic layer lies under a lava flow dated at 400000 years BP (K/Ar).
- 9.3 -
- 10. Pofi 1 (*, L).**
 - 10.1 Undetermined.
 - 10.2 Adult (mature bone).
 - 10.3 Ulna (f/-).
 - 10.4 -
 - 10.5 -
- 10. Pofi 2 (*, L).**
 - 10.1 Undetermined.
 - 10.2 adult (mature bone).
 - 10.3 Tibia (ff/-).
 - 10.4 -
 - 10.5 -
- 10. Pofi 3 (*, L).**
 - 10.1 Undetermined.
 - 10.2 Adult (mature bone).
 - 10.3 Parietal (ff/-).
 - 10.4 -
 - 10.5 -
11. Orban, 1988; Mallegni e Segre, in prep.; Passarello e Palmieri, 1968.
12. Passarello e Palmieri, 1968.
13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, Roma.

14. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, Roma.
15. Blanc A. C. 1956. Giacimento pleistocenico di Pofi, Frosinone. *Quaternaria* 3: 261-261.
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10.4

r																		l
-	-	6	5	4	3	2	1	1	2	3	4	5	6	7	8			

10.4 -

10. Polesini 3 (L).

10.1 Undetermined.

10.2 Adult (dental development).

10.3 Mandible (ff/-).

10.4

r																		l
8	7	6	-	-	-	-	-											

10.5 -

10. Polesini 4 (L).

10.1 Undetermined.

10.2 Adult (dental development).

10.3 Mandible (ff/-).

10.4

r																		l
8	7	6	-	-	-	-	-											

10.5 -

10. Polesini 5 (L).

10.1 Undetermined.

10.2 Adult (dental development).

10.3 Mandible (ff/-).

10.4

r																		l
-	7	6	5	-	-	-	-											

10.5 -

Note: non-inventoried remains, belonging to several different individuals:

post-cranial, II metatarsal (1i/-) of a child; radius (ff/-) of a juvenile; Bone remains of adults, clavicle (-/1i), humerus (2f/f), radius (-/3ff), femur (ff/-), capitate (-/1i), II metacarpal (1i/-), III metacarpal (1i/1i), V metacarpal (-/1f), intermediate phalanx (1i), calcaneus (1i/-), cuboid (1i/-), I metatarsal (-/1i).

Isolated teeth (59): deciduous upper: cd; cs; c; m; deciduous lower: cs; md; 2 ms; permanent upper: 2 I¹s; 2 I²d; I²s; 2 Cd; Cs; 4 Cs; Cs; 4 P¹; 2 P²; 2 P; 4 Md; 4 Ms; permanent lower: I₁d; I₁s; I₂d; 3 Cd; P₁d; P₁s; 2 P₂d; P₂s; P; 8 Md; 4 Ms.

11. Orban, 1988; Radmilli, 1974.

12. -

13. Università di Pisa, Dip. di Scienze Archeol., Sez. di Paleont. Umana, via S. Maria 53, 56100 Pisa, Italia.
 14. -
 15. De Vecchis C. E. 1957. Considerazioni anatomiche e cliniche sulle mandibole paleolitiche di Grotta Polesini. *Ann. di Stomatologia* 6: 1-22.
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PONTE MAMMOLO

F. Mallegni.

1. Ponte Mammolo.
 2. Open-air site 300 m from ruins of Pons Mammaeus (no longer existant), along Via Tiburtina, Rome. 41° 55' 20" N, 12° 34' 18" E.
 3. In 1864, L. Ceselli found the shaft of a right femur. Site excavated in May 1985 by A.G. Segre.
 4. Deposit of lithoid tuff (Biddittu *et al.*, 1987).
 5. -
 6. Mindel and Late Riss (Biddittu *et al.*, 1987).
 7. Open-air site with pre-Mousterian lithic industry and Levallois technique (Biddittu *et al.*, 1987; Bietti. 1980-81, 1983; Piperno. 1982). Stratigraphy is similar to that of Casal de Pazzi (Rebibbia), (Biddittu *et al.*, 1987; Fornaseri, 1985).
 8. *Elephas antiquus*, *Ursus spelaeus*, *Canis* sp., *Palaeoloxodon antiquus*, *Bos primigenius*, *Megaceros* sp., *Equus* sp. (Biddittu *et al.*, 1987; Orban, 1988).
 - 9.1 -
 - 9.2 K/Ar dating on lithoid tuff: later than 350000 years BP.
 - 9.3 -
 - 10. Ponte Mammolo 1 (L,*).**
 - 10.1 Undetermined.
 - 10.2 Adult (size and robusticity).
 - 10.3 Fragments of shaft of femur (-/ff).
 - 10.4 -
 - 10.5 -
 11. Biddittu *et al.* 1987; Rubini *et al.*, 1999.
 12. Biddittu *et al.* 1987; Mallegni, 1992; Rubini *et al.*, 1999.
 13. Istituto Italiano di Paleontologia Umana, Piazza Mincio 2, Roma.
 14. -
 15. Biddittu I., Mallegni F. e Segre A. G. 1987. Riss age human remain, recovered from pleistocene deposits in Ponte Mammolo (Rome-Italy), in *Zeitschrift für Morphologie und Anthropologie* 77, 2: 181-191.
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QUINZANO

G. Alciati and E. Vacca.

1. Quinzano.
 2. Cave, Cava Vecchia, clay-pit near Ca' Rotta di Quinzano, (Verona). 45° 26' N, 10° 59' E.
 3. Consigned to F. Zorzi by a workman directed by G. Montresor, 1938 (Zorzi and. Pasa, 1946; Leonardi, 1958).
 4. Stratigraphy uncertain; alluvial deposits of clay (layers III, V and VII) and gravel (layer VI) with a layer of aeolian sand (layer IV). According to G. Montresor the human fragment came from the base of layer III. However, the amount of mineralization, colour and limestone caking of the fossil are similar to the remains from layers V and VII (Battaglia, 1948a).
 5. -
 6. Probably Riss-Würm (Battaglia, 1948a). Layer VII = Riss; layer VI = Riss-Würm; layer V = Würm I (Pasa, 1955).
 7. Layer III: Upper Palaeolithic (?) layer V: Mousterian (Blanc and Sergi, 1953). Layer VII containing large flakes of Clactonian facies and a "coup de poign" of Chellean type (Blanc and Sergi, 1953; Leonardi, 1958; Zorzi and Pasa, 1946, 1947, 1953).
 8. Layer III: *Equus (Asinus) hydruntinus* (?) Layer VI: *Alces alces*, *Cervus elaphus*, *Cervus dama*, *Capreolus*, *Bison priscus*, *Elephas trogontheri intermedius*.
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Quinzano 1 (L).**
 - 10.1 Indeterminate.
 - 10.2 Indeterminate.
 - 10.3. Occipital (i).
 - 10.4 -
 - 10.5 -
 11. Battaglia, 1948b.
 12. Battaglia, 1948b.
 13. Museo Civico di Storia Naturale di Verona, Lungadige Porta Vittoria 9, 37129 Verona.
 14. Museo Civico di Storia Naturale di Verona, Lungadige Porta Vittoria 9, 37129 Verona.
 15. Blanc A.C. and Sergi S. 1953. Catalogue des Hommes Fossiles - Italie, Vallois H. V., Movius H. L. Ed.s. XIX Congrès Géologique International, Alger.
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ROMANELLI

F. Mallegni.

1. Grotta Romanelli.
2. In middle of a wide bay between Castro and Terme di Santa Cesarea, 50 km from Lecce. 40° 01' N, 18° 24' E.
3. Stasi and Regalia, 1904; Blanc, 1914 and 1928.
4. Cave in limestone cliff from bottom: 1) compact Cretaceous limestone; 2) Tyrrhenian fossil beach, with large limestone pebbles and intercalations of pumice beds; 3) fans composed of limestone blocks and rubble, cemented breccia; 4) limestone, with clayey-terrous products due to decalcification; 5) lower stalagmite; 6) sandy red earth, partly composed of anemoclats containing a few limestone fragments; 7) upper stalagmite; 8) coarse limestone slump; 9-12) brown earth, mostly eolian, with many typical anemoclastic elements and almost total absence of limestone fragments, further subdivided into three main layers; 11) slump of mainly cryoclastic limestone (Blanc, 1920).
5. -
6. Upper Pleistocene; Late Würm (Blanc, 1955).
7. Upper Paleolithic, according to faunal remains. Similarities with French Upper Maddalenian. Lithic and bone industry (Blanc, 1939).
8. *Equus (Asinus) hydruntinus*, *Capra hybex*, *Cervus elaphus (corsicanus)*, *Bos primigenius*, *Vulpes vulpes*, *Lepus europaeus*, *Lupus lupus*, *Otis tetrax*, *Otis tarda*, *Pteropces sp*, *Alca impennis*, *Colymbus articus*, *Branta leucopsis*, *Brenta brenta*, *Anser ferus*, *albifrons e finmarchicus* (Blanc, 1920, 1928, 1956).
- 9.1 -
- 9.2 -
- 9.3 -

10. Romanelli 1 (L).

- 10.1 Male (?).
- 10.2 Adult (?).
- 10.3 Cranium, mandibula, post-cranial skeleton (i).
- 10.4 -
- 10.5 -

Note: named in bibliography but without any description.

10. Romanelli 2 (L).

- 10.1 Undetermined.
- 10.2 Child (?).
- 10.3 Cranium, mandibula, post-cranial skeleton lacking inferior part of spine, pelvis and lower limbs (?).
- 10.4 -
- 10.5 -

Note: named in bibliography but without any description.

10. Romanelli 3 (L).

- 10.1 Undetermined.
- 10.2 Child (?).
- 10.3 Cranium, mandibula, post-cranial skeleton lacking inferior part of spine, pelvis and lower limbs (?).
- 10.4 -
- 10.5 -

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10.5 The very low stature of this subject and the morphology of most of the long bones is extremely interesting, although she was subadult. The skull is brachycephalic, with a large calvarium and a small base, with greatly protruding frontal and parietal eminences. The face is normal; some vertebrae are reduced in anterior height; long bones are short but with large epiphyses; elbow and radio-ulnar joints are ankylosed. Metacarpals, metatarsals and phalanges are very short. All these facts point to a diagnosis of displasia of endochondral ossification of mesomelic type, leading to a severe form of dwarfism, with limited body functionality and deformities. Presence of Harris lines.

10. Romito 3 (*, PC, L).

10.1 Male (pelvis).

10.2 25-30 years (pubic symphysis).

10.3 Skull (ff), mandibular body, humerus (i/d), radii (f/d), carpals (-/7i), metacarpals (1i/3i), 3 finger phalanges, hip bones (f/f), femora (d/d), patellae (i/i), tibiae (i/i), fibulae (i/i), tarsals (1d/2i).

10.4

r													l				
-	-	6	5	4	3	X	X	X	X	X	4	5	6	7	U		
-	-	-	5	4	3	2	-	-	-	3	X	5	6	7	8		

10.5 Traces of calculus on all teeth. Presence of Harris lines.

10. Romito 4 (*, PC, L).

10.1 female (skull, pelvis).

10.2 18-20 years (M3 in eruption; traces of fusion of long bones)

10.3 Skull (i), mandible (i/i), a few fragments of vertebrae and ribs, sacrum (f), scapulae (f/-), humeri (i/i), radii (i/i), ulnae (i/i), carpals (7i/-), metacarpals (5i/-), 8 finger phalanges, hip bones (d/d), femura (d/i), tibiae (i/i), patellae (i/i), fibulae (d/d), tarsals (4i/4i), metatarsals (5i/5i), 4 toe phalanges.

10.4

r													l				
8	7	6	5	4	3	2	1	X	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

10.5 Traces of calculus on lingual side of lower incisors. Line of enamel hypoplasia on third cervical of all upper and lower incisors, lower canines and premolars. Enamel disruptions on buccal faces of lower canines. Presence of Harris lines.

10. Romito 5 (*, PC, L).

10.1 Female (pelvis).

10.2 25-30 years (pubic symphysis).

10.3 Skull (i), mandible (i/i), fragments of ribs and vertebrae, clavicles (i/i), scapulae (f/f), humeri (d/f), radii (d/d), ulnae (d/i), carpals (-/3i), metacarpals (4/5), 2 finger phalanges, femora (d/d), tibiae (f/d), fibulae (f/f).

10.4

r													l				
8	7	6	5	4	3	X	X	X	X	3	4	5	-	-	-		
8	7	6	5	4	3	2	1	X	2	3	4	5	6	7	8		

10.5 Traces of calculus on lingual side of lower incisors. Traces of periodontal infection (left P¹ and left C' affected by root abscesses). The highest degree of dental wear was recorded in this specimen, probably due to the fact that the teeth were used for extra-alimentary purposes. Presence of Harris lines.

10. Romito 6 (*, PC, L).

10.1 Male (skull, pelvis).

10.2 Adult (mature bone).

10.3 Skull (i), fragments of ribs and vertebrae, clavicles (d/d), scapulae (d/d), humeri (f/f), radii (i/d), ulnae (i/i), carpals (4i/-), metacarpals (5i/-), 7 finger phalanges, hip bones (-/d), femora (d/-), tibiae (f/i), fibulae (f/f).

10.4

r													l				
-	7	6	5	4	3	X	1	X	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	X	3	4	5	6	7	8		

10.5 Traces of calculus on lingual side of lower incisors. Presence of Harris lines.

11. Fabbri and Mallegni, 1988; Orban, 1988, 1989; Mallegni and Fabbri, 1995;

12. Mallegni and Fabbri, 1995.

13. Museo Fiorentino di Preistoria e Protostoria via S. Egidio Firenze. Soprintendenza Archeologica della Calabria, Reggio Calabria.

14. Romito 1 and Romito 2, cast of the double burial: Museum of Human Anatomy, University of Torino.

15. Fabbri P. F. and Mallegni F. 1988. Dental anthropology of the Upper Paleolithic remains from Romito Cave at Papisidero (Cosenza, Italy). *Bull. Mem. Soc. Anthr. Paris* 5 XIV 3: 163-178.

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13. Museo di Antropologia "G. Sergi", Dipartimento di Biologia Animale e dell'Uomo, Università di Roma "La Sapienza", P.le Aldo Moro 5, 00185 Roma (Italia).
 14. Museo di Antropologia "G. Sergi", Dipartimento di Biologia Animale e dell'Uomo, Università di Roma "La Sapienza", P.le Aldo Moro 5, 00185 Roma (Italia).
 15. Bietti A. 1983. I processi culturali dalla fine del Riss al Wurm antico nella bassa valle dell'Aniene e più in generale nel Lazio. Riv. Antropol., suppl. Vol. 62: 123-132.
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SAN BERNARDINO

G. Alciati and E. Vacca.

1. San Bernardino.
2. Cave, Grotta Maggiore di San Bernardino, 135 m asl, Colli Berici, near Mossano, Vicenza. 45° 25' N, 11° 33' E.
3. San Bernardino 1: Consigned to R. Fabiani by a workman, 1890. San Bernardino 3: excavations P. Leonardi, A. Broglio and G. Bartolomei 1959. San Bernardino 4 and 5: excavations A. Broglio and M. Peresani, 1987. (Tedeschi 1903, in R. Fabiani 1903; Leonardi 1959; Leonardi and Broglio 1961; Leonardi and Broglio 1962).
4. Cave deposit excavated for industrial purposes (1890) and archaeologically (Fabiani 1903).
5. -
6. Late Pleistocene, probably Würm; the state of fossilization of the hominid remains (San Bernardino 1) is similar to that of the *Megaceros* bones.
7. Middle and Upper Palaeolithic industries (Leonardi 1958, 1959; Leonardi and Broglio 1961, 1962; Peresani 1992, 1996, 1995-1996).
8. *Arctomys marmota*, *Ursus spelaeus*, *Equus caballus*, *Sus scrofa domestica*, *S. scrofa ferus*, *Alces machlis* (?), *Cervus elaphus*, *Megaceros giganteus* (?), *Bos primigenius* (?), *Capra* (Fabiani 1903; Bartolomei 1960; Cassoli and Tagliacozzo 1994; Cattani and Renault-Miskovsky 1989).
- 9.1 -
- 9.2 San Bernardino 3, 4 and 5, Macro unit II > 40 ka B.P. (¹⁴C dating of charcoals from layer 4b by M. Pazdur, University of Gliwice) and < 75 +7/-6 ka (U/Th dating of bone material from layer 6, macro unit IV (Falguères et al. 1996).
- 9.3 -
- 10. San Bernardino 1** (*, L, PC).
 - 10.1 Female, (morphology).
 - 10.2 Indeterminate.
 - 10.3 Left temporal (f), occipital (f), pelvis (ff), left ulna (f), 2 radii (ff), left humerus, fibula (f).
 - 10.4 -
 - 10.5 -
- 10. San Bernardino 3** (*).
 - 10.1 Indeterminate.
 - 10.2 Indeterminate.
 - 10.3 Distal hand falanx (i).
 - 10.4 -
 - 10.5 -
- 10. San Bernardino 4** (*).
 - 10.1 Indeterminate.
 - 10.2 Adult (dental wear)
 - 10.3 -
 - 10.4 Molar, second or more probably third inferior right, with a mandibular bone fragment on the lingual side.
 - 10.5 -
- 10. San Bernardino 5** (*).
 - 10.1 Indeterminate.
 - 10.2 5-6 years (dental development).
 - 10.3 -
 - 10.4 Deciduous incisor, 2nd left inferior.

10.5 -

Note: San Bernardino 2 refers to a right inferior canine found in 1959 in a disturbed layer on top of the deposit outside the cave; it is not considered here.

11. Corrain, 1962; Vacca and Alciati, 2000.
12. Vacca and Alciati, 2000.
13. Istituto di Antropologia, Università di Padova, Padova (San Bernardino 1, humerus; other remains are lost). San Bernardino 3, 4 and 5, Dip. di Scienze Geologiche e Paleontologiche, Università di Ferrara, Corso Ercole I d'Este 32, 44100 Ferrara.
14. -
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SAN TEODORO

F. Mallegni.

1. Grotta San Teodoro.
2. Cave 1 km from San Fratello Acquedolci (Messina, Sicily), at 135 m asl and about 2 km from the sea. It is more than 60 m long and has a maximum width of 20 m. About 38° 02' N, 14° 36' E.
3. Discovered by F. Anca, who first published a description in 1860. Site later excavated by Gemellaro and De Gregorio, and by Vaufrey in 1925. In 1937, San Teodoro 1 was found, and San Teodoro 2, 3, 6 and 7 between 1938 and 1940. C. Maviglia, P. Graziosi and L. Bernabò Brea found San Teodoro 4 and 5 in 1942.
4. Limestone cave with a six-layer stratigraphic sequence (from bottom F to top A). Human burials found in layer E and other human remains in layer B. Layer E is composed of yellowish clay about 30 cm thick. Layer B is reddish-brown and about 40 cm thick (Graziosi, 1947a, 1947b; Graziosi e Maviglia, 1946; Vigliardi, 1968).
5. San Teodoro 1, 2, 3 and 4 buried in layer E and San Teodoro 5 in layer B, in shallow graves, lying supine or on the left side, with legs extended and arms along the sides. In San Teodoro 5, the hand is near the chin. Bodies were accompanied by grave goods consisting of deer horn, animal bones, fluted pebbles and, in one case (San Teodoro 1) a necklace of deer teeth. Other human remains were found in layer B, but it is not certain whether they refer to other burials (San Teodoro 6-7).
 San Teodoro 1: skeleton laid out along axis of cave, lying on its left side, with feet facing entrance (north) and head facing south. Also found: 12 perforated canine teeth of *Cervus elaphus*, probably once belonging to a necklace.
 San Teodoro 2: skeleton lying just over 1 m from San Teodoro 1, but further inside the cave and slightly higher. Like San Teodoro 1, it is laid out along cave axis, but with head facing north and feet facing south.
 San Teodoro 3: skeleton lying just over 1 m from the San Teodoro 2. Original position cannot be determined in any way. Skull in very poor condition; some phalanges from left hand found near it.
 San Teodoro 4: disturbed by human intervention before excavation: the whole thorax and left arm had been removed, except for some hand bones. Skeleton lay near and slightly above San Teodoro 1, along cave axis, with feet facing east, i.e., towards the cave wall. Body was supine, with legs extended and right arm extended. Skeleton was in anatomical connexion, except for pelvic bones which had been removed previously by tomb raiders. Layer of red ochre did not extend to whole burial place but covered body up to upper thighs; the tip of a deer horn was intentionally placed near the left femur.
 San Teodoro 5: found in layer B, a probable burial, but evidently disturbed by raiders, since it lies a short distance from the excavation (Graziosi, 1947a, 1947b; Graziosi e Maviglia, 1946; Vigliardi, 1968).
6. Latest Upper Pleistocene (Graziosi, 1947a, 1947b; Graziosi e Maviglia, 1946; Vigliardi, 1968).
7. Latest Upper Palaeolithic; Romanellian facies, with tools ranging from large quartz flakes to flint of microlithic type. (Graziosi, 1947a, 1947b; Graziosi and Maviglia, 1946; Vigliardi, 1968).
8. Layer E: *Cervus elaphus*, *Hyena spelea*, *Equus (Asinus) hydruntinus*. Layer B: *Cervus elaphus*, *Bos primigenius*, *Sus scrofa ferus*, rare *Equus (Asinus) hydruntinus* and *Hyena spelea* (Graziosi, 1943, 1947a, 1947b; Graziosi e Maviglia, 1946; Vigliardi, 1968).
- 9.1 -
- 9.2 -
- 9.3 -
10. **San Teodoro 1 (I).**
 - 10.1 Female (pelvis).
 - 10.2 30-35 years (pubic facets).

10.3 Neurocranium (i) (only two small portions of zygomatic arches are missing); maxilla (i); mandible (f/f), hyoid (i), vertebrae c. (7f), vertebrae t. (11f), vertebrae l. (5f), vertebrae s. (5f) with fused first coccygeal, sternum (i); ribs (23ff); scapula (-/f), clavicle (-/f), humeri (i/ff); radii (i/ff); ulnae (i/f); scaphoid (f), semilunar (f), trapezium (f), capitate (f), uncinata (i/-), trapezoid (-/i), metacarpal (4i/1i), I phalanges (-/3i), II phalanges (1i/3i), III phalanges (-/2i); innominate (f/i); femura (i/i□; p□tel□ae (i/i); tibia□ (i/i); fibulae (i/i); talus (i/-), calcaneus (i/-), scaphoid (i/-), cuboid (-/i), I cuneiform (i/i), II cuneiform (i/-), III cuneiform (i/-), metatarsals (i/i), I phalanges (5i/4i).

10.4

r														1			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
8	7	6	5	X	3	2	X	1	2	3	4	5	6	7	8		

10.5 -

10. San Teodoro 2 (L).

10.1 Undetermined.

10.2 Adult, 40-50 years (dental wear).

10.3 Neurocranium (d), maxilla (i/i), mandible (d/d).

10.4

r														1			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	X		
8	7	6	5	4	3	2	X	1	2	3	4	5	6	7	8		

10.5 -

10. San Teodoro 3 (L).

10.1 Undetermined.

10.2 Adult, 40-50 years (dental development).

10.3 Neurocranium (f) in poor state of preservation, maxilla (d/d), mandible (i), atlas, epistropheus, vertebra t. (1ff), metacarpals (-/2i), ischium (1ff), radius (1ff), humerus (-/d).

10.4

r														1			
X	7	6	5	4	3	2	X	X	X	3	4	5	6	7	X		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

10.5 -

10. San Teodoro 4 (L).

10.1 Female (pelvis).

10.2 Adult (mature bone).

10.3 Sacrum (ff), ribs (3ff), ilium (f/ff), humerus (ff/-), radius (i/-), ulna (i/-), uncinata (f), capitate (f), trapezium (f), trapezoid (f), pisiform (i/i), metacarpals (-/4i), I phalanges (4i/-), II phalanges (2i/2i), III phalanges (2i/-), femora (i/i), tibiae (i/i), fibulae (i/i), patellae (i/i), tali (i/i), calcanei (i/i), scaphoid (1i/1i), I cuneiform (1i/-), II cuneiform (1i/1i), III cuneiform (1i/-), II, IV and V metatarsals (3i/-), metatarsal (-/1i), I phalanges (3i/-) (first, second and third toes), II phalanges (2f).

10.4 -

10.5 -

10. San Teodoro 5 (L).

10.1 Undetermined.

- 10.2 Undetermined.
 10.3 Neurocranium (ff), poor state of preservation, maxilla (f/f), mandible (d/d).
 10.4 Uncertain laterality of first premolar and four molars in maxilla.

r												l			
?	?	?	?	?	X	X	X	X	X	X	?	X	?	?	?
X	X	X	X	4	3	2	1	1	2	3	4	X	X	X	X

- 10.5 Maxillary incisors and canines, molars e second premolars lost ante-mortem.

10. San Teodoro 6 (L).

- 10.1 Undetermined.
 10.2 Undetermined.
 10.3 Studies in progress.
 10.4 -
 10.5 -

10. San Teodoro 7 (L).

- 10.1 Undetermined.
 10.2 Undetermined.
 10.3 Portion of skull (f), mandible (i).
 10.4

r														l	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

- 10.5 Anterior teeth show traces of hypoplasia (Graziosi, 1947a, 1947b).

11. Aimar e Giacobini, 1989, Correnti, 1967, Fabbri, 1975, Fabbri, 1988, 1993, 1995; Graziosi, 1947a, 1947b, Maviglia, 1940.
 12. Aimar e Giacobini, 1989, Bachechi *et al.*, 1997, Correnti, 1967, Fabbri, 1993, 1995; Graziosi, 1947a, 1947b.
 13. San Teodoro 1 e 2: Museo di Geologia dell'Università, Palermo, Sicilia. San Teodoro 3, 4 e 5: Museo Fiorentino di Preistoria e Protostoria, Via S. Egidio 21, Firenze.
 14. Museo Fiorentino di Preistoria e Protostoria, Via S. Egidio 21, Firenze.
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SEDIA DEL DIAVOLO

F. Mallegni.

1. Sedia del Diavolo.
 2. Open-air site on left bank of river Aniene, where Piazzale Addis Abeba (Viale Etiopia, Rome) is now located. Deposits with prehistoric materials have now disappeared because of the increasing urban development. 41° 57' N, 12° 32' E.
 3. In about 1882, R. Meli surveyed the stratigraphic series of the site. In April 1956, A.C. Blanc, L. Cardini and P. Cassoli undertook research.
 4. Gravel, covered by travertine sand, in turn overlain by tuff and white pumice. The first two date back to the Nomentano glacial period (Blanc, 1956; Mallegni, 1986; Taschini, 1967).
 5. -
 6. Nomentano (= Riss) and Latest Riss (Blanc, 1956; Mallegni, 1986).
 7. Open-air site: layer of greatest paleoanthropological interest is layer 4, which yielded a human femur and a metatarsal, associated with lithic industry defined as Protopontinian or pre-Mousterian, and abundant remains of fauna (Mallegni, 1986; Taschini, 1956).
 8. Layer 4: *Elephas antiquus*, *Hippopotamus amphibius*, *Rhinoceros* sp. (cfr. *R. Mercki*), *Bos primigenius*, *Dama dama*, *Cervus elaphus*, *Equus caballus*, *Sus scrofa*, *Canis* sp. (cfr. *Lupus*), *Felis* sp. (cfr. *Pardus*), *Lepus* sp., *Oryctolagus cuniculus*, *Aves*. Layer 5: *Bos*, *Equus* e *Cervus* (Blanc, 1956; Mallegni, 1986).
 - 9.1 -
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Sedia del Diavolo 1 (L,*).**
 - 10.1 Undetermined.
 - 10.2 Adult (size of fragment).
 - 10.3 Femur (-/ff), fragment of shaft.
 - 10.4 -
 - 10.5 -
 - 10. Sedia del Diavolo 2 (L,*).**
 - 10.1 Undetermined.
 - 10.2 Adult (mature bone).
 - 10.3 II right metatarsal.
 - 10.4 -
 - 10.5 Third distal part of metatarsal shows traces apparently due to repeated microtraumas which occurred over time during life (Blanc, 1956; Orban, 1988; Mallegni, 1986; Rossi, 1961).
 11. Blanc, 1956; Mallegni, 1986; Rossi, 1961.
 12. Mallegni, 1986.
 13. Soprintendenza Speciale al Museo Nazionale Preistorico ed Etnografico "L.Pigorini", Roma.
 14. Soprintendenza Speciale al Museo Nazionale Preistorico ed Etnografico "L.Pigorini", Roma.
 15. Blanc A. C. 1955. Avifauna artica, crioturbazioni e testimonianze di soliflussi nel Pleistocene medio-superiore di Roma e di Torre in Pietra. Il periodo glaciale Nomentano nel quarto della serie di glaciazioni riconosciute nel Lazio. *Quaternaria II*: 187-200.
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TADDEO

G. Giacobini and G. Manzi.

1. Taddeo.
2. Cave Grotta Taddeo near Marina di Camerota (Salerno, Campania), at the West end of the village, 7 m asl. 40° 00' 02" N, 15° 22' 02" E.
3. A. Vigliardi, 1967.
4. Cave deposit; hominid remains were found in a reddish layer of about 30 cm interposed between a surface speleothem and the Tyrrhenian beach (Vigliardi, 1968).
5. -
6. Würm I (Vigliardi, 1968).
7. Typical Mousterian (Vigliardi, 1968).
8. *Cervus elaphus*, *Capreolus capreolus*, *Capra ibex*, *Bos primigenius*, *Sus scrofa*, *Hyppopotamus amphibius*, *Crocota crocuta*, *Canis lupus* (Vigliardi, 1968).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Taddeo 1 (L, PC).**
- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right mandibular C (F. Mallegni p.c.; formerly regarded as maxillary).
- 10.5 -
- 10. Taddeo 2 (L).**
- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right P¹.
- 10.5 -
- 10. Taddeo 3 (L).**
- 10.1 Indeterminate.
- 10.2 Adult (dental maturation and wear).
- 10.3 -
- 10.4 Right M¹, lacking the lingual root.
- 10.5 -
- 10. Taddeo 4 (L).**
- 10.1 Indeterminate.
- 10.2 Child, 5-6 yrs (dental eruption, according to the identification as M₁).
- 10.3 -
- 10.4 Right mandibular molar (M₁ according to Messeri, 1975), lacking large part of both roots.
- 10.5 -
11. Messeri, 1975; Messeri e Palma di Cesnola, 1976.
12. Messeri, 1975.
13. Museo Fiorentino di Preistoria, via S. Egidio 21, 50122 Firenze (Italy).
14. -

15. Messeri P. 1975. Resti umani (denti e parti dell'arto inferiore) provenienti da strati musteriani in grotta a Marina di Camerota (Salerno). *Atti XVII Riun. Scient. Ist. It. Preist. Protost.*, Firenze: 171-185.
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TAGLIENTE, MIDDLE PALAEO-LITHIC

G. Giacobini and G. Manzi.

1. Tagliente.
2. Rockshelter Tagliente near Stallavena di Grezzana (Verona), on the right flank of Valpantena, 250 m asl. 45° 35' N, 11° 00' E.
3. Excavations directed by A. Guerreschi and C. Peretto, 1979 (Tagliente 3) and 1998 (Tagliente 4).
4. Rockshelter deposit with highly anthropized levels spanning from Middle Paleolithic to historical times. Human remains were found in levels 36 (Tagliente 3) and 37 (Tagliente 4) showing important loess composition.
5. -
6. Early-middle Würm (Bartolomei et al., 1982).
7. Mousterian (Bartolomei et al., 1982).
8. Micromammals and pollens indicate steppe environment and cold dry climate (Bartolomei et al., 1982).
- 9.1 -
- 9.2 -
- 9.3 -
- 10. Tagliente 3 (*, L).**
- 10.1 Indeterminate.
- 10.2 Child (tooth lost at about 10 years).
- 10.3 -
- 10.4 Right maxillary deciduous molar, m².
- 10.5 -
- 10. Tagliente 4 (*, L).**
- 10.1 Indeterminate.
- 10.2 Child (tooth lost at about 10 years).
- 10.3 -
- 10.4 Right maxillary deciduous canine.
- 10.5 -

Note: Reference numbers follow those referred to Upper Paleolithic specimens.

11. Villa et al., 1999.
 12. -
 13. Dipartimento di Scienze Geologiche e Paleontologiche, Università di Ferrara, C.so Ercole I d'Este 32, 44100 Ferrara.
 14. Dipartimento di Anatomia Farmacologia e Medicina Legale, Università di Torino, C.so M. d'Azeglio 52, 10126 Torino.
 15. Bartolomei G., Broglio A., Cattani L., Cremaschi M., Guerreschi A., Mantovani E., Peretto C. e Sala B. 1982. I depositi Würmiani del Riparo Tagliente. *Ann. Univ. Ferrara*, n.s. 3: 61-105.
- Villa G., Giacobini G., Peretto C. and Thun Hohenstein U. 1999. Neandertal teeth from the Mousterian levels of the Riparo Tagliente (Verona, Italy). In *Abstracts XIII Congr A.A.I Roma e Sabaudia*, 4-8 ottobre, p. 145.



TAGLIENTE, UPPER PALEOLITHIC

G. Alciati and V. Formicola.

1. Tagliente.
 2. Rock-shelter at the base of mount Tregnano, 250 m above sea level, near Stallavena in Valpantena (Verona). 45° 35' N, 11° 00' E.
 3. F. Mezzena and F. Zorzi, 1964 (T1); A. Broglio and P. Leonardi, october 1973 (T2).
 4. Reworked upper layer (T1), (Sergi *et al.*, 1971). Brown-reddish clayey soil with rubble (T2) (Bartolomei *et al.*, 1974).
 5. Burial with an incomplete skeleton lying in supine position. Probably cut 14 (T2) (Bartolomei *et al.*, 1974).
 6. Probably Würm (T1) (Sergi *et al.*, 1971); Late Würm; Dryas I-II (T2) (Broglio, 1984).
 7. Late epigravettian lithic industries (Bartolomei *et al.*, 1974).
 8. *Cervus elaphus*, *Capreolus capreolus*, *Sus scrofa*, *Capra ibex* and *Marmota marmota* (Bartolomei *et al.*, 1974). Charcoals of *Larix decidua*, *Pinus sylvestris/mugo* (Maspero, 1996).
 - 9.1 -
 - 9.2 Charcoal ¹⁴C date range from 13430 ± 180 BP (cuts 15-16) to 12040 ± 170 BP (cuts 8-10) (Alessio *et al.*, 1970; Guerreschi, 1996).
 - 9.3 -
 - 10. Tagliente 1 (L).**
 - 10.1 Male (robusticity).
 - 10.2 Middle aged adult (dental eruption and wear).
 - 10.3 Mandible (f).
 - 10.4 Left mandibular P₂, M₁, M₂, M₃.
 - 10.5 -
 - 10 Tagliente 2 (L).**
 - 10.1 Male (pelvic morphology).
 - 10.2 Young adult (morphology of the pubic surface).
 - 10.3 Vertebrae l. (3d), sacrum (i), cocc. (2i), ribs (4i-ff), radii (f/ff), ulnae (i/f), carpals (7i/5i), metacarpals (5i/4i), phalanges (14i/14i), hip bones (i/i), femora (i/i), patellae (d/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (5i/5i), metatarsals (5i/5i), phalanges (13i/13i).
 - 10.4 -
 - 10.5 -
 11. Corrain, 1966 (T 1), 1977 (T 2).
 12. Corrain, 1966 (T 1), 1977 (T 2).
 13. Museo Civico di Storia Naturale, Lungadige Porta Vittoria 9, 37100 Verona.
 14. Burial cast c/o Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, I-10126 Torino.
 15. Alessio M., Bella F., Improta S., Belluomini G., Cortesi C. and Turi B. 1970. University of Rome Carbon-14 dates VIII. Radiocarbon 12: 599-616.
- Bartolomei G., Broglio A., Guerreschi A., Leonardi P., Peretto C. and Sala B. 1974. Una sepoltura epigravettiana nel deposito pleistocenico del Riparo Tagliente in Valpantena (Verona). *Rivista di Scienze Preistoriche* 29: 101-152.
- Broglio A. 1984. Paleolitico e Mesolitico. In: AA.VV. Il Veneto nell'antichità. Banca Popolare di Verona.
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- Guerreschi A. 1996. Riparo Tagliente (Stallavena di Grezzana, Verona, Veneto). NOTES, Italian Archaeological Bulletin <http://dns.unife.it/notes>.
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TORRE DELL'ALTO

E. Vacca.

1. Torre dell'Alto.
 2. Cave shelter on the rocky wall under Torre dell'Alto, about 30 m asl, Santa Caterina di Nardò, Lecce (Puglia). 40° 08' 32" N, 17° 56' 40" E.
 3. Borzatti von Löwenstern E., excavations 1966 - 1967 (Borzatti von Löwenstern, 1966).
 4. Cave in cretacic limestone. The excavated deposit (layers F, E, D, C, B - A) is made mainly of eolic sand sediments. Layer B is possibly related to layers M - F of Grotta del Cavallo (Borzatti von Löwenstern, 1966).
 5. -
 6. Upper Pleistocene, Würm II (layers F - C), Würm II - III (layers B - A) (?). The tooth comes from layer B.
 7. Musterian (Borzatti von Löwenstern, 1966, 1967).
 8. *Equus asinus hydruntinus* Reg., *Bos primigenius* Boj., *Equus caballus* L., *Cervus elaphus* L., *Hyena crocuta spelaea* Gold., *Lepus europeus* Pall., *Sus scrofa ferus*, *Oryctolagus cuniculus* L., *Vulpes* sp.
 - 9.1 -
 - 9.2 -
 - 9.3 Layer E of Grotta del Cavallo, from this layer come Cavallo 2 and 3, >31 ka, ¹⁴C.
- 10. Torre dell'Alto 1 (L).**
- 10.1. Indeterminate.
 - 10.2 Adult (dental wear).
 - 10.3 -
 - 10.4 Upper right canine.
 - 10.5 -
11. Borzatti von Löwenstern, 1969.
 12. Borzatti von Löwenstern, 1969.
 13. Soprintendenza Archeologica per la Puglia, Via Duomo, 33 - 74100 Taranto.
 14. -
 15. Borzatti von Löwenstern E. 1966. Alcuni aspetti del Musteriano nel Salento, Riv. Sc. Preist. XXI: 2.
- Borzatti von Löwenstern E. 1969. Dente umano proveniente dal deposito musteriano di Grotta Torre dell'Alto (Nardò, Lecce). Arch. Antrop. Etnol. XCIX 1 - 2: 75 - 78.
- Borzatti von Löwenstern E., Magaldi D. 1967. Ultime ricerche nella grotta dell'Alto (Santa Caterina di Nardò). Riv. Sc. Preist. XXII: 2.



UZZO

A. Canci and S.M. Borgognini Tarli.

1. Uzzo.
2. Cave, 65 m above sea level, E side of the promontory of San Vito lo Capo (Trapani), in the “Riserva Naturale Regionale dello Zingaro”. 38° 11’ N, 12° 43’ E.
3. M. Piperno, 1975.
4. Cave earth (Segre Naldini and Piperno, 1975).
5. Ten burials, including two cases of double interment (Uzzo I and Uzzo IV). Skeletons in an extended or flexed position. Grave goods very poor or absent.
6. Early Holocene (Borgognini Tarli *et al.*, 1993).
7. Mesolithic. Lithic industry on flint and sometimes on quartzite, made up of geometric tools like crescents, triangles and trapezes. (Piperno 1976 - 77; Piperno *et al.*, 1980; Tagliacozzo, 1993).
8. *Cervus elaphus*, *Sus scrofa*, *Monachus monachus*, *Globicephala melaena*, *Balaenoptera sp.* o *Physeter*, *Delphinus delphis*, *Alectoris graeca*, *Columba livia* (Tagliacozzo, 1993).
- 9.1 9270 ± 100 BP: based on ¹⁴C dating of bone collagen of Uzzo IVA (Uzzo 5): 7500 - 6600 BP: based on racemization method applied to bone samples of Uzzo IA and B (Uzzo 1 and 2), Uzzo IVA and B (Uzzo 5 and 6) (Belluomini and Delitala, 1983).
- 9.2 8000 - 7300 BP on basis of ¹⁴C dating of charcoals from *unspecified* “Mesolithic” layers (Piperno, 1985).
- 9.3 -

10. Uzzo 1 (specimen Uzzo IA of Borgognini Tarli, 1980 and Borgognini Tarli *et al.*, 1993) (L).

- 10.1 Female (cranial morphology and postcranial robusticity).
- 10.2 Adult (suture closure, dental wear).
- 10.3 Neurocranium (d), face (d), mandible (i); vertebrae c. (4i), t. (7d), l. (5d), sacrum (i), scapulae (f/f), clavicles (f/i), sternum (d), ribs (d), humeri (i/i), radii (i/i), ulnae (i/i), carpals (?f), metacarpals (?f), phalanges (?f), hip bones (i/i), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (?f/?f), metatarsals (?f/?f), phalanges (?f/?f).
- 10.4

r												l				
X	X	X	X	X	X	X	X	X	X	X	X	4	X	X	X	X
X	X	6	5	4	3	2	1	1	2	3	4	X	X	X	X	

- 10.5 Caries, abscesses and ante mortem tooth loss (Borgognini Tarli and Repetto, 1985); vesical calculus (Naccarato *et al.*, 1993).

10. Uzzo 2 (specimen Uzzo IB of Borgognini Tarli, 1980 and Borgognini Tarli *et al.*, 1993) (L)

- 10.1 Male (cranial morphology and postcranial robusticity).
- 10.2 Young adult (suture closure, dental wear).
- 10.3 Neurocranium (d), face (d), mandible (i), vertebrae c. (7, i-f), t. (12, i-f), l.(5i), sacrum (d), scapulae (f/f), clavicles (i/i), sternum (d), ribs (d), humeri (i/i), radii (i/i), ulnae (i/i), carpals (?d), metacarpals (?d), phalanges (?d), hip bones (d/d), femora (i/i), patellae (i/i), tibiae (i/i), fibulae (i/i), tali (i/i), calcanei (i/i), other tarsals (?d/?d), metatarsals (?d/?d), phalanges (?d/?d).
- 10.4

r												l			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

- 10.5 Caries (Borgognini Tarli and Repetto, 1985).

10. Uzzo 3 (specimen Uzzo II of Borgognini Tarli *et al.*, 1993) (*)

- 10.1 Male (hip morphology, and postcranial robusticity).
- 10.2 Indeterminate adult (epiphyseal ossification).
- 10.3 Sacrum (i), hip bones (i/d), femora (i/i), fibulae (i/-).
- 10.4 -
- 10.5 Myositis ossificans of traumatic origin at the insertion of the left gluteus medius (Borgognini Tarli *et al.*, 1993).

10. Uzzo 4 (specimen Uzzo III of Borgognini Tarli *et al.*, 1993) (PC).

- 10.1 Indeterminate.
- 10.2 Infans I (newborn) (long bone length).
- 10.3 Neurocranium (ff), face (ff), mandible (ff), vertebral column (ff), scapulae (f/f), clavicles (f/f), ribs (f/f), humeri (i/f), radii (i/d), ulnae (i/d), carpals (?d/ff), metacarpals (?d/ff), phalanges (?d/ff), hip bones (f/f), femora (i/i), tibiae (ff/ff), fibulae (ff/ff), other tarsals (?ff/?ff), metatarsals (?ff/ff), phalanges (?ff/ff).
- 10.4 -
- 10.5 -

10. Uzzo 5 (specimen Uzzo IVA of Borgognini Tarli *et al.*, 1993) (*).

- 10.1 Male (cranial morphology).
- 10.2 Middle-aged adult (suture closure, dental wear).
- 10.3 Neurocranium (d), face (i), mandible (i), scapulae (f/f), clavicles (i/i), humeri (i/i), radii (i/i), ulnae (d/d), femora (f/f), carpals (5d/8i), metacarpals (4d/5i), phalanges (9i/13i).
- 10.4

r													l				
-	7	6	5	4	3	R	1	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

- 10.5 -

10. Uzzo 6 (specimen Uzzo IVB of Borgognini Tarli *et al.* 1993) (*).

- 10.1 Female (cranial morphology).
- 10.2 Adult (suture closure, dental wear).
- 10.3 Neurocranium (d), face (d), mandible (i), scapulae (f/f), clavicles (d/d), humeri (i/i), radii (i/d), ulnae (i/d), carpals (8i/3d), metacarpals (5i/5i), phalanges (10i/14i), femora (f/f).
- 10.4

r													l				
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

- 10.5 Depression of probable traumatic origin on the frontal squama. (Borgognini Tarli *et al.*, 1993).

10. Uzzo 7 (specimen Uzzo V of Borgognini Tarli *et al.*, 1993) (*).

- 10.1 Male (cranial morphology and postcranial robusticity).
- 10.2 Adult (suture closure, dental wear, changes in the sternal ribs).
- 10.3 Neurocranium (i), face (i), mandible (d), scapulae (d/i), clavicles (d/i), vertebrae c. (7i-f), t. (10d), l. (5i), sacrum (i), sternum (d), ribs (i), humeri (d/i), radii (i/i), ulnae (i/i), carpals (8i/8i), metacarpals (4i/5i), phalanges (11i/14i), hip bones (f/f), femora (f/i), patellae (-/i), tibiae (d/d), fibulae (-/d), tali (i/i), calcanei (i/i), other tarsals (5d/5d), metatarsals (5i/5i), phalanges (15i/15i).
- 10.4

r													l				
8	7	6	5	4	3	2	1	1	X	3	4	5	6	7	X		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		

Segre Naldini E., Piperno M. 1975. Scavi nella grotta dell'Uzzo. Relazione preliminare. *Sicilia Archeologica* 8: 11-16.

Tagliacozzo A. 1993. Archeozoologia della Grotta dell'Uzzo, Sicilia. *Bullettino di Paleontologia Italiana Suppl.* 84.



VADO ALL'ARANCIO

F. Mallegni.

1. Vado all'Arancio.
2. Rock shelter on left bank of seasonal river Rigattaie, Massa Marittima, Tuscany. 43° 58' 55" N, 10° 51' 06" E.
3. F. Minellono and E. Puccinelli discovered Vado all'Arancio 1 in 1969 and Vado all'Arancio 2 in 1970.
4. Cave opening about 20 x 9.5 m, partly blocked by collapse of most external portion of vault (Minellono *et al.*, 1980).
5. Vado all'Arancio 1: at a depth of 1.20 m. Grave contains a male skeleton, with head facing north and legs south. Grave is pseudo-ellipsoid in shape, with skeleton lying supine with arms by sides. Grave goods consisted of a fragment of *Capreolus* mandible, an *Equus Caballus* molar, a *Bos primigenius* premolar and, inside the mouth, the upper terminal portion of a *Bos primigenius* femur. A limonite pebble lay under the thorax. Epigravettian lithic industry, many pierced gasteropods, and traces of ochre in contact with rocky bed. Vado all'Arancio 2: at only 25 cm under ground level, burial of a child, head facing west and legs east. Two fragments of unworked travertine under the nape and on the chest. Epigravettian lithic industry, faunal remains and some scattered pierced gasteropods (Minellono *et al.*, 1980).
6. Late Würm (Minellono, 1987).
7. Late Epigravettian. A deposit dated to the Upper Paleolithic was found under the collapsed rock of the vault (Minellono *et al.*, 1980).
8. *Bos primigenius*, *Equus caballus*, *Capreolus* (Minellono *et al.*, 1980).
- 9.1 -
- 9.2 Lower cuts: A2, ¹⁴C, 11330 ± 50 BP (R-1333), 11600 ± 130 BP (LY-3415), (Minellono, 1987).
- 9.3 -

10. Vado all'Arancio 1 (L, PC).

- 10.1 Male (skull and pelvis).
- 10.2 Adult (dental wear, mature bone).
- 10.3 Neurocranium (i), mandible (i), vertebrae c. (3, of which 2 f.), t. (3 i.), l. (2 f.), sacrum (ff), clavicles (ff/i), scapulae (f/f), humeri (f/i), radii (f/f), ulnae (f/i), carpals (3i/2i), metacarpals (2/4), 24 phalanges, hip bones (f/f), femora (f/f), patellae (f/f), tibiae (i/i), fibulae (i/i), tarsals (1/4), metatarsal (-/4i), 7 toe phalanges.

10.4

r													l		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

- 10.5 Fracture of left tibio-tarsal joint, with poorly healed lower fibular epiphysis. X-rays show a serious fracture involving both malleoli and the posterior margin of the distal shaft of the tibia, probably after a fall from a height, the foot being extended and consequently twisted obliquely outwards.

10. Vado all'Arancio 2 (L, PC).

- 10.1 Undetermined.
- 10.2 Child, about 18 months (teeth).
- 10.3 Fragments of neurocranium (ff), fragments of vertebrae and ribs; clavicle (ff/-), humeri (f/i), radii (f/i), ulnae (f/i).

10.4

r													l		
			x	1	1	1	1	1	1	1	1	1			
			x	1	1	x	x	x	1	x	1	1			

10.5 -

11. Orban, 1988; Pardini e Lombardi-Pardini, 1981; Minellono *et al.*, 1980.
 12. Minellono *et al.*, 1980.
 13. Museo Fiorentino di Preistoria e Protostoria, via S. Egidio 21, Firenze.
 14. -
 15. Minellono F. 1987. Manifestazioni artistiche paleolitiche in Toscana. Atti del VI Convegno di Preistoria e Protostoria. *Storia della Daunia* 2: 27-34.
- Minellono F., Pardini E. and Fornaciari G. 1980. Le sepolture epigravettiane di Vado all'Arancio (Grosseto) *Rivista di Scienze Preistoriche e Protostoriche* 35: 3-44.
- Orban R. 1988 (ed.). Italy. In "Hominid Remains, an up-date". Department of Anthropology and Human Genetics, Université Libre de Bruxelles (U.L.B). Belgium.
- Pardini E. and Lombardi-Pardini E. G. 1981. I paleolitici di Vado all'Arancio. *Archivio per l'Antropologia e l'Etnologia*. 111: 75-119.



VATTE DI ZAMBANA

G. Alciati and V. Formicola.

1. Vatte di Zambana.
2. Rock-shelter 220 m above sea level, at the confluence of the Noce stream into the Adige river, NE of the church of Zambana Vecchia, 12 Km north of Trento. 46° 10' N, 11° 05' E.
3. A. Broglio, G. Bartolomei and P. Leonardi, june 1968.
4. Rockshelter covered by a debris cone. Scree-slope deposit. At the bottom of the hearth corresponding to cut 10 (Leonardi in: Corrain *et al.*, 1976).
5. Single burial with the skeleton in supine position. No grave goods, small fragments of red ochre under the skull (Leonardi in: Corrain *et al.*, 1976).
6. Early Holocene; Late Boreal, Early Atlantic (Broglio, 1984).
7. Sauveterrian lithic industry (Broglio, 1973).
8. *Cervus elaphus*, *Rupicapra rupicapra*, *Capra ibex*, *Arvicola sp.*, *Apodemus sp.*, *Crocidura sp.* (Bartolomei in: Corrain *et al.*, 1976).
- 9.1 -
- 9.2 8000 ± 110 BP (R-491); 7740 ± 150 BP (R-491). Based on ¹⁴C dating of charcoals from the grave (Alessio *et al.*, 1969).
- 9.3 -

10. Vatte di Zambana 1 (L).

- 10.1 Female (cranial morphology, limb bone dimensions).
- 10.2 Middle-aged adult (suture closure, dental wear).
- 10.3 Neurocranium (i), face (d), mandible (i), vertebrae cocc. (2i), clavicles (f/ff), humeri (f/d), radii (f/f), ulnae (f/f), carpals (4i/7i), metacarpals (2i/3i), phalanges (13i/10i), femora (d/f), patellae (f/i), tibiae (f/f), fibulae (d/f).

10.4

r											l						
8	7	X	?	X	?	X	X	X	X	?	X	?	6	7	8		
X	7	6	5	4	3	2	1	1	2	3	4	5	6	X	8		

- 10.5 Fractures of the distal third of right ulna and radius healed with deformations; pseudoarthrosis of the left elbow joint resulting from fracture of the olecranon. Ante mortem tooth loss (Corrain *et al.*, 1976).
11. Corrain *et al.*, 1976.
12. Corrain *et al.*, 1976.
13. Museo Tridentino di Scienze Naturali, via Calepina 14, 38100 Trento.
14. -
15. Alessio M., Bella F., Cortesi C. and Turi B. 1969. University of Rome Carbon-14 dates VII. *Radiocarbon 11*: 482-498.

Broglio A. 1973. L'epipaleolitique de la vallée de l'Adige. *L'Anthropologie 77*: 5-34.

Broglio A. 1984. Paleolitico e Mesolitico. In: *Il Veneto nell'Antichità*. Banca Popolare di Verona.

Corrain C., Graziati G. and Leonardi P. 1976. La sepoltura epipaleolitica nel riparo di Vatte di Zambana (Trento). *Preistoria Alpina 12*: 175-212.



VENERI

F. Mallegni.

1. Grotta delle Veneri.
 2. Cave east of Tuglie, Parabita (Lecce). 40° 04' 11" N, 18° 05' 45" E.
 3. Discovered by G. Piscopo in 1966; excavations by A.M. Radmilli began in 1967.
 4. Cave formed of a main chamber and two side tunnels (north and south). There is now an outer semi-circular shelter, created by collapse of the vault (Cremonesi *et al.*, 1972).
 5. Veneri 1 and Veneri 2: double burial dated to Early Epigravettian. Upper parts of skeletons destroyed due to Neolithic excavation of a pit, located at end of cave near entrance to north tunnel, partly excavated in a natural depression of the rocky bed and partly in the deposit itself. Grave is elliptical in shape, formed of yellowish-brown soil, with a few lithic artifacts and faunal remains. Ornaments consists only of a pebble on the pelvis of Parabita 2 and a fragment of flint covered with ochre. On the wall of the grave where the head of Parabita 2 probably rested, 29 perforated deer canines were found, covered with ochre and arranged in two rows. (Palma di Cesnola, 1993).
 6. Latest Würm III (Sala, 1983).
 7. Very complex stratigraphic series ranging from Middle Paleolithic, Late Epigravettian (Romanellian), Neolithic to Bronze Age. Graves are excavated in Gravettian layers (Cremonesi G., 1987).
 8. *Hyena, Equus, Bos* (Sala, 1983).
 - 9.1 -
 - 9.2 -
 - 9.3 -
 - 10. Veneri 1** (*, L, PC).
 - 10.1 Male (size and features of pelvis).
 - 10.2 Adult (mature bone).
 - 10.3 V lumbar vertebra (i), sacrum (d), hip bones (d/d), femora (d/d), patellae (i/i), tibiae (d/i), fibulae (i/i), tarsals (7i/6i), metatarsals (5i/5i), 13 toe phalanges.
 - 10.4 -
 - 10.5 Osteophytes on V lumbar vertebra (grade II-III) due to vertebral osteochondrosis.
 - 10. Veneri 2** (*, L, PC).
 - 10.1 Female (pelvis).
 - 10.2 Adult (pubic symphysis; mature bone).
 - 10.3 Vertebrae t. (XI and XII) (i), l. (5: 3i, 2d), sacrum (d), hip bones (d/-), femora (i/i), patellae (d/i), tibiae (i/i), fibulae (i/i), tarsals/ (i/i), metatarsals (i/i), 12 toe phalanges.
 - 10.4 -
 - 10.5 Osteophytosis on upper right margin of XI thoracic vertebrae (grade III-IV of Brothwell) and third lumbar vertebra (grade IV). The latter has a halfmoon-shaped cavity and remodelling of surface, due to ankylosing spondylitis. Main joints show traces of osteoarthritis. Both skeletons have a bony spur at point of attachment of crural quadratus muscle, due to ossification of muscle after repeated trauma. Femoral and tibial shafts show traces of blood vessels.
- Note: Veneri, no number, fragments of skull, post-cranial bones (phalanges and metacarpals) and isolated teeth (Cremonesi *et al.*, 1972; Orban, 1988; Mallegni e Bertoldi, 2000).
11. Cremonesi *et al.*, 1972; Mallegni and Bertoldi, 2000.
 12. -
 13. Università di Pisa, Dip. di Scienze Archeol., Sez. di Paleontol. Umana, via S. Maria 53, Pisa.
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VENOSA, NOTARCHIRICO

F. Mallegni.



1. Venosa (Notarchirico).
 2. Open-air site, 20 km from Venosa (near Potenza, Basilicata). 4° 58' 02" N, 15° 53' 14" E.
 3. Discovered in 1979, after identification by Istituto di Paleontologia Umana and the Soprintendenza Speciale al Museo Nazionale Preistorico Etnografico L. Pigorini. Excavations carried out from 1980 to 1985 by both above institutions and later followed by the Soprintendenza Speciale, under the direction of M. Piperno. In September 1985, the shaft of a human femur (Venosa 1) was found.
 4. Open-air site, inside Venosa Pleistocene basin (Piperno and Segre, 1982).
 5. -
 6. Middle Pleistocene (Belli *et al.*, 1991).
 7. The Lower Palaeolithic stratigraphic sequence is composed of layers Alfa, A, B, C, D, E, E1, F, F1, G, G1 and H. Above layer Alfa, the femoral shaft of an adult female (Venosa 1) was found, together with lithic industry composed of pebble artifacts, and mainly flint flakes. Layers B, D, F and F1 yielded bifaces, principally in quartzite and flint. Many faunal remains were also recovered and from their spatial arrangement and that of the stone tools two inhabited levels were recognized, Alfa and E1, and a butchering area above layer B (Belli *et al.*, 1991).
 8. Fauna: *Elephas antiquus*, *Dama clactoniana*, *Megaceros solilbacus*, *Cervus elaphus*, *Bos primigenius*, *Bison schoetensacki*, *Dicerorhinus* sp., *Sus scrofa*, *Microtus* gr. *arvalis-agrestis*, *Apodemus* sp., *Phomys episcopalis*, *Microtus nivalis*, *Microtus (Terricola)* sp., *Arvicola terrestris*. Flora: palynological analysis of layers A and C indicates an open environment, with a few trees (pine, white spruce, holm-oak, deciduous oak, ash, nut) (Belli *et al.*, 1988; Cattani, 1991; Sala, 1991).
 - 9.1 -
 - 9.2 A bovine tooth from layer Alfa gave an age of 0.5 million years BP (margin of error: 25-30%) (isoleucine epimerization method). Thermoluminescence on volcanic sand covering layer Alfa gave dates of 263000 ± 42000 years BP, and on the coarse pyroclastic sand between layer E1 and underlying layer F 753000 ± 60000 BP. The chronostratigraphy of the Venosa basin was re-examined (Belluomini, 1985; Lefevre *et al.*, 1991).
 - 9.3 -
 10. **Venosa 1** (*, L).
 - 10.1 Female (size and robusticity).
 - 10.2 Adult (mature bone).
 - 10.3 Femur (f/-), between surgical neck and popliteal plane (excluded).
 - 10.4 -
 - 10.5 Periostitis, probably due to a deep wound in the thigh which caused generalized infection in the periostium.
 11. Belli *et al.*, 1991; Orban, 1988; Mallegni *et al.*, 1991; Piperno *et al.*, 1990.
 12. Belli *et al.*, 1991; Mallegni *et al.*, 1991.
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VILLABRUNA

G. Alciati and V. Formicola.

1. Villabruna.
2. Rock-shelter, 500 m above sea level on the left side of Val Schenèr at the confluence of Rosna and Cison streams, Sovramonte (Belluno). 46° 05' 02" N, 11° 46' 02" E.
3. A. Broglio and A. Villabruna, 1988, May 30, 1988.
4. Glacial debris (Aimar *et al.*, 1994).
5. Burial (cut 17) with skeleton lying in supine position. Grave goods include bone and flint objects and a lump of resin, of wax (propolis) and of ochre. The grave was covered with painted stones (Broglio and Villabruna, 1991; Broglio, 1992; Aimar *et al.*, 1994).
6. Late Pleistocene; Bølling (Aimar *et al.*, 1994).
7. Late epigravettian lithic industry (Aimar *et al.*, 1994).
8. *Capra ibex*, *Rupicapra rupicapra*, *Cervus elaphus*; *Pinus sylvestris/montana* (Aimar *et al.*, 1994).
- 9.1 12140 ± 70 BP (KIA 27004), based on direct AMS radiocarbon date.
- 9.2 Based on ¹⁴C dates of charcoals from the burial level (cut 17): 12040 ± 150 BP (R-2023) (Aimar *et al.*, 1994).
- 9.3 -

10. Villabruna 1 (*)

- 10.1 Male (pelvic and cranial morphology)
- 10.2 Young-adult (suture closure, bone histology).
- 10.3 Neurocranium (i), face (i), mandible (i), scapulae (f/f), clavicularae (i/i), sternum (f), ribs (d-f), vertebrae c. (7i-d), t. (12i-d), l. (5i-d), sacrum (i), humeri (i/i), ulnae (i/i), radii (i/ff), carpals (6i/6i), metacarpals (4i/4i), phalanges (9i/13i), hip bones (i-d/i-d), femora (d/f), patellae (-/i), tibiae (f/ff), fibulae (ff), tali (d/-).
- 10.4

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	8	7	6	5	4	3	2	1	X	2	3	4	5	6	7	8	
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	

- 10.5 Caries on M₃ and bilateral os acromiale (Alciati *et al.*, 1993; Aimar *et al.*, 1994). Porotic hyperostosis, spondylolysis on L5.
11. Alciati *et al.*, 1993; Aimar *et al.*, 1994.
12. Alciati *et al.*, 1993; Aimar *et al.*, 1994.
13. Belluno Museum. Temporarily: Dip. di Biologia, Univ. degli Studi di Padova, Via U. Bassi 58/B, 35131 Padova.
14. Burial cast: Museo di Anatomia Umana, Università di Torino, Corso M. d'Azeglio 52, I-10126 Torino.
15. Aimar A., Alciati G., Broglio A., Castelletti L., Cattani L., D'Amico C., Giacobini G., Maspero A. and Peresani M. 1994. Les abris Villabruna dans la vallée du Cismòn. *Preistoria Alpina* 28: 227-254.

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VISOGLIANO

F. Mallegni.



1. Visogliano
2. Rock shelter at Visogliano, located on slopes of a small dolina at 102 m asl, near Duino-Aurisina (Trieste), Friuli Venezia-Giulia. 13° 38' 53" N, 45° 43' 29" E.
3. The finding was first visited by G. Bartolomei (1970); 1974, report on rock shelter (unit A) in which fragments of bone and flint flakes were found; 1975-76, other reports; 1976-1980, more extensive excavations in collaboration with Istituto di Antropologia e Paleontologia Umana, University of Pisa; 1983, finding of Visogliano 1 and a second deposit (unit B) a few metres away; 1984, excavations begun on second deposit, called "Breccia"; 1985, finding of Visogliano 2; 1992-1993, work on unit A brought to light Visogliano 4, 5 and 6; 1996, Visogliano 3 found. Work still in progress.
4. The dolina containing the rock shelter is the remain of an ancient karst system in which 3 stratigraphic units are identified. Layers in which human bones were found are: - unit B, formed of cemented breccia composed of fragments of limestone and stalagmite, with coatings of hyaline calcite in cracks. The roof of the outcrop is eroded. - unit A, inside the shelter, formed of alternating eolian deposits and layers of limestone stone and rubble, of cryoclastic origin. Although contacts between units A and B are not evident, their arrangement in the dolina and their diagenesis indicate that unit A is probably later than unit B (Abbazzi *et al.*, 2000; Bartolomei and Tozzi, 1979a; Bartolomei and Tozzi, 1979b; Mallegni and Tozzi, 1986).
5. -
6. Middle Pleistocene (Abbazzi *et al.*, 2000; Cattani *et al.*, 1991; Mallegni and Tozzi, 1986).
7. Unit A yielded remains of macro- and microfauna, microlithic industry of poor-quality flint, and human bones (Vis. 3, Vis. 4, Vis. 5, Vis. 6). Unit B yielded lithic industry, mainly of local limestone and poor-quality flint; remains of some macrofauna and a few remains of microfauna; pollens; human bones (Vis. 1, Vis. 2) (Abbazzi *et al.*, 2000; Cattani *et al.*, 1991; Mallegni and Tozzi, 1986; Tozzi, 1978-81).
8. Unit A, macrofauna: *Cervus elaphus* cf. *Acoronatus*, *Capreolus capreolus*, *Dama dama* and *Megaceros*, including a few remains of *Equus*, *Bison* sp. *Bison* and *Dicerorhinus* cf. *Etruscus-hemioechus*, *Ursus deningeri*, *Vulpes* sp. *Vulpes* and *Mustelidae*. Also a large caprid (*Hemitragus bonali* or *Ovis ammon*). Microfauna: *Ochotona*, *Microtus gregalis*, *Microtus* gr. *agrestis-arvalis*, *Cricetus cricetus*, *Allocrietus bursae*, *Dolomis bogdanovi*, *Microtus nivalis*. Unit B, macrofauna: fragments of *Cervus elaphus*, *Dama dama*, *Capreolus capreolus*, *Bison bison*, *Sus scrofa*, *Dicerorhinus etruscus*, *Martes*, *Meles*, *Ursus deningeri*, *Canis lupus*. Small mammals: *Arvicola*, *Microtus* gr. *agrestis/arvali*, *Sorex*. Flora: Unit A does not contain pollens (probably lost after changes in climate); Unit B contains many pollens typical of mixed conifer forest (*Picea*, *Abies*, *Taxus*, *Pinus*). Deciduous species are: *Quercus*, *Corylus*, *Carpinus*, *Alnus*, *Tilia*, *Fagus*, *Celtis*, *Fraxinus*, *Betulla*, *Castanea* (Abbazzi *et al.*, 2000; Bartolomei, 1982; Bartolomei and Tozzi, 1979; Cattani *et al.*, 1991; Mallegni and Tozzi, 1986; Tozzi, 1984a, b).
- 9.1 -
- 9.2 -
- 9.3 Visogliano industry shows similarities with that of layer B of Anagni, dated at 485000 years BP (K/Ar) (Segre and Biddittu, 1981).
- 10. Visogliano 1** (fig. 1) (*, L).
- 10.1 Undetermined.
- 10.2 Adult (dental development).
- 10.3 Right M³ with complete crown and a proximal quarter of roots.
- 10.4 -
- 10.5 -
- 10. Visogliano 2** (fig. 2) (*, L).

- 10.1 Undetermined.
 10.2 Adult (sockets of permanent teeth).
 10.3 Mandible (f/ff).
 10.4

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-	X	R	R	X	X	X	X	X	X		-	-	-	-	-	-	-		-

- 10.5 Initial bone proliferation on median wall of socket of second molar may indicate ante-mortem loss of tooth.

10. Visogliano 3 (fig. 3) (*, L).

- 10.1 Undetermined.
 10.2 Adult (dental development).
 10.3 Right M² with complete crown, labial roots lost, lingual root complete.
 10.4 -
 10.5 -

10. Visogliano 4 (fig. 4) (*, L).

- 10.1 Undetermined.
 10.2 Adult (dental development).
 10.3 Left P¹ with: complete crown, two roots joined along one-third of their length, one-third of vestibular root missing and half the lingual root missing.
 10.4 -
 10.5 Thick layer of calculus on neck of lingual face.

10. Visogliano 5 (fig. 5) (*, L).

- 10.1 Undetermined.
 10.2 Adult (dental development).
 10.3 Left P² with complete crown, a single root with two deep furrows, as if it were about to split into two.
 10.4 -
 10.5 Calculus around neck on lingual side of tooth; traces of enamel hypoplasia.

10. Visogliano 6 (fig. 6) (*, L).

- 10.1 Undetermined.
 10.2 Adult (dental development).
 10.3 Right M¹ with complete crown, mesial root lost, half distal and lingual roots preserved.
 10.4 -
 10.5 -

11. Abbazzi *et al.*, 2000; Cattani *et al.*, 1991; Orban, 1988; Mallegni e Tozzi, 1986; Mallegni *et al.*, 2002; Mallegni, in press.
 12. Mallegni and Tozzi, 1986; Cattani *et al.*, 1991.
 13. Temporarily c/o Dipartimento di Scienze Archeologiche, Università di Pisa; will later be conserved in Soprintendenza per i Beni Ambientali, Architettonici, Archeologici, Artistici e Storici del Friuli Venezia Giulia, Trieste.
 14. -
 15. Abbazzi L., Fanfani F., Ferretti M. P., Rook L., Cattani L., Masini F., Mallegni F., Negrino F. e Tozzi C. 2000. New human remains of archaic *Homo sapiens* e Lower Palaeolithic industries from Visogliano (Duino Aurisina, Trieste, Italy). *Jour. Arch. Sc.*, 27-12: 1173-1186.

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NOTES

E. Vacca.

In the Notes are reported remains whose signalations aren't sufficient to compile a card, or remains that were excluded from the chronological extent of the Catalog on the basis of recent analyses or observations. We reported, moreover, two sites in which fossil human footprints were observed.

FARNESINA

Skull-cap discovered in 1955 during the excavation of the tunnel of the railway Maccarese - Roma, (Blanc A.C., 1956). The finding is reported in "Catalogue of Fossil Hominids" (Sergi et al. 1971). According to the morphology it dates back to the Modern Age (fide F. Mallegni).

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Sergi S., Cardini L. and Leonardi P. 1971. Catalogue of Fossil Hominids, part II: Europe, Italy. Oakley K.P., Campbell B.G. and Molleson T.I. Eds, Trustees of the British Museum (Nat. History), London.

GROTTA DEL CAPELVENERE

Grotta del Capelvenere is found near S. Caterina di Nardò (Lecce) on the limestone slope, 16 m above sea level, not far from Torre dell'Alto and Baia di Uluzzo.

During the excavations conducted by E. Borzatti von Löwenstern in 1975, was found a first adult upper right molar, possibly neanderthal. The tooth, found in level H of the debris filling, was associated to a Mousterian industry (Capasso, 1981).

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OLMO

The human skull found at Olmo, near Arezzo on the Via Cassia (Tuscany, Italy) in 1863, represents one of the most famous hominid fossils described in the paleoanthropological literature during the second half of the 19th century. The skull was found in gravels during the digging up of the Florence-Rome railway line. A detailed description was published by Iginio Cocchi in 1867. The fossil was the subject of a hot debate during several sessions of the *Société d'Anthropologie de Paris*. A flint implement found near the skull was first compared to those found at Abbeville, then classified as Mousterian. The Olmo skull was described by the Quatrefages and Hamy in their classical treatise *Crania Ethnica* (1882) as a female skull of Constatt (Neandertal) "race". During the 1940s and 1950s, attention was drawn again to the Olmo skull because of its modern characteristics, to support the "presapiens hypothesis". The Olmo remains were still quoted in the 1971 edition of the *Catalogue of Fossil Hominids*.

A ^{14}C dating of a small fragment by the ANSTO Laboratory, Menai, Australia, gives a date (1402 BC \pm 809) consistent with its modern morphology and suggests attribution to the Late Bronze Age (Mallegni and Giacobini, 1988).

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PORTALBERA

Frontal bone from the site of Portalbera in the alluvial Quaternary deposit of Pavia characterized by Middle and Upper Pleistocene fauna and Paleolithic stone tools.

Spectrometric gamma dating of Pa 231/U 235 gives a Late Würmian age of about 19900 year BP. This small sample exhibits general robust features, relatively developed supraorbital region and rounded squama; the specimen fits in the female samples of Upper Palaeolithic European human remains.

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PRAIA A MARE

In 1966 the complete skeletons of an infant aged about 1 year and a new-born (Praia a Mare 1 and 2) were found by L. Cardini in Grotta del Santuario della Madonna at Praia a Mare, Cosenza, on the Calabrian coast between Sapri and Scalea (39° 53' N, 15° 47' E). The industry associated with the burials was Mesolithic with few geometric but many denticulate forms. The level below the burials was dated 9070 \pm 80 BP (R-188) (charred bones).

Praia a Mare 1 and 2 are in the Museo Archeologico Nazionale, Reggio Calabria.

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RAPOLANO

Cranium discovered in 1956 in the travertine quarry of Serre di Rapolano (Siena). It is a juvenile female of modern morphology, attributed to Late Pleistocene or Holocene. The cranium is reported in "Catalogue of Fossil Hominids", (Sergi et al. 1971) and it is housed in the Anthropologisches Institut der Universität, Zurich, Switzerland.

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RIPARO MEZZENA

Reported in "Catalogue of Fossil Hominids" (Sergi et al., 1971). Fragments of parietale and occipitale, and a mandibula, were found in 1957 during excavations directed by F. Zorzi at Mezzena rock-shelter (45° 29' N, 10° 59' E) near Avesa, Verona. The hominid remains came from layer 1 with mixed Pleistocene and Holocene fauna; pottery mixed with Mousterian industry were found in the same layer. The remains are in Museo Civico di Storia Naturale di Verona, Lungadige di Porta Vittoria 9, Verona.

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ROCCAMONFINA

Human fossil footprints were observed in the spring of 2002 by Adolfo Panarello and Marco de Angelis near Foresta (Tora e Piccilli, Caserta) on a volcanic rock slope.

The footprints were later on described by Paolo Mietto (Università di Padova), Marco Avanzini (Museo Tridentino di Scienze Naturali) and Giuseppe Rolandi (Università Federico II di Napoli), (Mietto et al., 2003).

The footprints are imprinted on the surface of a pyroclastic flow part of the geological unit of Tufi Leucitici Bruni (Roccamonfina volcano) aged between 385.000 and 325.000 years. The footprints might be ascribed to small size individuals (about 150 cm tall), show a raised foot arch and traces of the heel and fingers; traces of the hands, used for balance on the steep and uneven slope, are present.

References.

Mietto P., Avanzini M. and Rolandi G., 2003. Human footprints in Pleistocene volcanic ash. *Nature*, 422: 133.

TANA DELLA BASURA

Cave found at 183 m asl near Toirano, 4 km from Borghetto Santo Spirito on the road to Bardinato (Savona). 44° 07' N, 8° 12' E.

Clay pats on the walls and charred stubs of pine torches on the clay floor, interpreted as ritual evidences, were found. Human knuckle, knee and foot prints were also found. *Ursus spelaeus* abundant, at least one bear paw-print overlies a human foot-print. ¹⁴C dated at 12340 ± 160 BP (GrN-5007) using charcoal fragments.

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Plates

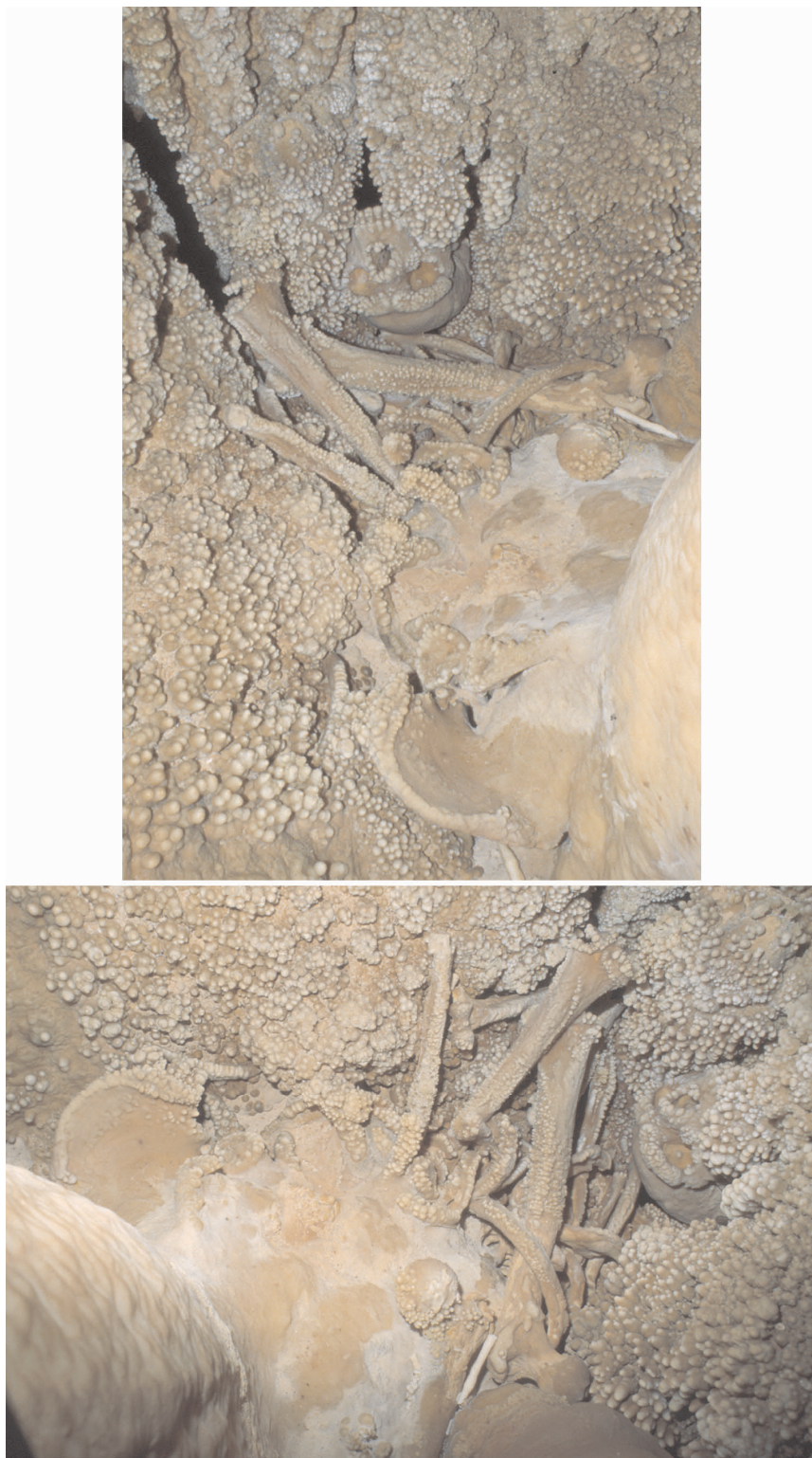


Plate 1 - Altamura, the human remains in situ (front and top views), (Soprintendenza Archeologica della Puglia - Università di Bari; photographs by E. Vacca).



Plate 2 - Altamura, the cranium (front and rear views; the latter were obtained by micro video-cameras), (Soprintendenza Archeologica della Puglia - Università di Bari; photographs by E. Vacca).

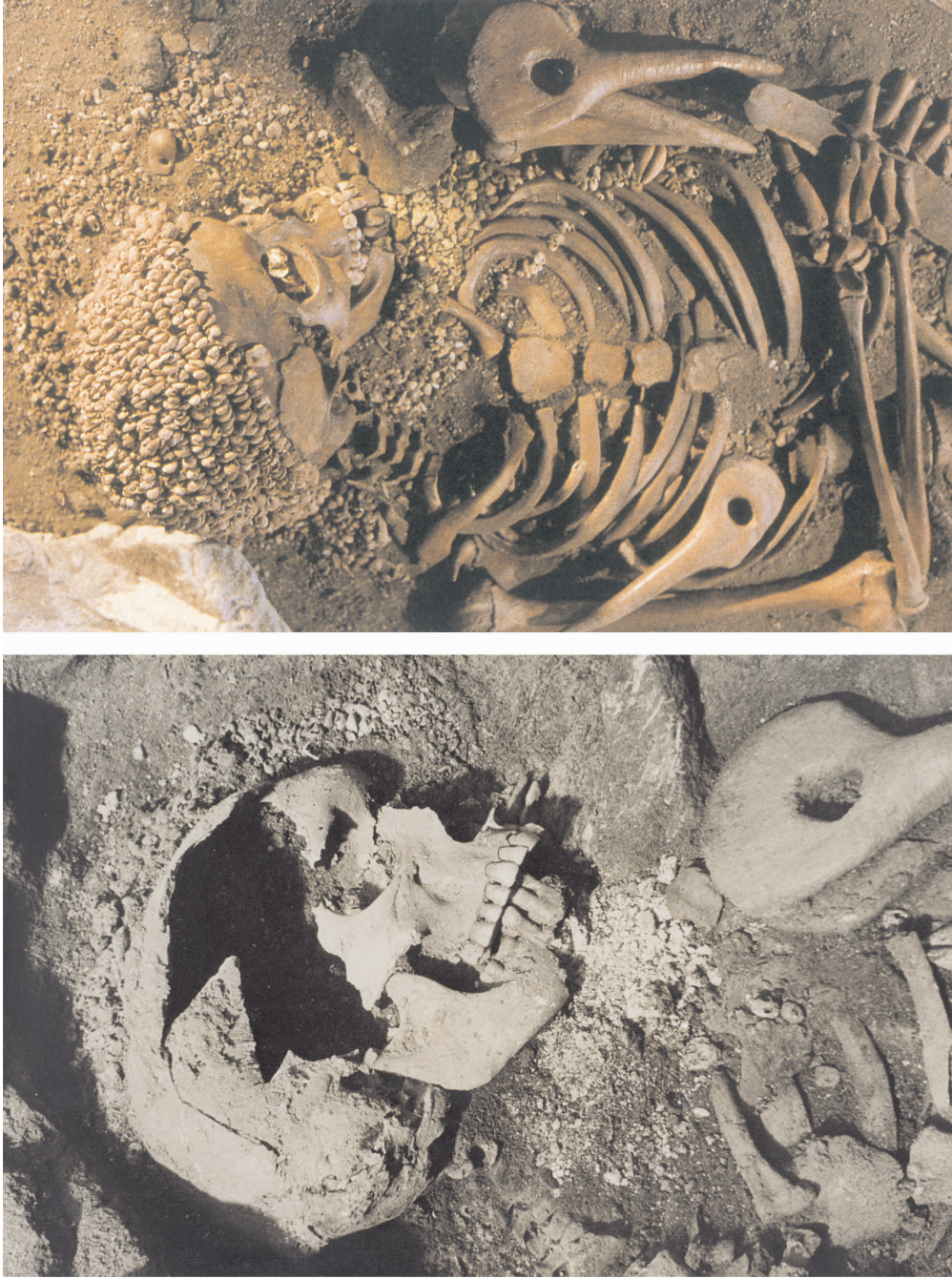


Plate 3 - Arene Candide 1, close up view of "Il Principe" at the time of the discovery (Soprintendenza per i Beni Archeologici della Liguria), and today's museum arrangement (O. Levati).



Plate 4 - Arene Candide 8 (Tomb VIII) (left), reconstructed cast, the chest of the child is ornamented with squirrel tails (Museum of Human Anatomy, University of Torino). Grotte des Enfants 5 and 6 (right): the double burial of the "Negroids" in the original position (cast) (Musée d'Anthropologie préhistorique de Monaco).

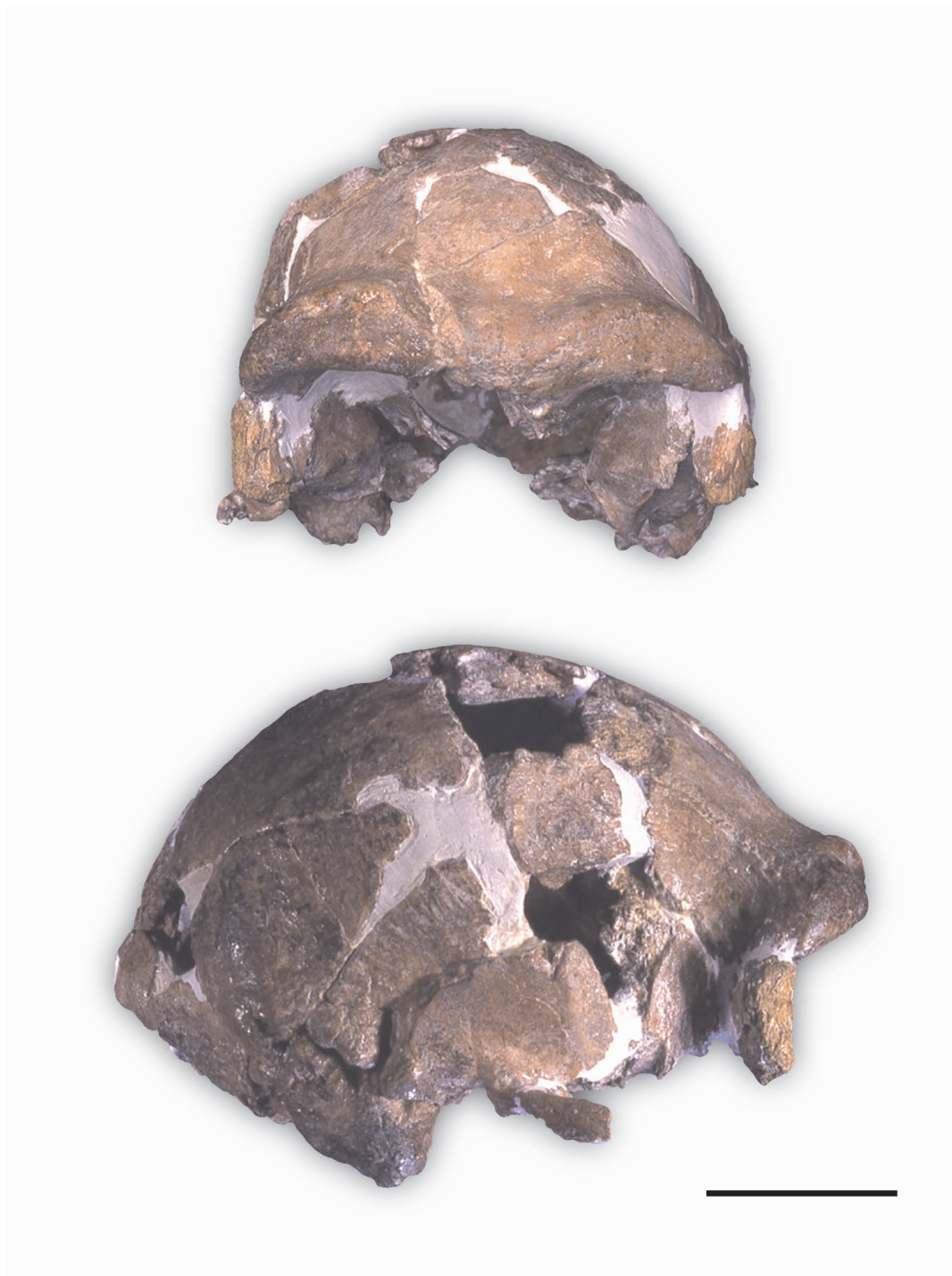


Plate 5 - The Ceprano calvarium, frontal and lateral views (Istituto Italiano di Paleontologia Umana, with permission of the Soprintendenza Archeologica per i Beni Archeologici del Lazio); scale bar, 5 cm.

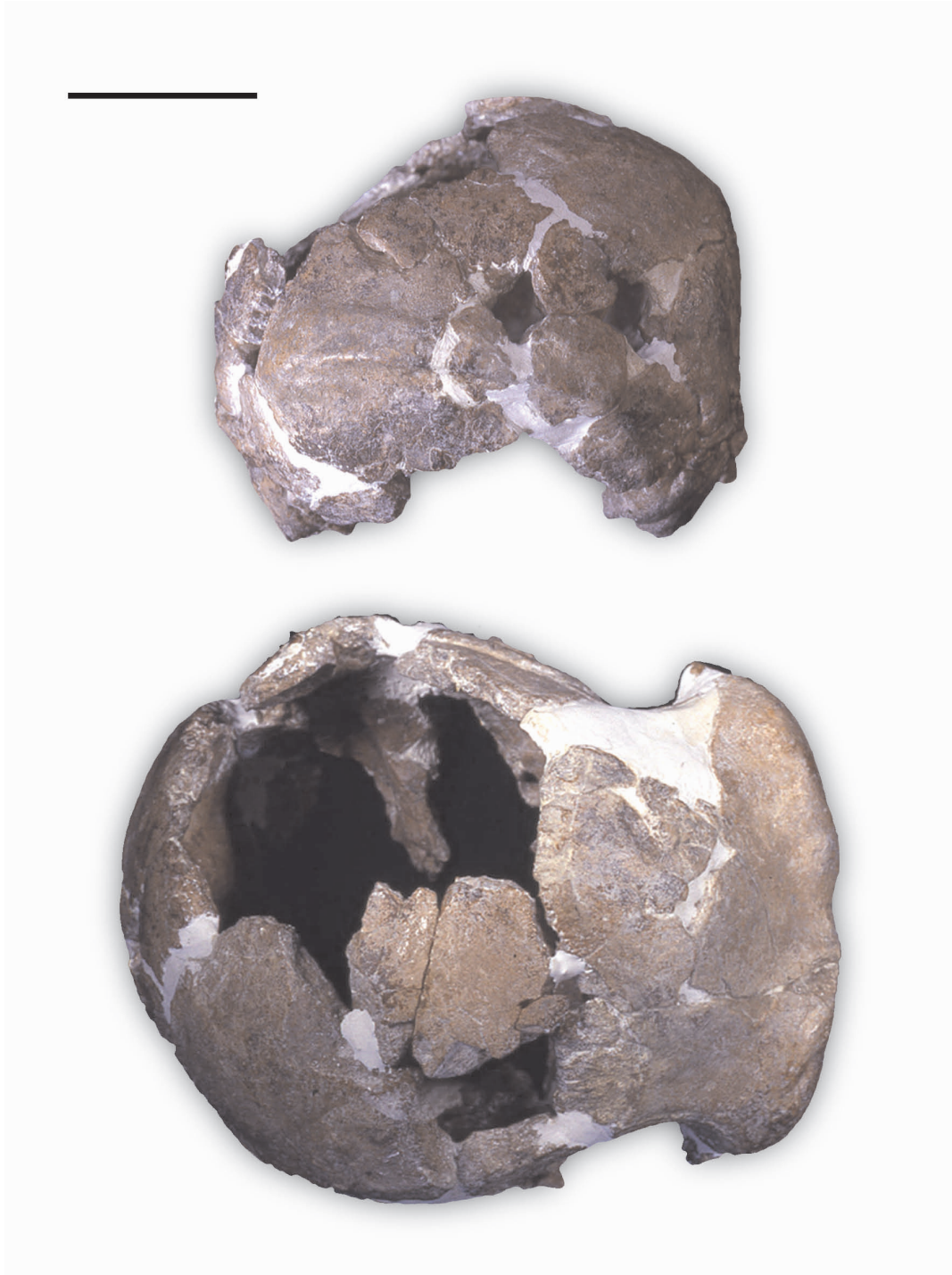


Plate 6 - The Ceprano calvarium, occipital and superior views (Istituto Italiano di Paleontologia Umana, with permission of the Soprintendenza Archeologica per i Beni Archeologici del Lazio); scale bar, 5 cm.



Plate 7 - Continenza 7, cast of the burial (left); Romito 1 and Romito 2, cast of the double burial (right)
(Museum of Human Anatomy, University of Torino).



Plate 8 - The Monte Circeo cranium (Guattari 1), frontal and lateral views (Museo Nazionale Preistorico Etnografico L. Pigorini Roma EUR; used with the permission of the Ministero per i Beni e le Attività Culturali).



Plate 9 - The Monte Circeo cranium (Guattari 1), occipital and superior views, (Museo Nazionale Preistorico Etnografico L. Pigorini Roma EUR; used with the permission of the Ministero per i Beni e le Attività Culturali).



Plate 10 - Mondeval de Sora 1, frontal and lateral views (A. Guerreschi - Università di Ferrara).



Plate 11 - Ostuni 1, the burial and the skull during the excavations (Museo di Civiltà Preclassiche della Murgia Meridionale - Ostuni).



Plate 12 - Ostuni 1, the maternal pelvic area with the foetal remains "in situ", during the excavations (above); restored foetal mandible (below), (Museo di Civiltà Preclassiche della Murgia Meridionale - Ostuni).

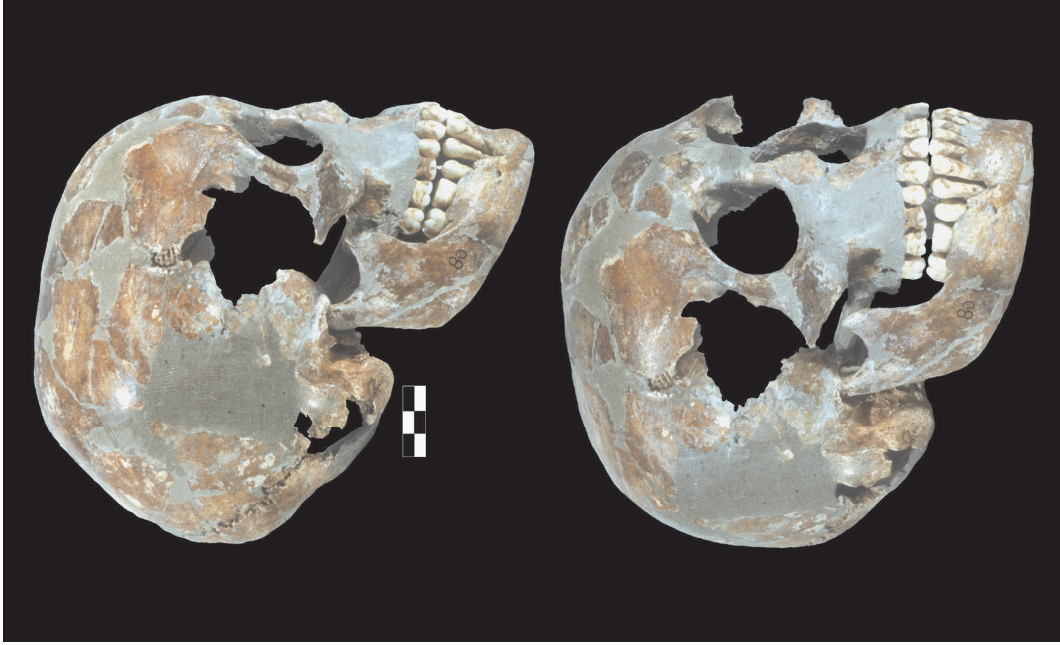
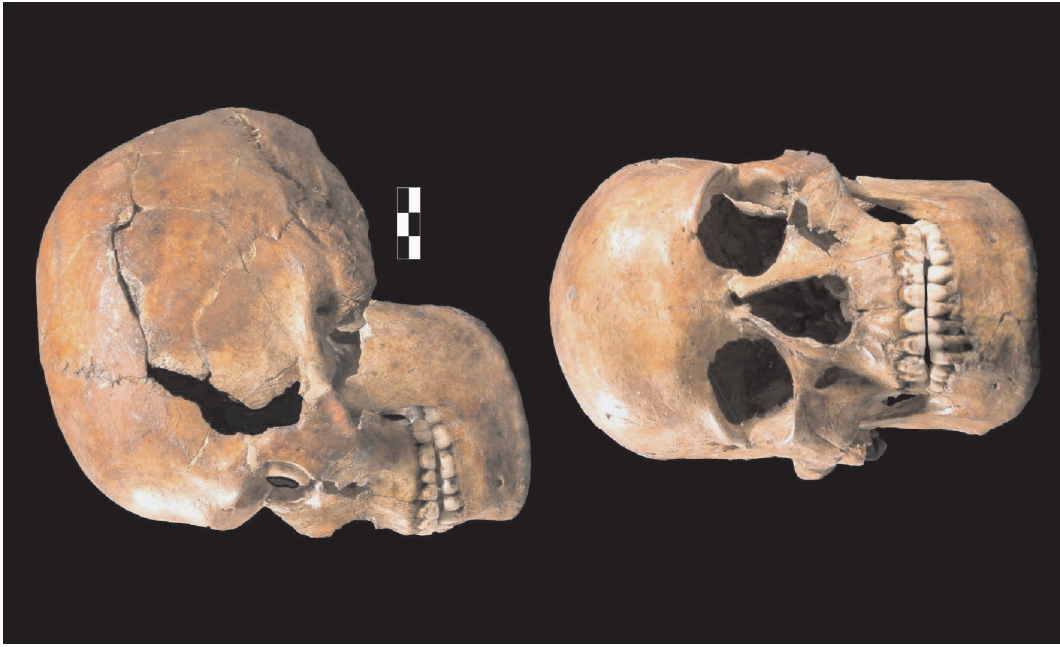


Plate 13 - The young female (Paglicci 25) (left) and the adolescent (Paglicci 12) (right), from Grotta Paglicci (Courtesy Dip. Scienze Ambientali, Sez. Ecologia Preistorica, Via della Cerchia, 5 - Università degli Studi di Siena; photographs, S. Ricci).



Plate 14 - The burials of Paglicci 25 with close up view of the skull (left) and Paglicci 12 (right), during excavations (Courtesy Dip. Scienze Ambientali, Sez. Ecologia Preistorica, Via della Cerchia, 5 - Università degli Studi di Siena; photographs, S. Ricci).



Plate 15 - Saccopastore 1, frontal and lateral views (Museo di Antropologia "G. Sergi" - Dipartimento di Biologia Animale e dell'Uomo - Università di Roma "La Sapienza").



Plate 16 - Villabruna 1, frontal and lateral views (Courtesy of A. Broglio - Università di Ferrara; photographs by G. Vercellotti - Università di Pisa).



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