



FRANCESCO MALLEGNI

## SOME CONSIDERATIONS FOR THE SKELETAL REMAINS OF THE UPPER PALAEOLITHIC *HOMO S. SAPIENS* IN ITALY

**ABSTRACT:** *The abundant skeletal material of Italian Upper Palaeolithic age is presented in this paper. The cranial morphology falls into the Crô-Magnoid type and does not show any character that could remind the Neandertalian typology. New studies on the specimens discuss some old theories still accepted by contemporary Italian authors. We exclude the presence of the Combe-Capelle type and we think that the gracilization observed for the samples belonging to the final Upper Palaeolithic is probably due to sedentarization and to poor nutrition.*

**KEY WORDS:** *Italian fossils – Gravettian*

### INTRODUCTION

It is well known that in some parts of Italy Uluzzian lithic industries were found, which seem to contribute to the general phenomenon that caused the Chatelperronian in France (Palma di Cesnola 1965-66, 1989). In the second half of this century a hypothesis has appeared: that the Chatelperronian lithic industry had come from the Mousterian (Leroi-Gourhan 1956). The recovery of the obviously Neanderthalian skeleton from Saint-Césaire (Leveque, Vandermeersch 1980) into Chatelperronian layers which are following – from the lower to the upper one – the Mousterian, can be used as part of the evidence we have for this hypothesis.

In Italy Uluzzian human remains are represented only by two permanent molars which have been found in the Grotta del Cavallo (Messerli, Palma di Cesnola 1976). The study of these remains has clarified the archaic characteristics which are generally found in the populations of the Lower and Middle Palaeolithic period of Europe: foveae; cingulum

(at least in one tooth)(Mallegni, Sozzi, in print). So, we could suppose that the Uluzzian remains, dated by C14, are more than 31,000 years old (Palma di Cesnola 1975, Messeri, Palma di Cesnola 1976) and that they belong to archaic people (*Homo s. neanderthalensis?*).

The above dating is very important because the Uluzzian and the human remains of the Grotta del Cavallo, are placed in a considerably late period. Indeed, in Eastern Europe, there had been Aurignacian lithic industries since a long time, which usually have been attributed to the "modern humans" (*Homo s. sapiens*) though no human remains have been found for the earlier phases of these industries. We can refer to two examples for the Aurignacian which were dated between  $42,350 \pm 1,900$  and  $37,850 \pm 900$  B.P. in Installosko (Hungary) and 41,000 B.P. at Bacho-Kiro in Bulgaria (Broglia, Kozłowski 1987).

Until now, we have no dates of this period in Italy. However, in the Grotta di Castelcivita (Salerno) the Proto-Aurignacian level is represented by small backed blades

(facies Dufour) which could be attributed to *Homo s. sapiens*, and are dated to  $30,980 \pm 720$  years B.C. (Gambassini 1982) (unless we find Neanderthalian remains which can be connected with this industry).

It is also possible that in Italy and in other European sites, these subspecies co-existed in a late phase (e.g. in Piage and in Roc de Combe in France); here, the Chatelperronian and Aurignacian layers document that the last Neanderthalian groups and the first *Homo s. sapiens* were contemporaries and inhabited sites with in the same region (Demars, Hublin 1989). Thus, the subspecies *Homo s. sapiens* could not have originated from the former one (Neanderthalians) (Gambier 1989).

The oldest remains of *Homo s. sapiens* which date back approximately to more than 90,000 years B.P. (Valladas *et al.* 1988) have been found in Skhull and Qafzeh (Israel). They have been considered as Proto-Cromagnoids (Vandermeersch 1981).

When the first remains of *Homo s. sapiens* were found in Western Europe, they were the Crô-Magnons, whose distinctive characters are the following: the skull is elongated, voluminous and considerably ovoid-pentagonoid; the vault is low (but higher when compared to Neanderthalians); the frontal bone is rather vertical; the occiput is prominent; the parietal eminencies are higher and evident; the occipital contour is house-like, the face is broad, basically low and orthognathe; the superciliary arches and the supra-orbital borders are divided; the orbitals are of various forms, but generally low and subrectangular; the nose is narrow and prominent with a slightly raised profile; the infra-malar region is well marked; the canine fossa is deep; and the chin is prominent.

The postcranial bones have well marked muscular insertions, but the general structure is gracile when compared to archaic characters and the volume of the bones of the Neanderthalians, which have a more robust appearance and voluminous epiphyses in the long bones of the extremities. The stature is very often considerably high; in fact, nearly all the individuals are taller than the modern European average (Parenti 1971).

There is a certain variability in the form and the dimensions, when considered from the point of view of modern morphology. Thus, the so-called "old man of Crô-Magnon" being considered the typical representative of the group, now has, at least at the cranial level, features which place him in one extreme position of the Crô-Magnoid variability.

About the skull of these first *Homo s. sapiens* also archaic traits may be distinguished, which are never in accordance with Neanderthalian apomorphies (Gambier 1989). It is very well known that a certain individual variability, completely normal, can be observed in all human groups, even in the most homogeneous ones.

We must avoid to think that this variability permits the presence of several human types (though this hypothesis can be found in several Italian anthropological papers), as we will see later.

## THE ITALIAN HUMAN SAMPLES

The human skeletal remains of Italy are the richest for the Upper Palaeolithic period. The skeletons, more or less complete, that have been found in primary burials and studied or described in preliminary reports, are 48. The Aurignacian-Gravettian ones are 18 (if we count the foetus of the pregnant woman found in the Grotta di S. Maria di Agnano in Ostuni – Vacca *et al.* 1992). The remaining 30 skeletons belong to the Recent Epigravettian period.

The oldest human remains are those of Grotta del Fossellone (a maxilla and a scapula – Mallegni, Naldini-Segre 1992). The maxilla is very fragmented but the alveolar process is low, so there is an impression of a low facial appearance which reminds of a Crô-Magnoid one. The teeth are robust and their morphology is modern, as well as that of the scapula. The morphology of these two remains is not random and thus permits to exclude the presence of Neanderthalians.

The excavations which led to the discovery of the Balzi Rossi (Grimaldi) skeletons, (Riviere 1873, 1879, 1887, Verneau 1892, Villeneuve *et al.* 1906) do not offer any certain dating, because they are very old (of the late 19th and the early 20th centuries), however, some of them could be referred as belonging to the Aurignacian period (Palma di Cesnola 1993). The oldest are the following: Barma Grande 1 (probably an adult male); Bauso da Ture I, II (two adult males) and III (an adolescent); Grotta del Caviglione 1 (has been considered as an adult male, but it is definitely a female – Giacobini, pers. comm.); Grotta dei Fanciulli IV (Grotte des Enfants) (an adolescent and an old female).

Among the old Gravettian or Epigravettian skeletons there are another four skeletons of the Barma Grande II burial (an adult male and two adolescents), the IIIrd burial (an adult male) and the individual No. 4 of Grotte des Enfants. The remaining Gravettian skeletons are the following: the pregnant woman and the foetus of the burial in the Grotte de S. Maria di Agnano in Ostuni who have been dated to  $24,410 \pm 320$  years B.P. (Vacca *et al.* 1992, Vacca, Coppola 1993); the skeleton of a young adolescent [Paglicci 12] (Mallegni, Palma di Cesnola 1994) (olim Paglicci 2) (Mallegni, Parenti 1972) and a young adult female [Paglicci 25] (Mallegni 1992, Mallegni *et al.*, submitted), dated to more than  $24,750 \pm 370$  and  $23,040 \pm 380$  years B.P., respectively. Parabita 1 and 2 (Grotta delle Veneri), an adult male and adult female dated to about 20,000 years B.P. (Cremonesi *et al.* 1972, Palma di Cesnola 1993, Mallegni *et al.*, submitted). The adolescent of Arene Candide [1] the so-called "young Prince" (Sergi *et al.* 1974), dated to the Early Epigravettian period.

The skeletons which are dated to the final Epigravettian are the following: Paglicci 3 (Mallegni, Palma di Cesnola 1994) (olim Paglicci 1) (Corrain 1965) (skeletal fragments of a male individual dated to  $14,270 \pm 230$  and  $13,590 \pm 200$  years B.P.); Grotte des Enfants 1, 2 and 3 (two children and one old woman); the 11 skeletons, more or less

complete, of Arene Candide (4 males, 2 females and 5 children), with a range of age between 0 – 35 years (Paoli *et al.* 1980); the skeletons of a child and an adult male (disturbed burial) of the Grotta Riparo di Maritza (Grifoni, Radmilli 1964, Borgognini-Tarli 1969); the skeletons of San Teodoro (all the skeletons were considered to be males in earlier papers, but have recently been restudied and the Nos. 1 and 4 are now considered to be females – Fabbri 1993); the six adult skeletons of Grotta del Romito in Papisidero (3 males and 3 females – Mallegni, Fabbri 1995) which are dated to the end of the Epigravettian; the two skeletons of Vado all' Arancio (a young adult male and a child – Pardini, Lombardi-Pardini 1981); and finally the skeleton of an adult male in the Riparo Tagliente (Corrain 1966, 1977).

There is also a great number of teeth and isolated human bones of adults and children, found in the following sites: Grotta del Fossellone (Mallegni, Naldini-Segre 1992), Grotta Paglicci (Mallegni, Palma di Cesnola 1994), Grotte des Enfants, Arene Candide (Paoli *et al.* 1980), but also in other layers of the Grotta Romanelli, Grotta dei Cervi, Grotta Corbeddu, Finocchietto, Fontana Nuova and Grotta Polesini (Fabbri, in print).

The latter are probably disturbed burials and, perhaps in most of these cases, bear evidence of unknown ritual practices. So to give an explanation one should get involved into dangerous ethnographic parallels with contemporary populations.

## ABOUT SOME PAST THEORIES

The analysis of most of the Upper Palaeolithic human remains, especially of older discoveries, can be considered as completely out-of-date, as far as their interpretation is concerned. However, traditional anthropological methodology permits the discovery of Crô-Magnoid characters even in the most ancient individuals. This is true as much for the human remains of Liguria (where the great majority of the oldest remains and 52 % of Upper Palaeolithic burials have been found) as for the specimens of southern territories. This position can be confirmed by the continuous presence of the above mentioned characters – among them, with some exceptions, the high stature being relevant. Some of these characters have been genetically defined as archaic ones, e.g. well marked browridges; phenozyggy; high nasal ridge as in Neanderthals; robust mandibles with evident gonion; prominent occipital protuberance (Graziosi 1942, Borgognini-Tarli 1969, Parenti 1960). Other characters are defined as those of the Upper Palaeolithic populations because they are found again in all the individuals, e.g. the values of the meric, pilastric and cnemic indices (for the femur and tibia), referring only to some of the postcranial indices. For example, Bianchi *et al.* (1980) have used in their study some measurements of the femur and tibia for the analysis by Discriminant Functions of the Italian Mesolithic

specimens (including some specimens of the Late Upper Palaeolithic), that indicate that in the Mesolithic period in Europe and Northern Africa, two human types were represented: the Crô-Magnoid/Obercasseloid in the southwest and the Combe-Capelle/Proto-Mediterranean in the northwest (Bianchi *et al.* 1980).

In reality, the majority of the cranial characters mentioned above can be a consequence of the use of teeth (masticatory apparatus) and the pressure applied.

In such a way, we interpreted (Mallegni, Fabbri, in print) the presence of a tubercle observed in the zygomatic suture at the level of the lower edge of the orbital cavity in all the skulls of the Upper Palaeolithic era (Mallegni, Fabbri 1995). This tubercle is very often thick, because of the prominence of the lower edge of the eye-socket [orbital cavity] in the malar bone (zygomatic). The forces caused by the mastication process end in this region, on the nasal pillars as on the browridges. This is naturally followed by the thickening of this lower edge, forming a tubercle.

The other characters of the femur and the tibia are influenced by the stress caused by walking, very often on rough ground (Perzigian *et al.* 1984, Townsley 1946, Ruff, Hayes 1983). The way of life and the economy of the Upper Palaeolithic populations, indeed allow these conclusions. The postcranial characters can show the similarities and/or the common trends of the morpho-functional elements better than the genetic relations.

The skeletons in the double burial in the Grotte des Enfants, the individuals No. 5 and No. 6 [GdE 5 and GdE 6] seem to exhibit different characters. They are an old female and a male adolescent, known as "Negroids" according to Verneau (1892). These negroid characters, in reality, are an artefact caused by the bad reconstruction of the skulls (Legoux 1966). The disproportional parameters of the face which is low and wide in comparison with the cranial vault (elongated) remind quite well of the Crô-Magnoid morphology.

Finally Olivier and Mantelin (1973-74) restudied the Grotte des Enfants 6 (young male), making a cast because the original was in poor condition. The result is that this individual has Crô-Magnoid characters differing a little from the other Crô-Magnons (p. 81).

The short stature of the two "negroids" can be considered as the result of a secular trend and/or nutritional stress during the bone development. The same is valid for the remaining individuals who are, more or less, contemporary, e.g. Barma Grande 1 (Graziosi 1942) and lying in the outer limit of the Crô-Magnoid range of variation for this character (Parenti 1971).

Fabbri has begun a new study of all the Italian Upper Palaeolithic skeletal material for his PhD in the Laboratory of Anthropology of the Bordeaux University (Fabbri, in print). He has already formulated several observations for sex determination based on modern methodologies. It seems that there were some mistakes in sex determination, e.g. in San Teodoro, but also in the Ligurian sample.

The same erroneous sex determination has occurred in

other cases such as in the skeletons of the Grotta del Romito in Papasidero (Mallegni, Fabbri, in print) and in the Grotta delle Veneri in Parabita (Mallegni *et al.*, in print).

The last case, unlike the determination by Frayer (Mussi *et al.* 1989), consists of an adult male (Parabita 1) and an adult female (Parabita 2) who had been buried. Parabita 2 exhibits at the level of the pelvis the vast majority of estimated characters belonging to the female sex (Mallegni *et al.*, in print). The determination made by Parenti, based on palaeoethnological considerations (position of the two skeletons) (Cremonesi *et al.* 1972) has been then confirmed.

So, we can doubt the validity of certain hypotheses about the meaning of burial customs in the Italian Upper Palaeolithic. This hypothesis was applied to the male skeletons (Formicola 1988, Mussi *et al.* 1989), but the presence in the Grotte des Enfants 6, of the five females of the earlier period, and another seven ones of a later period, do not seem to confirm this at all.

When young individuals are discovered, not showing the physical robustness of the adults, we do not find anything better than wondering if among the distinguishing criteria which concern the burial, we should include also the factors of the inherited social class [rank] (Formicola 1992).

This hypothesis (being moreover just a hypothesis of a hypothesis!) can be considered as funny and cheap, because there have been until now only male skeletons and generally defined as robust. Also, we should not forget the presence of very robust females (such as S. Maria di Agnano, Grotta Paglicci 25, Parabita 2, and Grotta del Caviglione 1 – Vacca *et al.* 1992, Mallegni 1992, Mallegni *et al.*, in print), taking into account the fact that they might have been considered as the only suitable for skeleton burial, because of their physical appearance.

Ending this discussion, we would like to give a review of the theories which see the presence of two different human types and their mixing up into the populations of the Italian Upper Palaeolithic (Crô-Magnoids and Combe-Capelloids).

However, we must remember that the dating of the skeleton of Combe-Capelle to the Upper Palaeolithic has been under discussion for a long time. There are serious doubts about this (Asmus 1964).

Gambier (1989) analysed the theories on this burial and the critiques of other authors for the metrical data (Thoma 1972). The conclusion is that there is strong evidence for supporting the dating to the Upper Palaeolithic. More probably it was a matter of digging into the Aurignacian layers when preparing a grave in more recent times (Mesolithic, Neolithic? – Gambier 1989: 196).

Fabbri, in the history of his research of the anthropology of the Italian Upper Palaeolithic, presented in the introduction to his PhD (Fabbri, in print), observes that the type of Combe-Capelle [as belonging to the earlier Aurignacian period according to Klaatsch and Hauser (1910)], is considered parallel to Crô-Magnon by Giuffrida-Ruggeri's paper (1917). According to this author, the Upper

Palaeolithic people must have been divided in two types: the Crô-Magnon and the Combe-Capelle.

This theory has influenced very much the following authors who have accepted it: Graziosi 1947, Sergi 1952, Parenti 1960.

The study of the "young Prince" from Arene Candide (Sergi *et al.* 1974) provided the chance to accept for the first time (according to Parenti, n.d.s.) that the Italian Upper Palaeolithic population could have consisted of a unique group, and not of two distinct ones. The differences among the individuals could be due to an individual range of variation. But the validity of the Combe-Capelle type has never been put in question.

Later, after the publication of other skeletal remains (Pardini, Lombardi-Pardini 1980) of the Mesolithic period (Bianchi *et al.* 1980), including the cemetery of Arene Candide which is dated to the final Epigravettian, but has been considered in the above mentioned publication as Mesolithic, we are coming back to the typological approach and interpretation (Paoli *et al.* 1980).

Bianchi *et al.* (1980) also noticed that the statistical method applied confirmed the theories of traditional anthropology, and they supported the article of Giuffrida-Ruggeri (1917). We would like to underline here again that Bianchi *et al.* (1980) used certain characters which have been widely affected by functional stress and poor dietary situation; the proof of it is that the meric, pilastric and cnemic indices are reconsidered as indices for evaluating this kind of stress (Townsend 1946, Ruff, Hayes 1983, Perzigian *et al.* 1984).

We observed traces of gracilization, in the skeleton of Combe-Capelle (in comparison to Crô-Magnon), which reminds of certain Neolithic ones, represented in the Mediterranean type. Consequently, some individuals of the end of the Upper Palaeolithic showed evolutionary trends which played a role in the origin of the Mediterranean human types of the Neolithic and more recent periods (Giuffrida-Ruggeri 1917). Some individuals (the four of the two burials in the rock-shelter of the Grotta del Romito in Papasidero) and the skeletons of San Teodoro (Graziosi 1947), have therefore been considered as Proto-Mediterraneans. The hypothesis of Giuffrida-Ruggeri (1917) can be found again in one of the recent articles dealing with this problem (Bianchi *et al.* 1980). The presence of gracile individuals with short stature in the final Upper Palaeolithic is incontestable but the possibility that they represent Combe-Capelloids does not exist anymore, given that the individual of Combe-Capelle is perhaps a Neolithic one [ .... in favour of a Post-Aurignacian age (or even Post-Palaeolithic) for the Combe-Capelle skeleton] (Gambier 1989: 196). Besides we do not understand why the influence of Combe-Capelle would have been evident only at the end of the Upper Palaeolithic, considering its supposed great antiquity.

Perhaps it is more scientific to see in these phenomena of gracilization the results of evolutionary trends, where a role was played by the new strategy of survival consequent



to climatic changes (the beginning of sedentary life and/or other changes?).

The hypothesis for the arrival of new human groups during some phases of the Upper Palaeolithic has not been verified until today by any finds. According to Leroi-Gourhan (1956) significant human movements are very rare and generally much slower than those of cultural artifacts.

In any case, it is sure that the people of the Upper Palaeolithic and the Mesolithic continue to manifest Crô-Magnoid characters which were observed in the more ancient specimens, with a normal individual variability. A recent study has proved that the Neolithic people, the most ancient of Southern Italy, clearly show certain characters which can be related to those of the Upper Palaeolithic – Mesolithic (Mallegni, Usai 1995).

This significant homogeneity has been observed also in other groups of Western Europe. The frequent genetic exchange between different groups could be the only explanation. This would prevent the differentiation of gene pools. Besides, the strategy of survival of the Upper Palaeolithic populations, based on hunting and gathering, must have obliged them to frequent movements.

## REFERENCES

- ASMUS G., 1964: Kritische Bemerkungen, und neue gesichtspunkte zur jungpalaolithischen Bestattung von Combe-Capelle, Perigord. *Eizeitaler und Gegenwart* 15: 413-419.
- BIANCHI F., BORGOGNINI-TARLI S. M., MARCHI M., PAOLI G., 1980: An attempt of application of multivariate statistics to the problem of the Italian Mesolithic sample. *Homo* 31: 153-166.
- BORGOGNINI-TARLI S. M., 1969: Studio antropologico di uno scheletro di epoca mesolitica rivenuto nelle grotta Maritza presso Avezzano (Abruzzo). *Rivista di Antropologia* LVI: 135-156.
- BOSCHIAN G., MALLEGNI F., TOZZI C., (in print): Human remains at Epipalaeolithic levels of Riparo del Fredian (Garfagnana, Tuscany, Italy). *Quaternaria Nova*.
- BROGLIO A., KOZLOWSKI J. K., 1987: *Il Paleolitico. Uomo, ambiente e culture*. Milano. 436 pp.
- CORRAIN C., 1965: I resti scheletrici umani della Grotta Paglicci (Rignano Garganico). *Atti della X Riunione. Scient. dell'Ist. Ital. Preist. Protost. a Verona*: 281-295.
- CORRAIN C., 1977: I resti scheletrici della sepoltura epigravettiana del "Riparo Tagliente" in Valpantena (Verona). *Boll. Mus. Civ. Storia naturale* IV: 35-79.
- CREMONESI G., PARENTI R., ROMANO S., 1972: Scheletri paleolitici della Grotta delle Veneri presso Parabita (Lecce). *Atti. I.I.P.P.* XIV: 105-117.
- DEMARS P. Y., HUBLIN J. J., 1989: La transition Néandertaliens/Hommes de type moderne en Europe occidentale: Aspects paléontologiques et culturels. In: M. Otte (Ed.): *L'Homme de Néandertal: L'Extinction*. Vol. 7. Pp. 23-37.
- FABBRI P.-F., 1993: Nuove determinazioni del sesso e della statura degli individui 1 e 4 del Paleolitico Superiore della Grotta di San Teodoro. *Rivista di Scienze Preistoriche* XLV: 219-242.
- FABBRI P.-F., (in print): *Les restes humains du Paléolithique supérieur de l'Italie*. Thèse de Doctorat du Laboratoire d'Anthropologie de l'Université de Bordeaux I.
- FORMICOLA V., 1988: The male and female in the Upper Paleolithic Burials from Grimaldi Caves (Liguria, Italy). *Bull. Mus. Anthropol. Prehist. de Monaco* 31: 41-48.
- FORMICOLA V., 1992: *La sepoltura paleolitiche dei Balzi Rossi*. *Le Scienze* 280, Dicembre: 76-85.
- GAMBIER D., 1989: Fossil hominids from the early Upper Paleolithic (Aurignacian) in France. In: P. Mellars and C.B. Stringer (Eds.): *The Human Revolution: Behavioural and Biological perspectives in the Origins of Modern Humans*. Pp. 194-211. Edinburgh Univ. Press, Edinburgh.
- GAMBASSINI P., 1982: Le Paléolithique Supérieur ancien en Campanie. *ERUAL* 13/II. Cracovie-Nitra, Liège.
- GIUFFRIDA-RUGGERI V., 1917: La posizione antropologica dell'uomo fossile di Combe-Capelle rispetto a Crô-Magnon, Ofnet, Obercassel e Mugem. *Rivista di Antropologia* 21: 235-240.
- GRAZIOSI P., 1942: L'uomo fossile della Barma Grande ai Balzi Rossi nel Museo di Mentone. *Arch. Antr. Etnol.* LXXII: 22-51.
- GRAZIOSI P., 1947: Gli uomini paleolitici della Grotta di S. Teodoro (Messina). *Riv. Sci. Preist.* 2: 123-223.
- GRIFONIR., RADMILLI A. M., 1964: La Grotta Maritza e il Fucino prima dell'eta Romana. *Riv. Sci. Preist.* 19: 53-127.
- KLAATSCH H., HAUSER O., 1910: Homo Aurignaciensis Hauseri. *Præhistorische Zeitschrift* I: 273-338.
- LEGOUX P., 1966: *Détermination de l'âge dentaire de fossiles de la lignée humaine*. Librairie Maloine S.A., Paris.
- LEROI-GOURHAN A., 1956: *Archéologie du Pacific-nord: Matériaux pour l'étude des relations entre les peuples riverains d'Asie et d'Amérique*. Institut d'Ethnologie. Paris. 538 pp.
- LEVEQUE F., VANDERMEERSCH B., 1980: Découverte de restes humains dans un niveau chastelperronien à Saint-Césaire (Charente-Maritime). *C. R. Acad. de Sciences de Paris* 291 (D): 187-189.
- MALLEGNI F., 1992: Squelette de femme d'une sépulture des couches gravettiennes de la Grotte Paglicci près de Rignano Garganico (Pouilles, Italie): Paglicci 25. *Rivista di Antropologia* LXX: 209-216.
- MALLEGNI F., SOZZI F., (in print): *Les restes humains rissiens de la Grotta del Poggio* (Marina di Camerota, Salerne - Campanie).
- MALLEGNI F., PARENTI R., 1972: Studio antropologico di uno scheletro giovanile d'epoca gravettiana raccolto nella Grotta Paglicci (Rignano Garganico). *Riv. Sci. Preist.* LVIII: 317-348.
- MALLEGNI F., 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.
- MALLEGNI F., PALMA DI CESNOLA A., 1994: Sur quelques pièces gravettiennes de la Grotte Paglicci (Rignano Garganico, Pouilles, Italie). *Anthropologie (Brno)* XXXII, 1: 45-57.
- MALLEGNI F., FABBRI P.-F., 1995: The human skeletal remains from the Upper Palaeolithic burials found in Romito Cave (Papasidero, Cosenza, Italie). *Bull. Mem. Soc. d'Anthrop. de Paris*. 7: 99-137.
- MALLEGNI F., FABBRI P.-F., MANOLIS S. K. (in print): *Paleobiology of the two Gravettian skeletons from Veneri Cave*. (Parabita, Puglia, Italy).
- MALLEGNI F., USAI L., 1995: Paleobiologia di un gruppo umano del Neolitico antico (Ceramica Impressed arcaica) da Samari (Lecce, Puglia, Italia). *Arch. Antr. Etnol.* 125: 1-38.

- MESSERI P., PALMA DI CESNOLA A., 1976: Contemporaneità di Paleantropi e Fancrantropi sulle coste dell'Italia meridionale. *Zephyrus* XXVI-XXVII: 8-30.
- MUSSI M., FRAYER D. W., MACCHIARELLI R., 1989: Les Vivants et les Morts. Les Sépultures du Paléolithique supérieur en Italie et leur interprétation. In: I. Herskovitz (Ed.): *People and Culture in Change*. Pp. 435-458. BAR International Series 508 (ii).
- OLIVIER G., MANTELIN F., 1973-1974: Nouvelle reconstitution du crâne de l'adolescent de Grimaldi. *Bull. Mus. d'Anthrop. Prehist. de Monaco* 19: 67-82.
- PALMA DI CESNOLA A., 1965-1966: Il Paleolitico Superiore arcaico (facies uluzziana) della Grotta del Cavallo, Lecce. *Riv. Sci. Preist.* XX-XXI: 3.
- PALMA DI CESNOLA A., 1975: *L'età paleolitica nella Daunia*. Atti Coll. Intern. Di Preist. e Protoist della Daunia, Foggia. Firenze.
- PALMA DI CESNOLA A., 1989: L'Uluzzien: facies italien du Leptolithique archaïque. *L'Anthropologie (Paris)* 93,4: 783-811.
- PALMA DI CESNOLA A., 1993: *Il Paleolitico superiore in Italia*. Chp. IV: Garlatti, Razzai (Eds.): Le Sepulture Leptolitiche in Italia. Firenze. Pp. 399-460.
- PAOLI G., PARENTI R., SERGI S., 1980: Gli scheletri mesolitici della Caverna delle Arene Candide (Liguria). *Mem. Ist. It. Paleont. Um.* 3: 33-154.
- PARDINI E., LOMBARDI-PARDINI E. C., 1981: I paleolitici di Vado all'Arancio. *Arch. Antrop. Etnol.* 111: 75-119.
- PARENTI R., 1960: Calvario cromagnolo trovato in un deposito del Mesolitico del Bacino Fucense (Abruzzo). *Arch. Antrop. Etnol.* 90: 5-92.
- PARENTI R., 1971: Sulla statura degli uomini cromagnoniani dei "Balzi Rossi" (Grimaldi). *Arch. Antrop. Etnol.* 101: 37-62.
- PERZIGIAN A. I., TENCH P. A., BRAUN D. J., 1984: Prehistoric health in the Ohio River Valley. In: M. N. Cohen and G. J. Armelagos (Eds.): *Paleopathology and origins of Agriculture*. Pp. 347-366. Academic Press, London.
- RIVIERE E., 1873: Découverte d'un squelette humain de l'époque paléolithique dans les cavernes des Baousses-Rousse, dites Grottes de Menton, Paris.
- RIVIERE E., 1879: Note sur les derniers squelettes humains d'adultes et d'enfants trouvés en 1873 et 1875 dans les cavernes des Baousses-Rousse ou des Rochers-Rouges en Italie, dites Grottes de Menton. *Comptes Rendus du Congrès International des Sciences Géographiques*. Volume II. Paris.
- RIVIERE E., 1887: *De l'antiquité de l'homme dans les Alpes Maritimes*. Paris.
- RUFF C. B., HAYES W. C., 1983: Cross-sectional geometry of Pecos Pueblo femora and tibiae. A biomechanical investigation: I. Method and general patterns of variation. *Amer. J. Phys. Anthropol.* 60: 359-381.
- SERGI S., 1952: Paleolitici e mesolitici nella Caverna delle Arene Candide (Liguria). *Act. IV Congr. Intern. Sci. Anthropol. Etnol., Vienne* 1: 201-202.
- SERGI S., PARENTI R., PAOLI G., 1974: Il giovane paleolitico della Caverna delle Arene Candide. *Mem. Ist. It. Paleont. Um.*, n.s. 2: 13-38.
- THOMA A., 1972: L'origine des Crô-Magnolides. In: Fondation Singer-Polignac (Ed.): *Les origines humaines et les époques de l'intelligence*. Pp. 261-271. Masson.
- TOWNSELEY W., 1946: Platymeria. *J. Path. Bacter.* 58: 85-88.
- VACCA E., NOVOTNÝ V., PESCE-DELFINO V., 1992: Note antropologiche preliminari sui resti della gestante paleolitica di Santa Maria di Agnano. In: D. Coppola: Nota preliminare sui rinvenimenti nella grotta di Santa Maria di Agnano (Ostuni, Brindisi): i seppellimenti paleolitici ed il luogo di culto. *Riv. Sci. Preist.* XLIV,1-2: 211-227.
- VACCA E., COPPOLA D., 1993: The Upper Paleolithic burials at the cave of Santa Maria di Agnano (Ostuni, Brindisi): preliminary report. *Rivista di Antropologia* 71: 275-284.
- VALLADAS H., REYM J. L., VALLADAS G., ARENSBURG B., BAR-YOSEF O., VANDERMEERSCH B., 1988: Thermoluminescence dating of Musterian "Proto-Cromagnon" remains from Israel and the origin of modern man. *Nature* 331: 614-616.
- VANDERMEERSCH B., 1981: *Les hommes fossiles de Qafzeh (Israel)*. Cahiers de Paléontologie et Paléanthropologie. CNRS, France. 319 pp.
- VAN VARK G. N., BILSBOROUGH A., HENKE W., 1992: Affinities of European Upper Paleolithic Homo sapiens and later human evolution. *J. Hum. Evol.* 23: 401-417.
- VERNEAU R., 1892: Nouvelle découverte de squelettes préhistoriques à Baousses-Rousse. *L'Anthropologie (Paris)* 3: 513-540.
- VILLENEUVE DE L., BOULE DE M., VERNEAU R., CARTAILHAC E., 1906: *Les Grottes de Grimaldi*. Imprimerie de Monaco.

Francesco Mallegni  
Section of Human Palaeontology  
Dept. of Archaeological Science  
University of Pisa  
Via S. Maria 53  
56 100 Pisa  
Italy