

THE VILLAFRANCHIAN MAMMAL FAUNAS FROM THE TIBER RIVER BASIN (UMBRIA, CENTRAL ITALY)*

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RIASSUNTO - *Le faune a mammiferi villafranchiane del Bacino Tiberino (Umbria, Italia centrale)* - Il Quaternario *Italian Journal of Quaternary Sciences*, 8(2), 1995, 509-514 - Vengono prese in esame le faune a mammiferi plio-pleistoceniche del Bacino Tiberino. La maggior parte dei depositi fossiliferi è localizzata nel ramo sud-occidentale del bacino. I dati disponibili sinora non sono molto abbondanti, ma è possibile ipotizzare l'esistenza di almeno quattro distinte associazioni a mammiferi riferibili al Villafranchiano inferiore (U.F. Triversa e U.F. Montopoli), al Villafranchiano superiore e al Galeriano inferiore.

ABSTRACT - *The Villafranchian mammal faunas from the Tiber Basin (Umbria, Central Italy)* - Il Quaternario *Italian Journal of Quaternary Sciences*, 8(2), 1995, 509-514 - The paper reports on Plio-Pleistocene mammal faunas from the Tiber Basin (central Italy). Almost all the fossiliferous localities are located in the south-western branch of the basin. Although available data are still scanty, four different mammal faunas referable to early (Triversa and Montopoli Faunal Units) and late Villafranchian and to early Galerian are recognizable.

Parole chiave: Mammiferi, Plio-Pleistocene, biocronologia, Italia centrale
Key words: Mammals, Plio-Pleistocene, biochronology, central Italy

1. INTRODUCTION

The Tiber River Basin is a Y-shaped sedimentary basin 120 km long and 10 km wide, which cuts Umbria from north to south. It divides into a southwestern branch and a southeastern one near Perugia (Fig. 1).

Since the end of last century (Pantanelli, 1886; Tuccimei, 1891; 1896) numerous vertebrate fossil remains, referable to different ages, have been found in the deposits of this basin. Because of a limited number of specific studies, the fossiliferous localities that have so far been identified, are scattered (see Fig. 1) and recovered remains are fragmentary; moreover, their chronological position is not always definite, especially that of oldest findings. Almost all findings come from deposits located in the south-western branch of the basin.

This paper is a compendium of mammal faunas so far collected in the Tiber River Basin.

2. THE FOSSILIFEROUS LOCALITIES

At least four faunal associations have been identified, the age of which ranging from the early (Triversa and Montopoli Faunal Units) to late Villafranchian and early Galerian, respectively. The biochronological scheme based on large mammals, presented by Azzaroli (1977;

1983) and modified by Gliozzi *et al.* (1995), will be used in this paper.

Remains of *Anancus arvernensis* (Croizet & Jobert), *Mammut borsoni* (Hays), *Tapirus arvernensis* Croizet & Jobert, *Castor* sp. and Cervidae indet. (Pantanelli, 1886; Azzaroli, 1980; Rustioni, 1992) were found in lignite bearing clays outcropping near Spoleto. This faunal association can be correlated with those from Castelnuovo dei Sabbioni (Upper Valdarno, near Arezzo in Tuscany) and Villafranca d'Asti (Piedmont) and is referable to the Triversa Faunal Unit of the early Villafranchian (Azzaroli, 1980).

At Cava Toppetti (near Todi), from the "Ponte Naja" lithostratigraphic Unit, composed of alluvial fan sandy sediments, a cervid fragment, some remains attributable to a large-sized horse and a bovid were found. These have been ascribed to *Pseudodama* sp., *Equus* cfr. *livenzovensis* Bajgusecva and *Leptobos* cfr. ex gr. *merlai* De Giuli - *furtivus* Douvernois & Guerin (Basilici, 1992; Masini *et al.*, 1994), respectively. Accordingly, these mammal bones can be dated to early or middle Villafranchian times (probably the Montopoli F.U.). However, in the writers' opinion, new findings are needed to allow a better definition of the assumed chronological position.

Several fossil mammal remains were discovered in an area between Massa Martana and Acquasparta, in the southwestern branch of the Tiber River Basin. All samples were collected in deposits of the "Santa Maria di Ciciliano" lithostratigraphic Unit, formed of alternating clays, silty clays and sands of braided plain, at the sites of Villa San Faustino, Colle Violino, Casale Le Grotte and Colle Sant'Andrea. The following taxa have been recognized: *Sus strozzii* Major, *Pseudodama nestii* (Major), *Eucladoceros* sp., Cervidae indet., *Leptobos* cfr. *vallisarni* Merla, *Stephanorhinus etruscus* (Falconer), *Equus*

* Paper presented to the Meeting "The significance of the Villafranchian in the Plio-Pleistocene stratigraphy" (Peveragno - Villafranca d'Asti, 20-24 June, 1994).

Lavoro presentato al Convegno "Il significato del Villafranchiano nella stratigrafia del Plio-Pleistocene" (Peveragno - Villafranca d'Asti, 20-24 giugno 1994).

Tabella 1 - Tiber River Basin: fossiliferous localities and mammal faunal assemblages.
Località fossilifere e mammalofaune del Bacino Tiberino.

LOCALITIES	TAXA	MAMMAL AGE
SPOLETO	<i>Anancus arvernensis</i> <i>Mammot borsoni</i> <i>Tapirus arvernensis</i> <i>Castor</i> sp. Cervidae indet.	Early Villafranchian (Triversa F. U.)
CAVA TOPPETTI (Ponte Naja Unit)	<i>Pseudodama</i> sp. <i>Equus</i> cfr. <i>livenzovensis</i> <i>Leptobos</i> cfr. ex gr. <i>merlai-furtivus</i>	Early Villafranchian (Montopoli F. U.)
VILLA S. FAUSTINO (Santa Maria di Ciciliano Unit)	Elephantidae indet. <i>Stephanorhinus etruscus</i> <i>Equus stenorhis</i> <i>Sus strozzi</i> <i>Pseudodama nestii</i> Cervidae indet. <i>Leptobos</i> sp. <i>Megantereon cultridens</i> <i>Castor</i> sp.	Late Villafranchian (Tasso F. U.)
COLLE VIOLINO (Santa Maria di Ciciliano Unit)	<i>Stephanorhinus etruscus</i>	Late Villafranchian (Tasso F. U.)
CASALE LE GROTTI (Santa Maria di Ciciliano Unit)	<i>Eucladoceros</i> sp.	Late Villafranchian (Tasso F. U.)
COLLE S. ANDREA (Santa Maria di Ciciliano Unit)	<i>Pseudodama</i> sp. Cervidae indet. <i>Leptobos</i> cfr. <i>vallisarni</i> <i>Pachycrocuta</i> cfr. <i>brevirostris</i> <i>Castor</i> sp.	Late Villafranchian (Tasso F. U.)
CAPITONE (Santa Maria di Ciciliano Unit)	<i>Stephanorhinus etruscus</i>	Late Villafranchian
VILLA SPINOLA	<i>Panthera gombaszoegensis</i>	Late Villafranchian-Early Galerian
FONTIGNANO	<i>Hippopotamus</i> sp.	Late Villafranchian-Early Galerian
MARSCIANO	<i>Megaceroides</i> cfr. <i>verticornis</i>	? Early Galerian

stenonis Cocchi, *Megantereon cultridens* (Cuvier *partim*), *Pachycrocuta* cfr. *brevirostris* (Aymard), *Castor* sp. (Ambrosetti *et al.*, 1995). This faunal association can generally be referred to the late Villafranchian (*sensu* Azzaroli, 1977 & 1983). Most taxa are represented by so fragmentary remains that it is very difficult to evaluate the evolutionary rank attained by faunal elements, which

would allow a more detailed biochronological collocation. However, the presence of *Sus strozzi* (which has up to now been noticed only starting from the Tasso Faunal Unit), *Leptobos* cfr. *vallisarni* (occurring both in the Tasso and in Farneta Faunal Units) and of *Pseudodama nestii* (which is a typical form, characteristic of Olivola and Tasso Faunal Units), makes more realistic the attribution

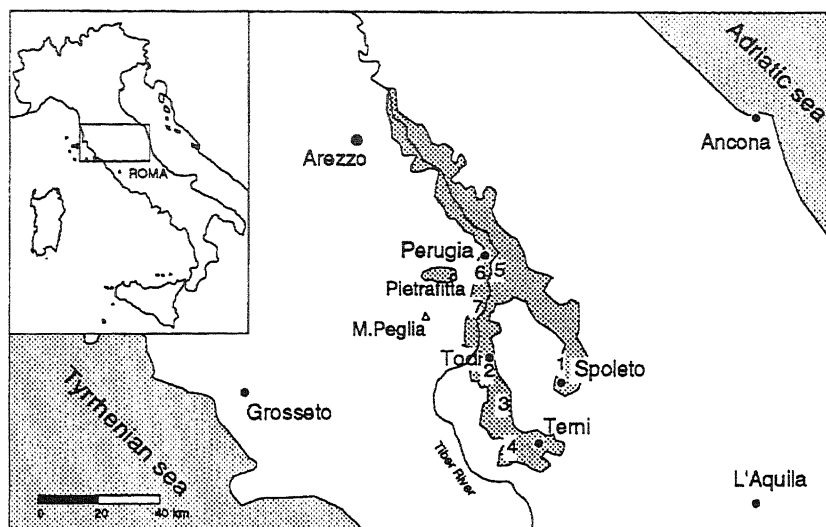
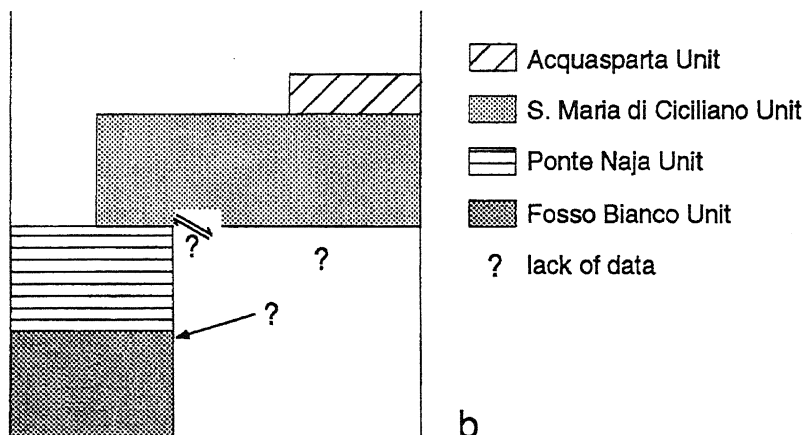


Fig. 1 - (a) Fossiliferous localities in the Tiber River Basin: 1) Spoleto; 2) Cava Toppetti; 3) Villa San Faustino, Colle Violino, Casale Le Grotte and Colle Sant' Andrea; 4) Capitone; 5) Villa Spinola; 6) Fontignano; 7) Marsciano. The rectangle in the inset shows the Tiber River Basin location. (b) Lithostratigraphic sketch of the southwestern area of the Basin (from Basilici, 1992, modified).

(a) Localizzazione del Bacino Tiberino (nel riquadro) e delle località fossilifere: 1) Spoleto; 2) Cava Toppetti; 3) Villa S. Faustino, Colle Violino, Casale Le Grotte e Colle S. Andrea; 4) Capitone; 5) Villa Spinola; 6) Fontignano; 7) Marsciano. (b) Schema litostратigrafico del ramo sud-occidentale del bacino (da Basilici, 1992, modificato).



of the mammal assemblages to the Tasso Faunal Unit. Also, the almost complete skeleton found at Capitone and identified as *Stephanorhinus etruscus* (Ambrosetti, 1972), may be attributed to this Faunal Unit.

Numerous fossil remains were collected at Pietrafitta (Perugia) from the lignite seams outcropping in the Tavernelle Basin, which is near the Tiber River Basin. These include *Mammuthus meridionalis* (Nesti), *Eucladoce-*



Fig. 2 - Molar of *Anancus arvernensis* from Spoleto (cast stored by Liceo Ginnasio E.Q. Visconti in Rome) (about 1/2 natural size).

Molare di Anancus arvernensis proveniente da Spoleto (calco conservato presso il Liceo Ginnasio E.Q. Visconti di Roma) (circa metà della grandezza naturale).

ros cfr. *dicranios* (Nesti), *Megaceroides boldrinii* Azzaroli & Mazza, *Stephanorhinus* cfr. *hundsheimensis* (Toula), *Ursus etruscus* Cuvier, *Pannonictis* sp., *Microtus* (*Allophaiomys*) *pliocaenicus* (Kormos), *Mimomys savini* Hinton, *Mimomys* cfr. *pusillus* Mehely, *Lepus* sp., *Macaca* sp. (Ambrosetti *et al.*, 1987; Azzaroli & Mazza, 1993, Masini *et al.*, 1991; Mazza & Rustioni, 1993; Mazza *et al.*, 1993; Gliozzi *et al.*, 1995), which all attest a faunal association referable to the late Villafranchian (Farneta F.U.).

Besides these relatively abundant faunal assemblages, other scattered and scarce mammal fossils are quoted in the literature as found in the Tiber Basin.

Remains of *Panthera gombaszoegensis* (Kretzoi) referable to late Villafranchian or early Galerian times (Tuccimei, 1896; Ficcarelli & Torre, 1968) were collected from an unspecified lacustrine deposit at Villa Spinola, near Perugia.

Part of a skeleton of *Hippopotamus* sp. was discovered at Fontignano (near Perugia) (Ramaccioni, 1936); the remains are however too scarce and fragmentary and their stratigraphical position not clear for a reliable taxonomic attribution.

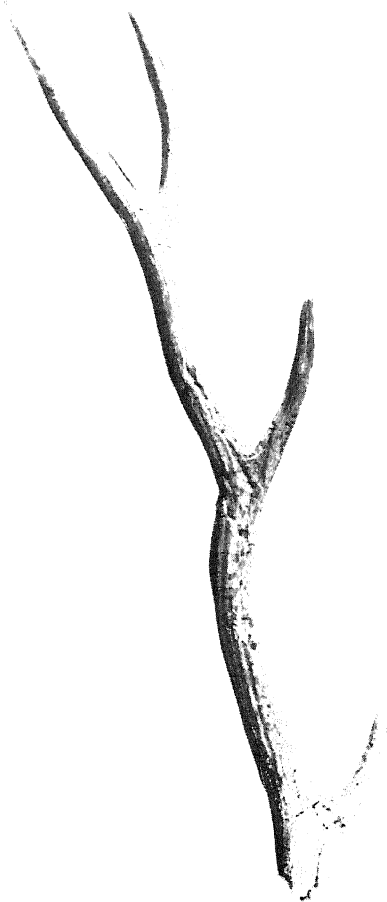


Fig. 3 - Antler of *Pseudodama nesti* (1/5 natural size) contained in a muddy silt from Villa San Faustino.

Palco di caduta di Pseudodama nesti proveniente dai limi siltosi di Villa S. Faustino (1/5 della grandezza naturale).

Near Marsciano (another locality near Perugia), a *Megacerooides* cfr. *verticornis* (Dawkins) was found in reddish alluvial deposits overlying levels referable to the "Santa Maria di Ciciliano" Unit (Ambrosetti *et al.*, 1987). The first occurrence of *Megacerooides verticornis* is the

bioevent which, according to Gliozzi *et al.* (1995), characterizes the beginning of the Galerian mammal age.

3. CONCLUSION

The Tiber River Basin is still scarcely known from the paleontological point of view. Consequently, a research team has recently been assembled to study this basin from a multidisciplinary viewpoint (Ambrosetti *et al.*, 1995).

Recent geological and sedimentological surveys (Basilici, 1992) suggest that the Santa Maria di Ciciliano Unit would include deposits with mammal faunas referable to different Faunal Units.

The possible presence of most Villafranchian Faunal Units in the area should stimulate studies allowing a better definition of the palaeobiological events that characterized central Italy before Middle Pleistocene times.

ACKNOWLEDGMENTS

We wish to thank Dr. Elsa Gliozzi for useful discussions and Dr. Ilaria Mazzini for computer graphic elaborations. Prof. Odoardo Girotti and Dr. Sergio Gentili gave

helpful advice. Mrs. Luciana Angeloni is acknowledged for her technical support. Dr. Alessandro Orlandi and Dr. William Russell responsible for the scientific collections stored in "Liceo Ginnasio E.Q. Visconti" in Rome are also gratefully acknowledged. Photos are by Luciano Spinuzzi and Sebastiano Porretta.

The work was carried out with the financial support of a 40 % C.N.R. grant to Prof. C. Petronio.

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Ms received: December, 1994

Final text received: December, 1994

Ms. ricevuto: Dicembre 1994

Testo definitivo ricevuto: Dicembre 1994