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MAN MADE CAVITIES ON THE SOUTH-EAST SIDE OF THE ALBANO LAKE, WITHIN THE ALBANO VOLCANIC AREA (SOUTH-EAST OF ROME, LATIUM, ITALY)

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Abstract

The authors introduce a report on the results of their investigations achieved during twenty-five years within the Albano volcanic area (SE of Rome, Latium region, Italy). These investigations were performed in collaboration with the studies carried on by Egeria Underground Research Centre in the contiguous area of the Nemi and Albano lakes.

Keywords: artificial cavities, cult structures, ancient hydraulic works, Albano Lake, Nemi Lake, Latium, Rome.

Riassunto

Gli autori presentano una relazione sui risultati delle indagini da loro intraprese in oltre venticinque anni nell'area dell'apparato vulcanico Albano (Lazio). Queste indagini sono state condotte in collaborazione con gli studi svolti dal Centro Ricerche Sotterranee Egeria nella zona contigua dei laghi di Nemi e Albano.

Parole chiave: cavit  artificiali, strutture di culto, antiche opere idrauliche, Lago Albano, Lago di Nemi, Lazio, Roma.

In this report, the authors show the results of their surveys achieved during twenty-five years of activity within the SE side of the Albano Lake area.

These investigations were performed in collaboration with the studies carried on by Egeria Underground Research Centre in the contiguous area of Nemi and Albano lakes (see GALEAZZI et al., 1999; DOBOSZ et al., 2003).

The investigated area is shown in Fig. 1, with the necessary supplements and updatings. The list of the caves included in this report is shown in Table 1 (according with the Artificial Cavities Italian Register):

CA 3, 4, 5, 6 LaRM - S. Angelo "in Lacu" Hermitage

A short description and few words about the history of this very interesting monument, which has been destroyed in 1773: the ruins of the building are still visible and the most important remains of the chapel are frequently visited. The first ancient mention of the church is found in Pope's Pasqual II (24.04.1116) bull. Restored in 1282 by Cardinal Savelli, it included a fabulous growing of delicious fruits which supplied, about 1660, the Pope's table in Castelgandolfo. But, incredibly, a century later all these works disappeared because the hermitage did turn into a den of criminals. The building works cover an area of 12x40 m and included the church (chapel), a bell tower, many rooms on several levels, cellars; moreover, there are nearby six underground artificial caves. These are the only remainders that still survive, nearly unimpaired. They are shown in Fig. 2:

- CA 03 includes the chapel and a few small rooms, suggesting the presence of the hermit (this is the origin of the term "hermitage" usually given to the whole monument) (Figs. 2a-2b);
- CA 04 is a long tunnel which starts near an access to the chapel CA 03, it turns right twice and finally gets out some 10 m beyond the bell tower, i.e. out of the hermitage buildings;
- CA 05 is placed about 7 m higher and does not connect with the hermitage: the leap requires a rope for coming down;
- CA 06 is a little cave worth to be mentioned because in front of it a small natural spring supplies fresh water to the hermitage.

It is important to recall that the main water supply

Artificial Cavities Italian Register	Denomination
CA3LaRM	S. Angelo <i>in lacu</i> Chapel
CA4LaRM	
CA5LaRM	
CA6LaRM	
CA373LaRM	Large cave n.1 SE of Palazzola
CA374LaRM	Large cave n.2 SE of Palazzola
CA379LaRM	Two small caves before the largest caves of Palazzola
CA380LaRM	First cave along the Cappuccini - Palazzola road
CA381LaRM	Shelter along the Cappuccini - Palazzola road
CA382LaRM	Small cave between layers along the Cappuccini - Palazzola road
CA383LaRM	Hemispherical niche upon the Cappuccini - Palazzola road
CA384LaRM	Half the road cave from Cappuccini to Palazzola
CA385LaRM	Roman Aqueduct "Cento Bocche" - short tract near the Cappuccini
CA386LaRM	Roman Aqueduct "Cento Bocche" - half the way tract (Cappuccini - Palazzola road)
CA479LaRM	Small cave well above CA03LaRM cave
CA490LaRM	Cave along the path to S. Angelo <i>in lacu</i> hermitage

Tab. 1: list of the caves included in this report.

Tab. 1: elenco delle cavit  discusse nell'articolo.

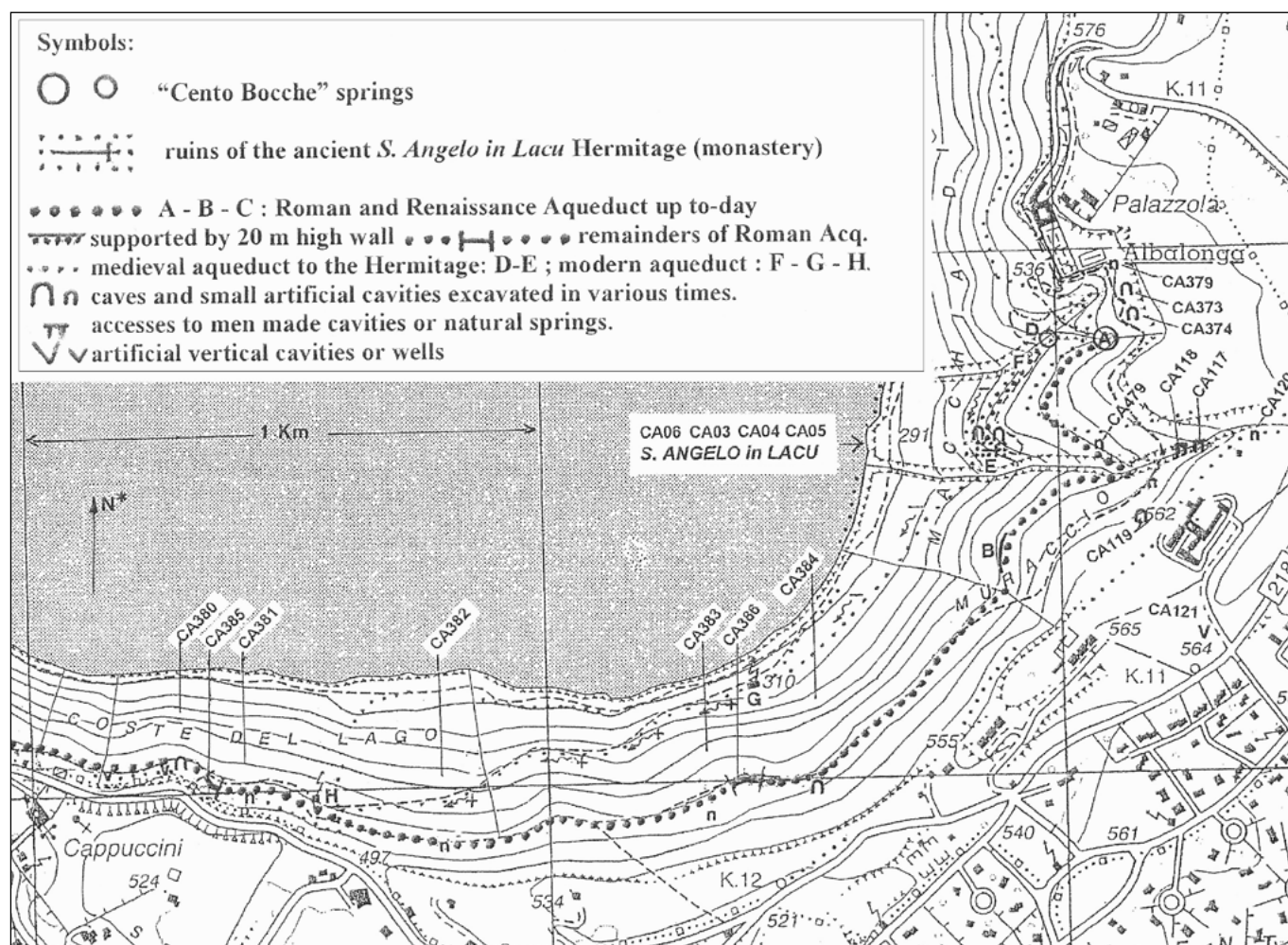


Fig. 1: the investigated area, elaborated from the IGM map at 1:25.000 scale, F. 388 IV (drawing Giulio Cappa).

Fig. 1: l'area oggetto di indagine, elaborazione dalla carta IGM in scala 1:25.000, F. 388 IV (elaborazione Giulio Cappa).

was originating from a small duct, recently discovered and not represented in Fig. 2, a few meters to the N, that comes from the "Cento Bocche" lower spring, of the Roman Empire period: only this supply allowed the flourishing of the delicious fruits remembered at the times of the Pope's table.

Routes to the S. Angelo in lacu Hermitage

The routes to this well known monument are three:

- Most people comes from Castelgandolfo following the road (free access to vehicles only for nearly 3 km) that encircles the lake Albano shore. Further on they walk, until the building clearly visible on Fig. 1 as a pumping plant (G. 310); then they follow a path that climbs up to the Hermitage.

- Usually we use to follow the path that gets down from Palazzola monastery, starting at the S corner of its big wall: along the way you can see the "Cento Bocche" lower spring (with a Roman big bridge) that was still feeding the Hermitage when it was supplying delicious fruits to the Pope's table or (second option) you can follow the pathway coming from the pedestrian road Cappuccini - Palazzola: see CA479 and 490 LaRM descriptions.

The bare information on the history of the hermitage in Middle Ages comes from TOMASSETTI (1979).

CA 373 LaRM - Large cave no. 1 SE of Palazzola

Wide rectilinear gallery, probably excavated for the extraction of pyroclastic breccia into squared blocks, used in the new building of Palazzola Monastery during the Renaissance (probably the 1739 building). The lower part of the cave could had been later used as a wine cellar (Fig. 3).

CA 374 LaRM - Large cave no. 2 SE of Palazzola

Complex gallery (Figs. 4-5): probably excavated before cave no. 1, supposed about in 1200 A.D., in order to provide materials for the original Monastery (visitors must be careful: the rock walls are unstable and subjected to frequent collapses).

CA 379 LaRM - Two small caves before the largest caves of Palazzola

Cave A is just near the wall of Palazzola Monastery and we suppose it is even prior of it. Cave B is small and squared, filled with debris; its origin and function are unknown. Both the caves are now fully neglected (Fig.6).

CA 380 LaRM - First cave along the Cappuccini - Palazzola road

Short tunnel emerging on the road right side. It looks like a wine cellar of recent centuries, but it is fully

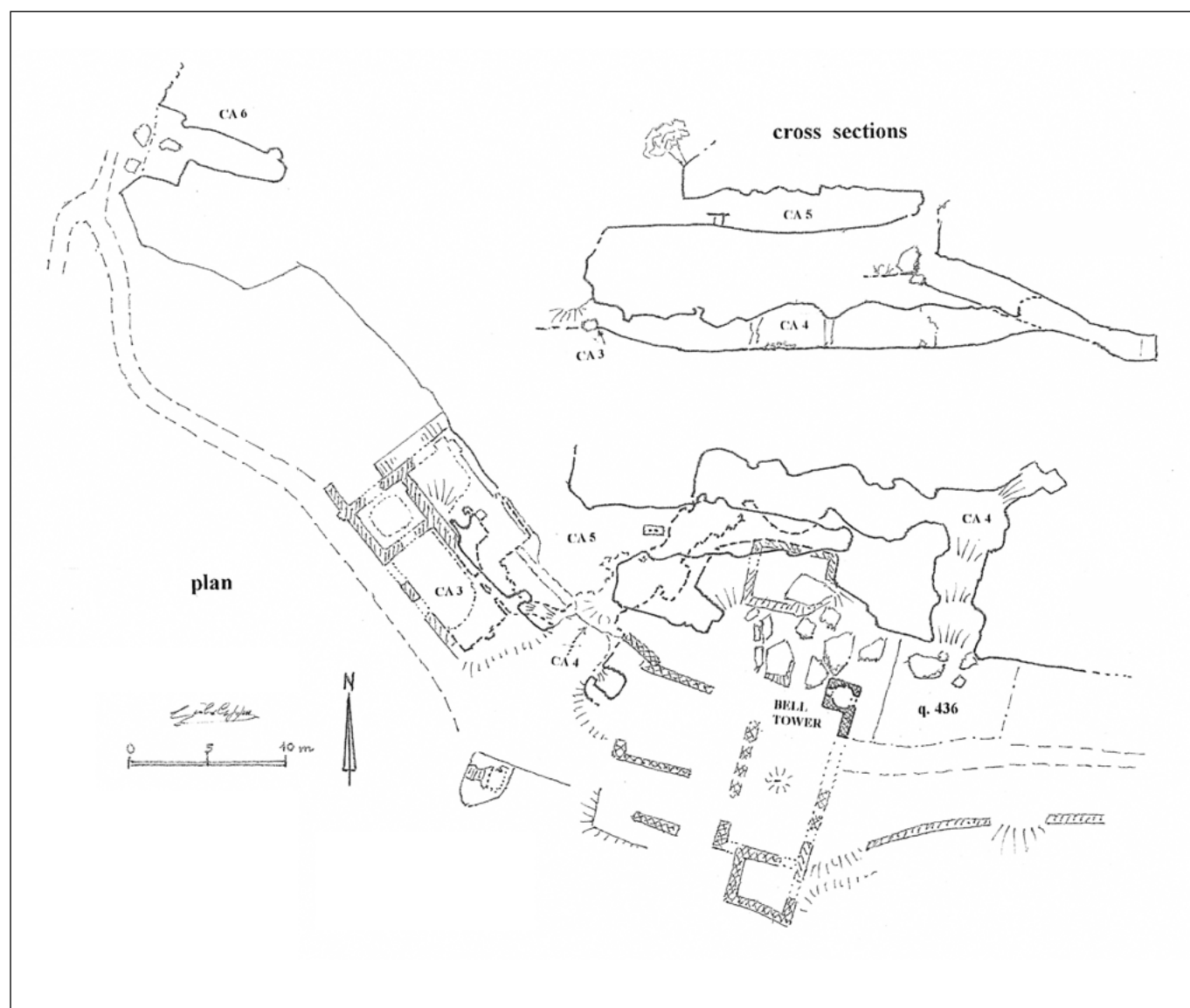


Fig. 2: map of artificial cavities related of the complex of St. Angelo in lacu CA 3, 4, 5, 6 (Albano Laziale, Rome): n. 3 (chapel of hermitage), n. 4 (gallery behind the hermitage), n. 5 (gallery above the hermitage), n. 6 (cave under the hermitage) (drawing Giulio Cappa).

Fig. 2: planimetria delle cavità artificiali correlate al complesso di Sant'Angelo in lacu CA 3, 4, 5, 6 (Albano Laziale, Roma): n. 3 (cappella del romitorio), n. 4 (galleria dietro il romitorio) n. 5 (galleria sopra il romitorio) e n. 6 (grotta sotto il romitorio) (restituzione grafica Giulio Cappa).



Figs. 2a-2b: the complex of St. Angelo in lacu, chapel and bell tower of hermitage.

Figg. 2a-2b: complesso di Sant'Angelo in lacu, cappella e campanile del romitorio.

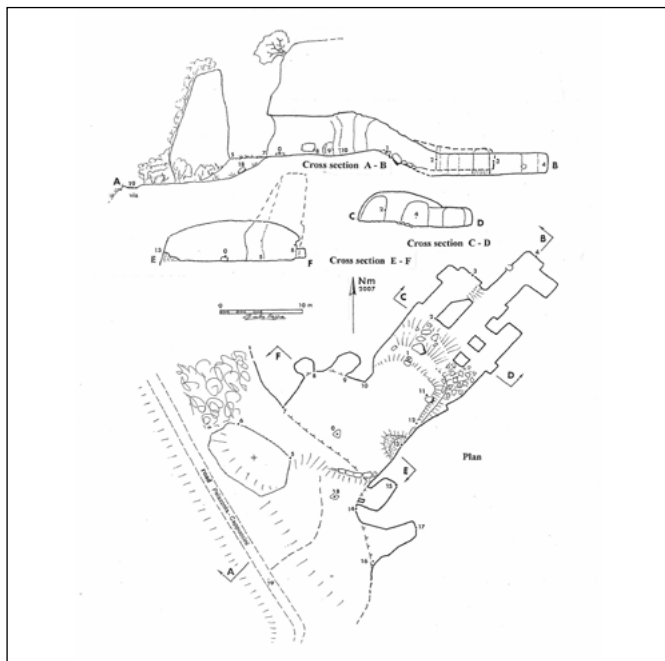


Fig. 3: large cave no. 1 SE of Palazzola CA373 (Rocca di Papa, Rome) (drawing Giulio Cappa).
Fig. 3: grottone n. 1 a SE di Palazzola CA373 (Rocca di Papa, Roma) (restituzione grafica Giulio Cappa).

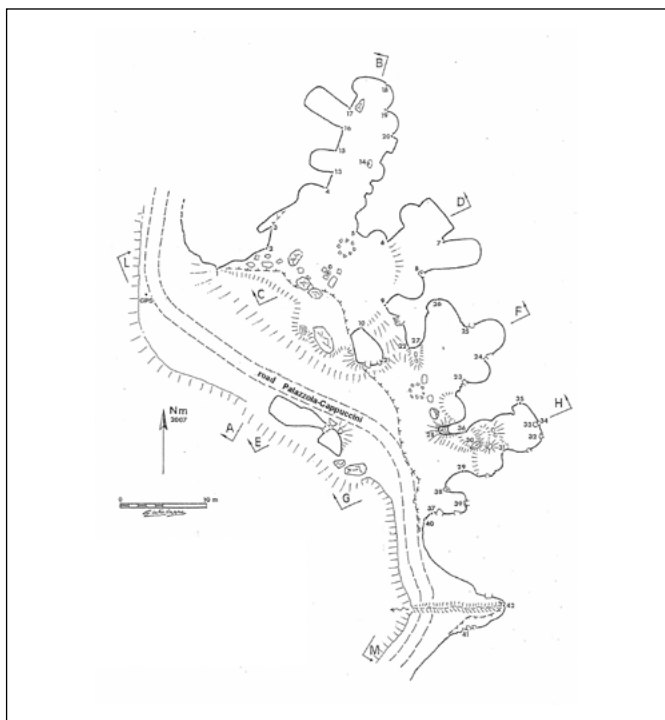


Fig. 4: map of large cave no. 2 SE of Palazzola CA374 (Rocca di Papa, Rome) (drawing Giulio Cappa).
Fig. 4: planimetria del grottone n. 2 a SE di Palazzola CA374 (Rocca di Papa, Roma) (restituzione grafica Giulio Cappa).

Fig. 7 (right): first cave along the Cappuccini – Palazzola road CA380 (Castelgandolfo, Rome) (drawing Giulio Cappa).
Fig. 7 (destra): prima cavità lungo la via Cappuccini - Palazzola CA380 (Castelgandolfo, Roma) (restituzione grafica Giulio Cappa).

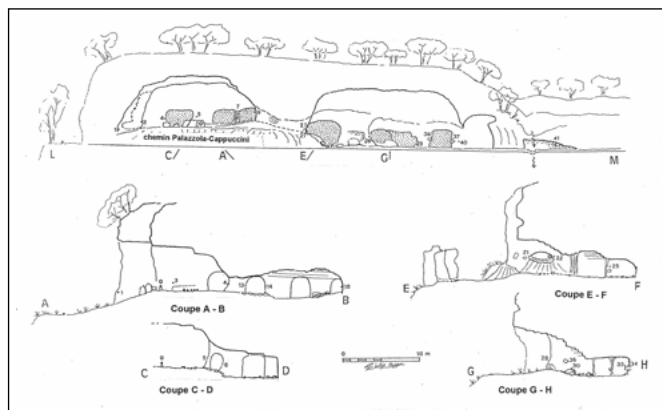


Fig. 5: sections of large cave no. 2 SE of Palazzola CA374 (Rocca di Papa, Rome) (drawing Giulio Cappa).
Fig. 5: sezioni del grottone n. 2 a SE di Palazzola CA374 (Rocca di Papa, Roma) (restituzione grafica Giulio Cappa).

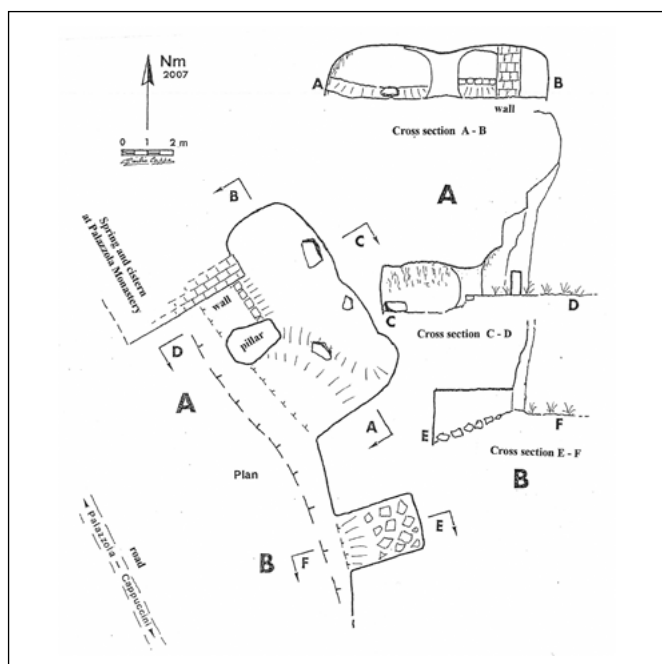
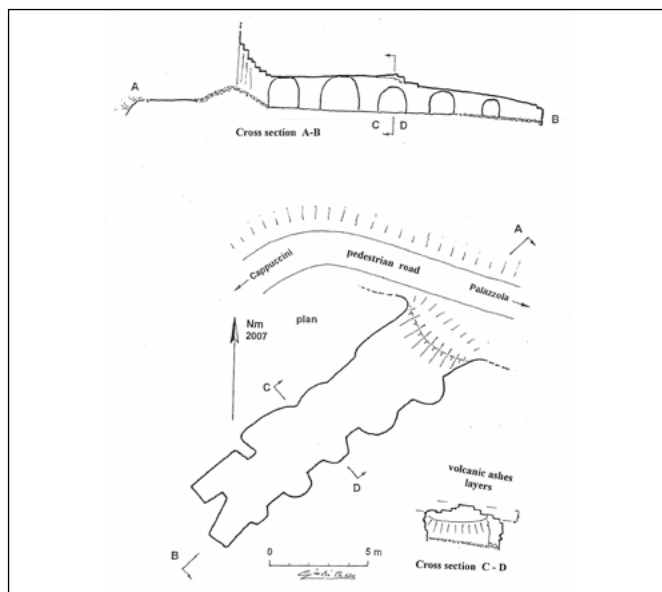


Fig. 6: two small caves before the largest caves of Palazzola CA379 (Rocca di Papa, Rome) (drawing Giulio Cappa).
Fig. 6: due piccole cavità prima dei grottoni di Palazzola CA379 (Rocca di Papa, Roma) (restituzione grafica Giulio Cappa).



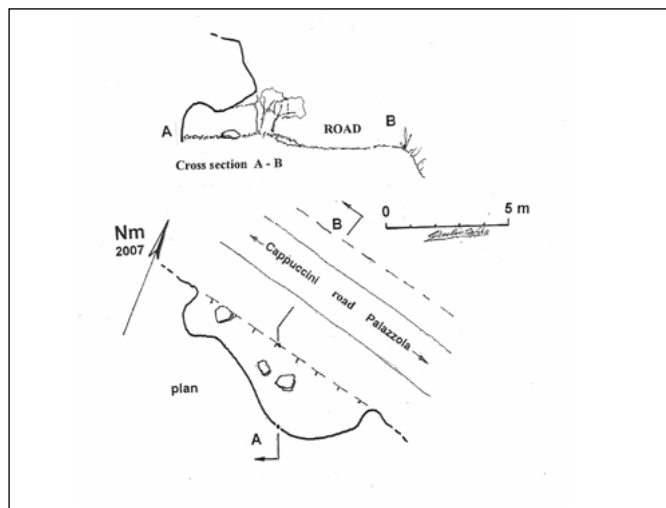


Fig. 8: shelter along the Cappuccini – Palazzola road CA381 (Castelgandolfo, Rome) (drawing Giulio Cappa).
Fig. 8: riparo sulla via Cappuccini - Palazzola CA381 (Castelgandolfo, Roma) (restituzione grafica: Giulio Cappa).

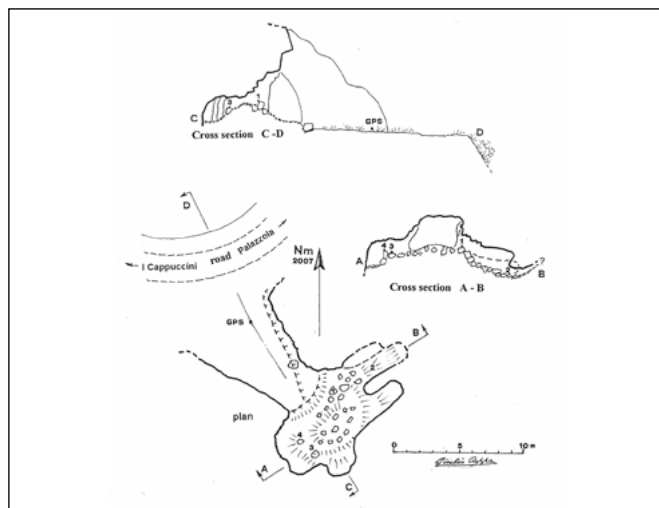


Fig. 11: half the road cave from Cappuccini to Palazzola CA384 (Albano Laziale, Rome) (drawing Giulio Cappa).
Fig. 11: grotta di mezza via tra i Cappuccini e Palazzola CA384 (Albano Laziale, Roma) (restituzione grafica Giulio Cappa).

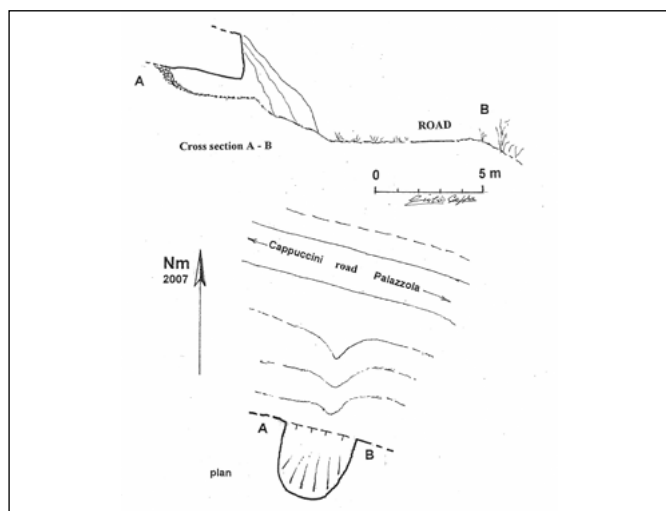


Fig. 9: small intrastratal cave along the Cappuccini – Palazzola road CA382 (Albano Laziale, Rome) (drawing: Giulio Cappa).
Fig. 9: piccola cavità d'interstrato sulla via Cappuccini - Palazzola CA382 (Albano Laziale, Roma) restituzione grafica Giulio Cappa).

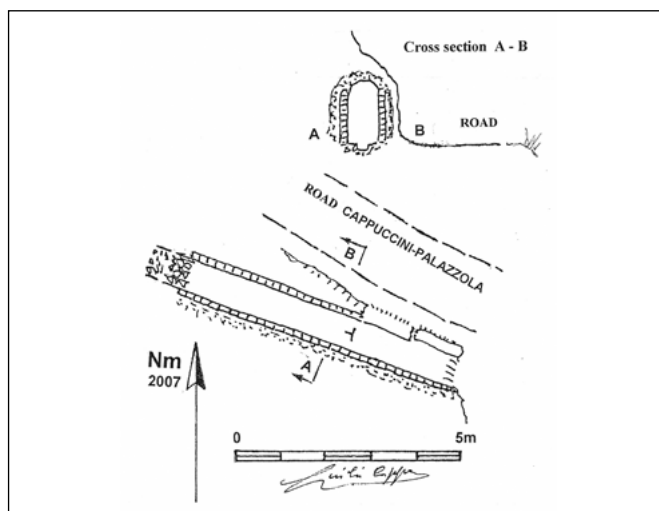


Fig. 12: roman aqueduct "Cento Bocche" short tract near the Cappuccini CA385 (Castelgandolfo, Rome) (drawing Giulio Cappa).
Fig. 12: acquedotto romano delle 100 bocche - tratto presso i Cappuccini CA385 (Castelgandolfo, Roma) (grafica Giulio Cappa).

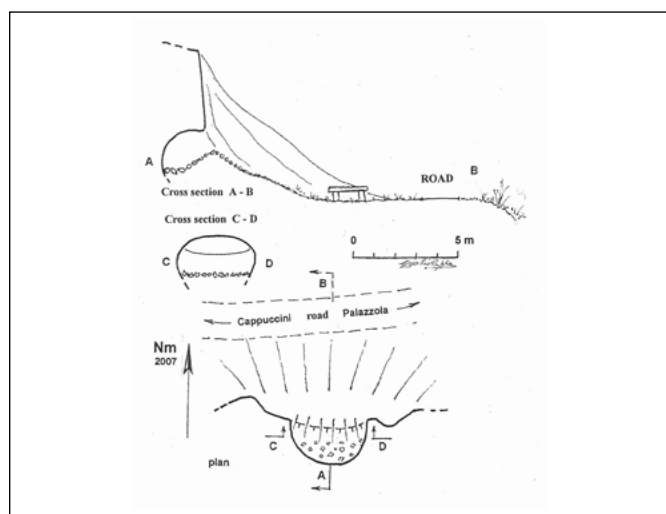


Fig. 10: hemispherical niche upon the Cappuccini – Palazzola road CA383 (Albano Laziale, Rome) (drawing Giulio Cappa).
Fig. 10 nicchia emisferica dopo il sentiero Cappuccini - Palazzola CA383 (Albano Laziale, Roma) (restituzione grafica Giulio Cappa).

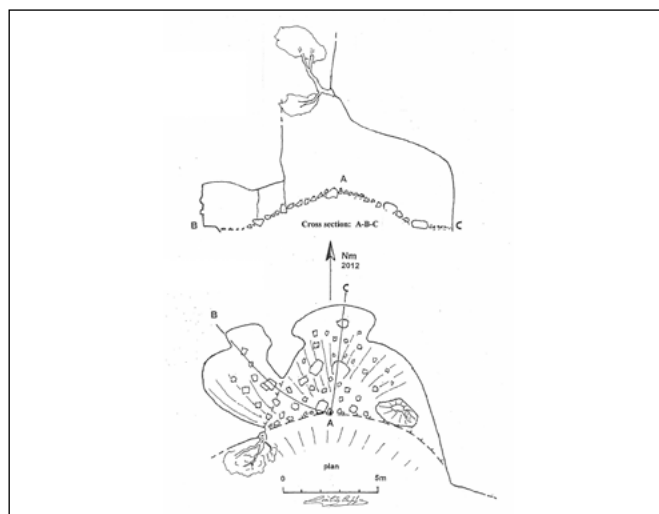


Fig. 13: small cave above the artificial cavity no. 3 CA479 (Albano Laziale, Rome) (drawing Giulio Cappa).
Fig. 13: cavernetta in alto sopra la cavità n. 3 CA479 (Albano Laziale, Roma) (restituzione grafica Giulio Cappa).

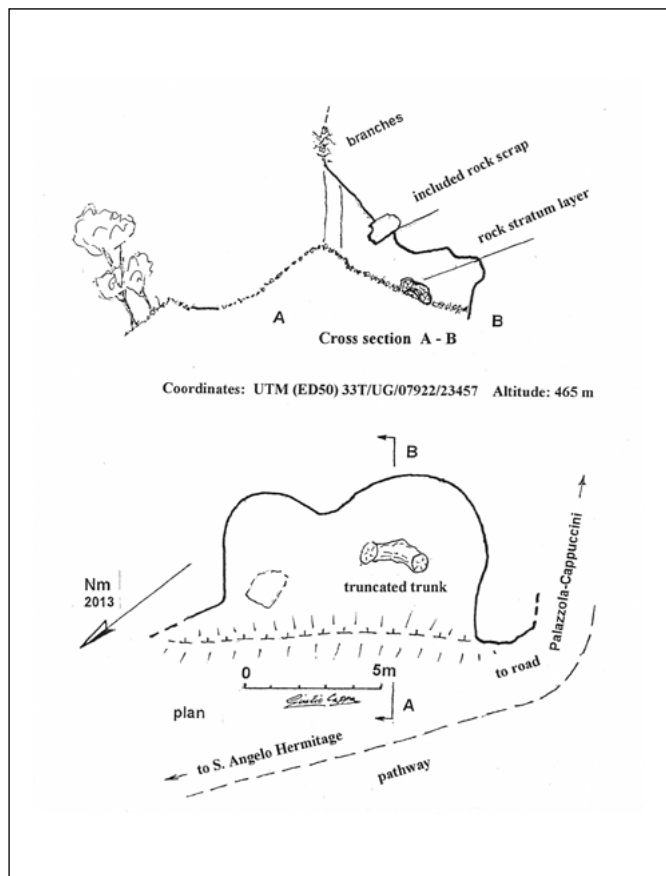


Fig. 14: cave along the path to S. Angelo in lacu hermitage CA490 (Albano Laziale, Rome) (drawing Giulio Cappa).
Fig. 14: cavità sul sentiero per S. Angelo in lacu CA490 (Albano Laziale, Roma) (restituzione grafica Giulio Cappa).



Fig. 16: roman Aqueduct "Cento Bocche" on the Cappuccini – Palazzola road (Albano Laziale, Rome) (photo Carlo Germani, Archive Egeria CRS).
Fig. 16: acquedotto romano delle "Cento Bocche" sul sentiero Cappuccini - Palazzola (Albano Laziale, Roma) (foto Carlo Germani, Archivio Egeria CRS).

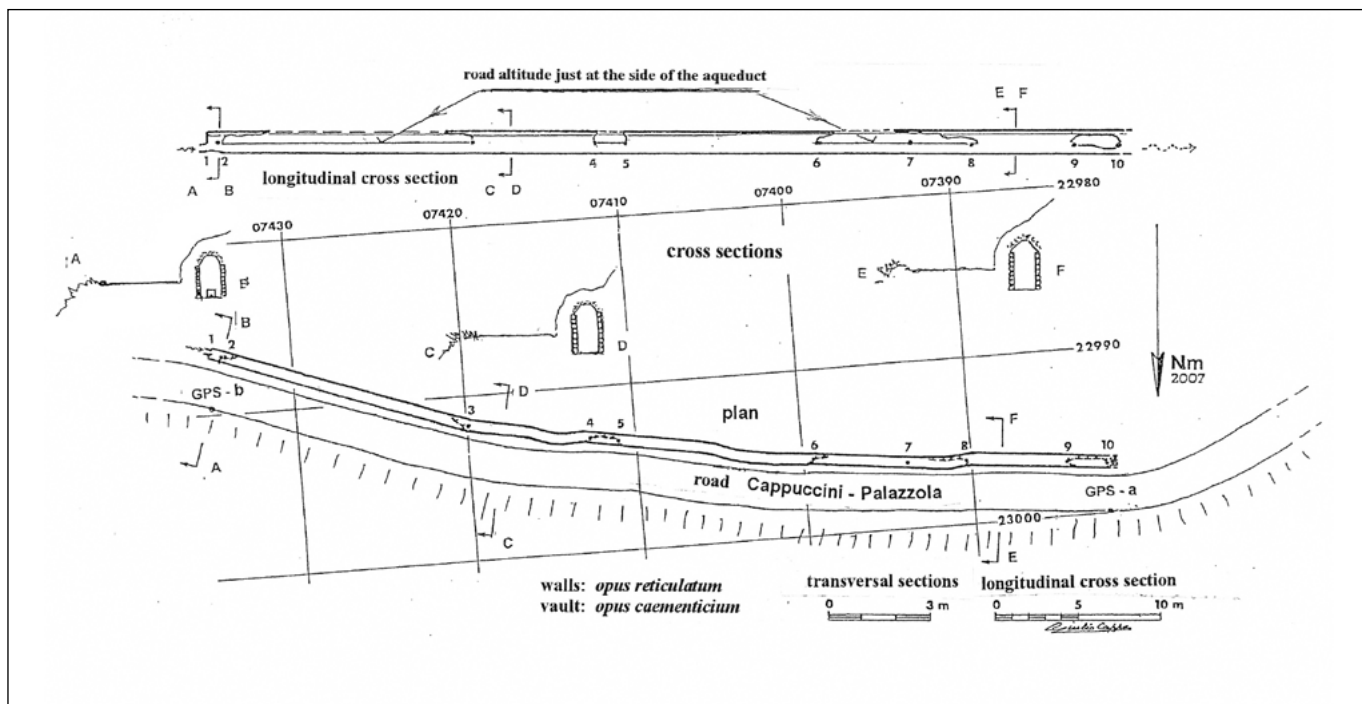


Fig. 15: roman aqueduct "Cento Bocche" half the way tract Cappuccini – Palazzola road CA386 (Albano Laziale, Rome) (drawing Giulio Cappa).
Fig. 15: acquedotto romano delle "Cento Bocche" a metà sentiero Cappuccini - Palazzola CA386 (Albano Laziale, Roma) (restituzione grafica Giulio Cappa).

neglected. Its small inside slope fosters its filling with wastes. Its origin and functions look quite different from those of other caves of this side (Fig. 7).

CA 381 LaRM - Shelter along the Cappuccini - Palazzola road

Small shelter of unknown age, probably correlated with the Roman aqueduct building works, as a quarry of *pozzolana* sand (Fig. 8).

CA 382 LaRM - Small cave between layers along the Cappuccini - Palazzola road

Small cave produced with the aim to use the *pozzolana* found below stiffer volcanic slags, during the Roman aqueduct building works (Fig. 9).

CA 383 LaRM - Hemispherical niche upon the Cappuccini - Palazzola road

This cave has been produced intentionally in hemispherical shape, maybe as a tomb. Later on, as a consequence of a collapse of the natural rock wall, it was filled with debris. This means that the cave was pre-existent to the Roman aqueduct (Fig. 10).

CA 384 LaRM - Half the road cave from Cappuccini to Palazzola

The times when this cave has been excavated are unknown, but there is evidence the cave is, at least partially, at a level lower than the Roman aqueduct. Recently the cave has been filled with debris which prevent any further investigation (Fig. 11).

CA 385 LaRM - Roman Aqueduct "Cento Bocche", short tract near the Cappuccini

Very short aqueduct tract showing the walls covered by an excellent *opus reticulatum* and the vault by mortar. The tunnel is blocked by debris after 7 m only, but a very low split under the vault allows to look further for 7 m. (Figg. 12 and 16).

CA 479 LaRM - Small cave well above CA 03 LaRM cave

Small cave, maybe partially natural but enlarged by men at the Hermitage times. One inscription into the wall shows the mark "RICCI 1974" which is the proof of a pretty recent visit (Fig. 13).

CA 490 LaRM - Cave along the path to S. Angelo in lacu hermitage

Small cave, probably of prevailing natural origin, just on the right side of the pathway which, from the road Cappuccini - Palazzola, leads to the Hermitage; as a consequence of its position it became a dumping site (Fig. 14).

CA 386 LaRM - Roman Aqueduct "Cento Bocche", half the way tract (Cappuccini - Palazzola road)

This is the only pretty long (55m) tract of this Roman aqueduct that survives.

It gathered the waters from the "Cento Bocche" springs, and partially from the "Malaffitto" springs, and allows to appreciate dimensions and features of the Roman aqueducts (see also CA118 in GALEAZZI et al., 1999; DOBOSZ et al., 2003). The tract shows a Roman aqueduct partially excavated into a solid rock (Fig. 15).

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