

# THE GRAN CARRO UNDERWATER SETTLEMENT

(Lake Bolsena, Italy)

## The new researches 2012-2016

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Lake Bolsena is a lake of volcanic origin in central Italy and it appears almost like an inland sea thanks to its size, depth and to the presence of two small islands, Bisentina and Martana. Its surface is 114 km<sup>2</sup> with the perimeter of 43 km and the maximum depth of 151 m at the center of the basin (fig. 1). The coast of the Lake Bolsena has been occupied since the beginning of the Middle Paleolithic Era. The sites are distributed between the backdrops and the lake perimeter, with a development from the Paleolithic to the Etruscan Era (fig. 2).

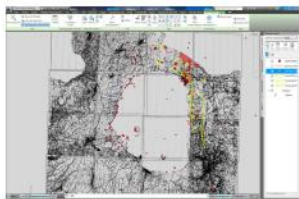


Fig. 1

Fig. 2

'Gran Carro' is a wide-spread settlement dated from the beginning of the Early Iron Age, IXth century BC. It was populated by a community with protovillanovian characters. The chronology related to its abandonment seems to be midway of the VIIIth century BC.



Fig. 3



Fig. 4

It was discovered on 12th august 1959 (fig. 3) and researches were conducted from 1960 to 1980, experimenting new methodologies of underwater excavation, electronic instrumentation for geomorphological surveys and new scuba photography equipment. The remains of the site have an average depth of 4 and 5 m, with the oriental border placed at a distance of around 100 m from the present coast. The Gran Carro village is situated on a flat backdrop and it degrades from the coast until a depth of 7,5 m. In the same area, there are two typologically different sectors: the Aiola (fig. 4, a) and Gran Carro (fig. 4, b). Aiola is the local name given to the large mounds of stones, built with unworked stones of various sizes, elliptical in shape, 60x80 m (fig. 4, a). The Gran Carro is located on the south of the Aiola (fig. 4, b), and actually it seems to have the extension of 1200 m<sup>2</sup>.



Fig. 5

Ceramic forms and decoration from the lowest level, a (1980); particular finds, b, c, d, e (2012-2016)



The research is resumed in 2012 planning a more extensive excavations of the inhabited area, due to define the structural lines of the settlement and its chronological development, to put in evidence the complete stratigraphical sequence. This years it has been experimented new topographic recording techniques such as a photographic tool, developed and realized by technicians of Research Center Lake Bolsena Scuba School, called photo-technigraph (fig. 6-7).

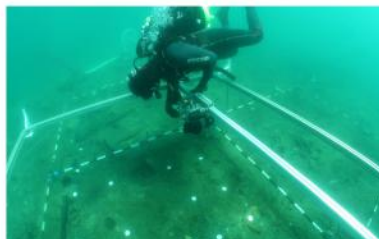


Fig. 6



Fig. 7

It is a new type of camera support trail – by a square of 2x2 m – equipped with a flowing bar which allows it to move in orthogonal pattern, just as the technical drawing table with the squares. The photo-technigraph and the aerophotogrammetric softwares, allows to create both traditional archaeological documentation and three-dimensional relief in a short time and through one step process (fig. 8-9).

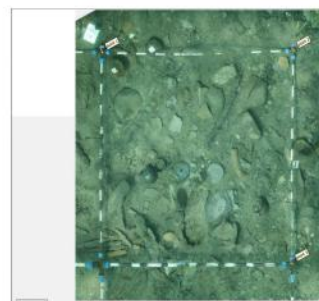


Fig. 8

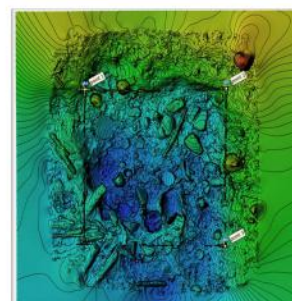


Fig. 9

Thanks to the data from previous planimetry (over 400 fixed poles) and from the recent researches and studies, there is a reconstruction proposal of the structures and huts of the Gran Carro village (fig. 10).

The Gran Carro settlement could be considered the widest pile-dwelling village of central Italy in the Early Iron Age. The continuation of the researches and stratigraphical excavation will clarified the living sequences of the settlement.

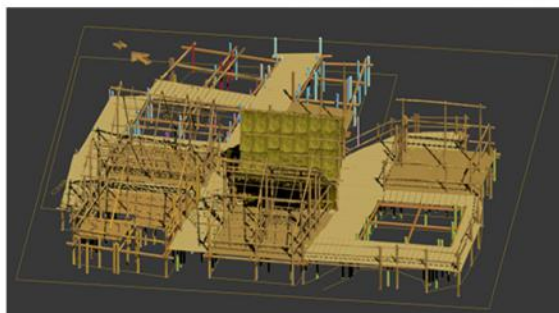


Fig. 10

### Bibliography

Tamburini, P. 1995: Un abitato villanoviano perilacustre: il "Gran Carro" sul lago di Bolsena (1959-1985) (Roma)

Petitti P., Sciancalepore A., Severi E. 2013: The Gran Carro underwater settlement in Lake Bolsena, Italy, SKYLLYS 13 n. 2, 225-232