The Megaliths of Sparossino
(Rialto, near Finale Ligure, Western Liguria)

Authors: Alfredo Pirondini*, Gian Paolo Bocca*, Filippo Pirondini*, Cecilia Pirondini* and Cesarina Villa*

* Il Finalese: Studi e Ricerche
http://ilfinalese.blogspot.it

Summary
The Authors, following recent surveys on the mountain ridge that, from north to south, separates the Pora Valley (to the east) and Maremola Valley (to the west), were able to observe the presence of megalithic structures that could be of great archaeological and archaeoastronomical interest.

Description
As reported in previous works (26), (35), the area between the Bric Gettina and the Rocca Cucca looks of arduous exploration for the difficulty in accessing to places and the tangled vegetation.

The ridge between these two pads (Figure 1) has, however, traces of suggestive megalithic artifacts that, in the area of the Rio Sparossino (tributary of Pora River) and, more precisely, on the top of a pad at 925 m above sea level (Lat. : 44.219373° N - Long.: 8.230023° E), which the Authors called "Bric of the Sparossino", takes on the appearance of a real megalithic complex (35). There are, in fact: a horizontal table of stone supported by smaller boulders, a Menhir oriented in North-South direction, a dolmen with the room opened in East-West direction, of atypical structure, for the subsidence of the northern orthostat and the alleged remains can be observed.

Figure 1
Cairns are recognizable throughout this watershed (1), (38), (39). Oldest signs of human attendance is also documented by the discovery of stone walls at the base of the southern rocky outcrop of the Rock Cucca, on the slopes of Val Maremola, but must not be neglected the megaliths described near the path that leads to the Mines of Bric Gettina (35). In particular, we should mention the building, similar to the boxes of the Ligurian Riviera, called "Casa del Fabbro" with a characteristic lithic architrave at the entrance (Photo 3) and a "pseudo-dome" (Photo 4), similar to the “Tholoi” of the Bronze Age, spread throughout the Mediterranean.
area (40). This type of archaic architecture is also present in distant areas of the Middle East and, in Liguria, is traced back to the Neolithic period (4), (40).

In some places, also, the path that leads to the Madonna della Guardia Sanctuary until Cà del Mago and Osteria Vecchia, assumes the characteristics of a real megalithic road (Photo 5).

From the geological point of view, the Melogno Porphyroids are the predominant rock formation. This is a metamorphic formation (which has undergone transformations linked to high temperatures and high pressures), effusive of volcanic origin (Geological Period: Lower Permian or Cisuralian:
from 299.0 ± 0.8 to 270.6 ± 0.7 million years ago), composed of rhyolites (quartz and feldspars, the latter minerals are in laminar structure) and rhyodacites (compact rocks in color from pink to purple and also green). It presents to the observation, for the most part, like a green stone, if on fresh surface (brown if altered), finely schistose with weaving millimetric bands, alternately whitish and greenish, composed by few phenocrystals (i.e. visible crystals, because they are larger and clearly distinguishable from the surrounding rocky matrix) less than one centimeter of quartz with potassic feldspar (25), (44).

The bedrock of the Megaliths of Sparossino appears, therefore, significantly different from that of similar finds from the nearby Finalese (area which extends, in the inland direction, from the coastline to the current route of the Highway n°10 and, along the coast, from Caprazzoppa Cape to Noli Cape), geologically characterized by a limestone of bioclastic origin, known as Stone of the Finale, rich in sea fossils, formed in the Miocene (from 20 million to 10 million years ago).

Discussion
The origin and dating of these finds are difficult problems due to the positioning in open space, subjected to the action of weathering, plants, animals and, presumably, humans. These factors may have altered during the centuries, the original structure and location of these artifacts that could date back to an epoch between the Neolithic (which, in Liguria developed between 5800 and 3600 BC) and the Age the Bronze Age (between 2200 and 900 BC), as well as other megaliths found near Finale Ligure (41), (42), (43).

The set of megaliths placed on top of the Bric Sparossino (Photo 6) is, however, extremely suggestive for possible use as a primitive astronomical observatory, taking into account the orientation of the stones themselves.

The presence also of the horizontal table, supported by smaller stones positioned in order to support it, remember the megalithic altars placed on high and protected places (7). The fact that the "altar stone" is built on a high place indicates, in all likelihood, the will to choose an appropriate site from which people could have a sort of visual control of the land below, also in relation to the sacredness of the high places and mountain peaks (22), (23), typical of the Celtic-Ligurian populations (27), (28), (29), (30), (31), (32), (33), (34), (35), (36), (37).
Further exploration could show other artifacts unknown today. The list, below, shows techniques that may identify additional buried structures and objects with the opportunity to study them, even before excavation:

a) GPR (Ground Penetrating Radar stands for, also called Georadar): its radio waves outline the structures and stratification of the underlying soil, able to construct three-dimensional images;
b) ERS (Electrical Resistance Survey, or Geoelectric Detection), which measures the resistance of the different soil layers to the electric current (the archaeological remains may have a lower or higher resistance than the ground around them and thus be highlighted);
c) Differential Magnetometer (or Gradiometer), which uses magnetic sensors (magnetometers) to detect significantly different magnetic properties from those of the surrounding areas (they can be more easily identified sites with formations such as wells, tombs, material depots, roads, ditches, walls);
d) Metal Detector: a tool that uses electromagnetic induction to detect the presence of metals;
e) LiDAR (Light Detection and Ranging or Laser Imaging Detection and Ranging), which can extract data with the laser scanning of forested areas, from which the vegetation can be digitally removed.

Recent studies, furthermore, based on new methods of ICP / OES or AAS (acronyms for Induced Coupled Plasma / Optical Emission Spectroscopy and Atomic Absorption Spectroscopy) have shown that metallurgy was widely known in the area covered by this study as early as the Middle Bronze Age (1600 - 1350 BC) and that mining was also practiced in the nearby Val Bormida (14), (15), (16), (26), (27), (28), (29).

The presence of stone tools in this area, very near to the other megaliths already described in the vicinity of the Bric Gettina Mines and the same pseudo-dome construction of “Casa del Fabbro”, overlooking the mines themselves, are now almost certainly indication that the areas examined from this study were attended by men in very remote times, probably until the Neolithic (35).

At that time, through the practiced shipping lanes, they created social and cultural ties between the peoples of the Mediterranean Neolithic (4). The pottery and even perishable goods contained therein may, therefore, be counted among the objects that were conveyed by sea since the beginning of the seventh millennium BC (6), (8), (9), (17), (18), (19), (20), (21), (24).

In this period there were further developed trade by land. Through the passes of the Finalese inland,
also known to the present day with the current names of Melogno, Madonna della Neve (or Giogo di Rialto), Colla di San Giacomo (connected to Colla di Magnone, joined, in its turn, with the Ponci Valley), men and goods could reach the Val Bormida and, hence, the Po Valley, from the Finalese (2), (3), (5).

Conclusions
The recent observations, confirmed by this study, are now unanimous in considering the Finale, since Neolithic times, as an essential part of the trade routes between the Mediterranean Sea, the Po Valley and Transalpine Europe (19). This hypothesis could be further supported by desirable archaeometric and archaemetallurgical researches on material found in the site with the help of new non-invasive (or microinvasive) techniques of archaeological investigation now available, including further studies in archaeoastronomy (10), (11), (12), (13).

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