

## Lichens from Sicilian gypsum substrates

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Gypsum soils are extremely interesting habitats from an ecological point of view. Their physical and chemical characteristics, together with their occurrence in semi-arid areas, make the life in these environments challenging for different organisms. This has led to a high diversification and a high rate of endemism, especially among plants. Stress-tolerant organisms like lichens show a high diversity and biomass in these ecosystems.

In Italy, gypsum outcrops are present along the peninsula, being formed in different geological events. In Sicily, they have been deposited during the Messinian Salinity Crisis and are part of the Gessoso-Solfifera formation, with an extension of 1000 Km<sup>2</sup>.

The lichen gypsum biota is well known in some countries, where a relatively high number of studies have been carried out (e.g. Spain). In Italy, although some outcrops have already been surveyed (e.g. Park of Northern Apennines), the knowledge is still scarce. In fact, while northern gypsums are quite known, less attention has been given to the southern ones. Thus, in order to extend the knowledge of the lichen gypsum biota in Italy, we surveyed three different gypsum areas in Sicily: Grotta di Santa Ninfa (TR), Rocca d'Entella (PA) and Torre Salsa (AG). All three areas were characterized by extensive outcrops with crystal gypsum and gypsum soils. Here we present the catalogue of the lichen species living both on soil and directly on gypsum crystals. Interestingly, we found several new records for Sicily, like *Anthracocarpon virescens* (Zahlbr.) Breuss, previously reported from Calabria or *Clavascidium semaforonense* (Breuss) M. Prieto with very few records in Italy.