

## FILONE PEAK ROCK GLACIER

Going up to Vallaccia Pass, along the slope of Filone Peak, at your right hand, detritic cover shows a strange, in some way orderly setting: a huge main lobe, with convex, gently sloping surface delimited by a steep front, seems to flow slowly down, hanging on the bottom of the valley. From aerial view, it looks like a tongue of creamy, thick fluid freezed on its way, characterized by prominent concentric ridges; nevertheless it appears entirely made of coarse debris, with gigantic boulders here and there: this is the typical aspect of a rock-glacier, that is to say, a dynamic form of the high mountain landscape that recall real glaciers but which are mainly made up of rock debris.

In reality, we are dealing with a body of boulders embedded and linked together by ice; so its behaviour is determined by plastic flow of the ice itself downslope.

Its origin has to be sought back to about 7000 years before present: sudden, catastrophic rock avalanches, falling over local retreating ice tongues could have covered them, preventing ice from quick melting, so that an ice core could survive; but more frequently, debris body itself trapped water into its voids, and let it transform into interstitial ice, which survives for years without thawing. All these phenomena result in a rock-ice mixture formed under the so called permafrost conditions, in other words, a perennially frozen ground.

The term permafrost refers rock or soil that has been frozen for at least 2 consecutive years. In general, permafrost is characterized by a superficial layer, which melts in summer, and by a deep layer that is permanently frozen. The ice core hidden by rock, debris or soil can be massive or interstitial and the layer affected by the permafrost can vary from a few tens of meters to over 200 meters thick!

Until ice core don't thaw completely, a rock glacier remains active, that is with movement; when ice completely melt out, it stops its evolution, and becomes firstly inactive and then a relict one. Rock-glaciers are diffused, in this part of alpine chain, between 2000 and 3000 m u.s.l., but only at the higher altitudes they are still active.

From the path, at an altitude of about 2200 m u.s.l., you can see only one of the four rock-glaciers of Filone Peak, the biggest one, known as Filone 3, but looking back from Vallaccia Pass, also the nearby Filone 2 rock-glacier will appear to the left of it; while a complete look inside the whole group requires an alternative lateral walk through debris, on traces of paths, up to an altitude of about 2750 m u.s.l.