

Fig. 11. Geological map of Mt. Freikofel and surroundings.

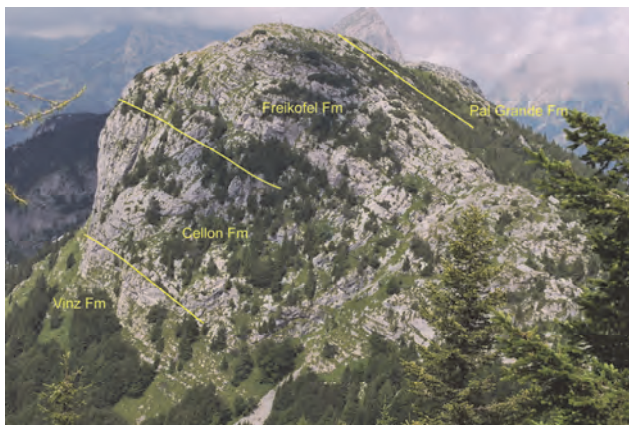


Fig. 12. View of the Mt. Freikofel from the East with the lithostratigraphic subdivisions.

(Givetian) and Freikofel (Givetian-Frasnian) Fms (Fig. 12). The transitional units provide an insight into the development of the entire platform, reflecting the depositional evolution of the moderately shallow water part of the basin, with the advantage of an almost complete sedimentary record, also datable by conodonts.

This sequence is covered by the Pal Grande Fm. (Frasnian-Famennian and locally Tournaisian in this area) and, in disconformity, by patches of Plotta Fm. The Variscan sequence in this area

terminates with the mostly turbiditic Hochwipfel Fm. (Visean-Bashkirian).

### 3.2.2. Stop 3 – Rauchkofel-Kellerwand formations transition

The limit between the Rauchkofel and Kellerwand Fms is exposed in correspondence of the FRKS section (Fig. 13), at the altitude of 1525 m and coordinates N 46°35'55.7" E 12°58'46.7".

Here the very dark grey packstone/grainstone to locally coral-bearing rudstone of the Rauchkofel Fm. are covered by medium dark grey mudstone and wackestone of the

Kellerwand Fm. This transition has been dated by scarce conodont data roughly referable to the Lochkovian-Pragian boundary (the index taxon *Icr. steinachensis* beta has been collected at the base of the Kellerwand Fm.).

Few tens of meters ahead along the path, the Kellerwand Fm. is better exposed and has been dated as lower part of the Pragian Stage (PERRI & SPALLETTA, 1998). Moving upward in the stratigraphic column, some lithoclastic horizons composed of grainstone and packstone become increasingly abundant. These levels might represent tempestites suggesting that the Kellerwand Fm. formed in the medium to distal part of a ramp-type margin (VAI, 1980).

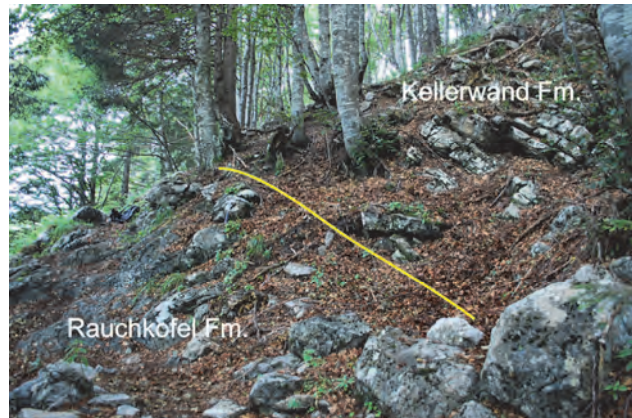


Fig. 13. Boundary between Rauchkofel Fm. and Kellerwand Fm. at the FRKS section.

### 3.2.3. Stop 4 – Alticola-Rauchkofel formations transition

The limit between the Alticola and Rauchkofel Fms is exposed in the FRS section (Fig. 14) at the altitude of 1552 m (coordinates N 46°35'54.9" E 12°58'32.3").

The grey pelagic *Orthoceras* bearing limestone of the Alticola Fm. pass into dark grey wackestone to grainstone of the Rauchkofel Fm. roughly corresponding to the Silurian-Devonian boundary.

The Rauchkofel Fm. consists of packstones to grainstones showing hummocky-cross stratification sometimes passing to wave ripples and interlayered with shales, which suggest deposition within the off-shore transition. Immediately above in the section, a coarser grained very thick bed suggests a transition to shoreface conditions. This succession suggests that the basin profile at the base of the Devonian corresponded to a ramp-type margin.

Walking forward along the track, we will move down in the succession, reaching the Silurian Kok Fm. and then the Alticola Fm. In this area the Cardiola Fm. is covered by detritus and vegetation, although sometimes can be inferred by the dark color of the terrains. Starting to climb towards the top of Mt. Freikofel, the Rauchkofel Fm. is exposed. In particular, the breccia facies crops out widely. It consists of angular clast-supported cm-large clasts that suggest a limited sedimentary transport.

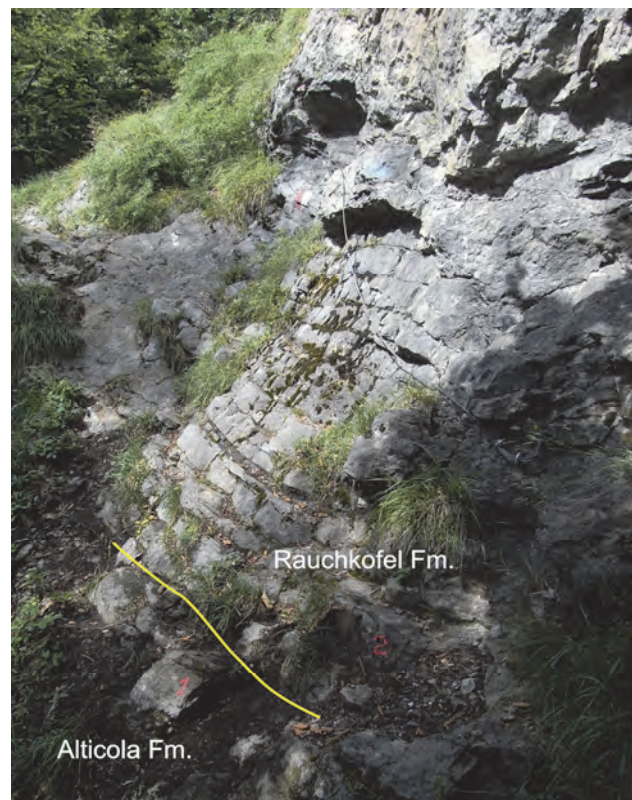


Fig. 14. Boundary between Alticola Fm. and Rauchkofel Fm. at the FRS section.