



Fig. 17. Panoramic view of the Creta di Timau area, with simplified stratigraphy and tectonic. The westward part of the complex shows the sharp boundary between the Rauchkofel and Kellerwand formations.

The top of Mt. Freikofel offers a spectacular panoramic view of the geology of this part of the Carnic Alps. To the southeast, the southern part of the anticlinal structure can be seen (Fig. 17), showing south-dipping beds of the Rauchkofel Fm. and the sharp transition to the Kellerwand Fm. The Rauchkofel Fm shows a clear thickening upward succession which reflects a shallowing upward trend abruptly interrupted at the base of the Kellerwand Fm. On the Eastern end of the cliff, the fault-bounded Creta di Timau represents part of the north-dipping flank of the anticline.

Toward the West (Fig. 18), the same succession of the Mt. Freikofel crops out in the Pal Piccolo and Cellon mountains. Instead in the Pizzo Collina, Mooskofel, Gamskofel and Polinik, the Devonian consists of shallow water facies.

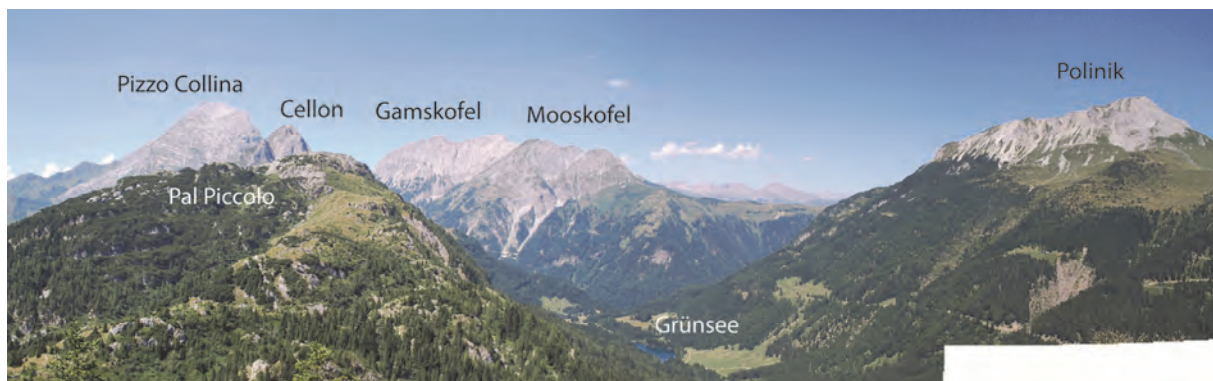


Fig. 18. Panoramic view to the west from the Mt. Freikofel top. The Pal Piccolo and Cellon mountains consists of the same succession as the Mt. Freikofel. More to the west, the transition to the Devonian shallow water platform occurs.

### 3.2.6. Stop 7 – Freikofel and Pal Grande formations

Starting the descent from Mt. Freikofel in western direction, we will observe the gradual increase of thin-bedded grey and pink mud- and wackestones that will pass to the Pal Grande Fm. (Figs. 11, 12, 19). The formation boundary is assigned to the Frasnian according to conodont data (SPALLETTA et al., 2015a).

From the Lower Frasnian, the succession records low occurrences of reef-builder debris and/or shallow water-derived allochems compared to the high proportion of fore-reef-slope-derived lithoclasts (PAS et al., 2014). These data suggest a deposition during a period of low carbonate productivity within the shallow water settings, which in turn suggest that the early

Frasnian reefs of the Carnic Alps were in decline earlier than in most of the reef localities throughout the Middle–Upper Devonian world (PAS et al., 2014). This appears to be related to the extensional or transtensional tectonic episode supposed by SPALLETTA et al. (1980, 1982) and SPALLETTA & VAI (1984). The progressive sea-level rise is marked by deposition of red nodular limestone overlying the thick sequence of reef and fore-reef “transitional” facies of the Devonian Carnic Alps carbonate platform (PAS et al., 2014).

### 3.3. Lake Wolayer area (Days 3–4)

In the last two days of the field trip a hike to Lake Wolayer area is planned (Fig. 20). We will start at Untere Valentin Alm (1220 m) and walk through the Valentin Valley up to Valentintörl (2138 m). Then we will continue to Lake Wolayer (1951 m). Several sections will be shown along the trail, and geological overviews will be given, too. An overnight stay is scheduled at Rifugio Lambertenghi-Romanin.

On the next morning we will visit the Costone Lambertenghi/Seekopf Sockel section, and will walk along the Geotrail Lake Wolayer until the famous Rauchkofel Boden section. After that, we will walk back to Untere Valentin Alm, where the field trip will end.

#### 3.3.1. Stop 8 – Geological overview along the Valentin Valley

The Valentin Valley formed in correspondence of a large strike-slip fault that represents the most recent deformational structure of this area. In the northern part of the Valley, following the Variscan and Alpine compressional and strike-slip phases, the Middle Devonian shallow water units of Mt. Mooskofel are thrust by the Middle Devonian lagoonal units of the Mt. Gamskofel; both are referred to the Polinik Fm. A large NW-SE trending fault separates these units from the Mt. Rauckhofel where several tectonic

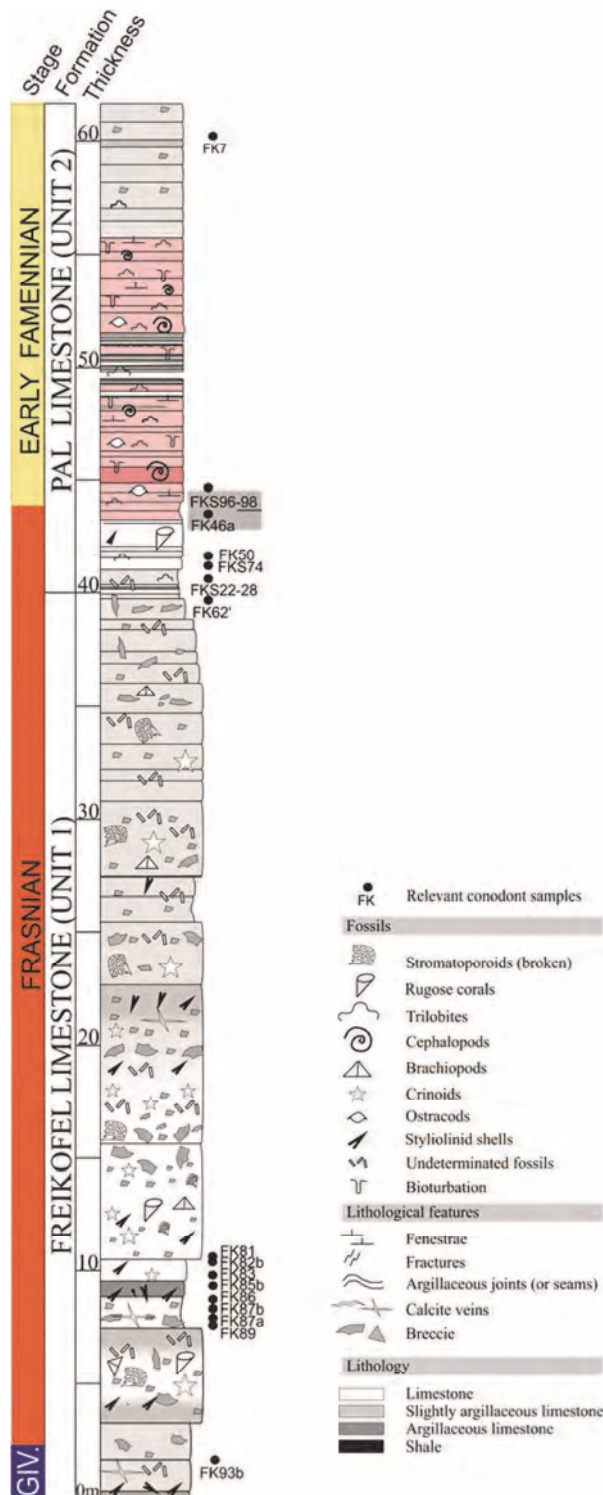


Fig. 19. Stratigraphic log of the Freikofel-Pal Grande Fms. transitions, (after PAS et al., 2014).

repetitions from Upper Ordovician to Upper Devonian strata occur. The Devonian units here belong to the transitional facies.