3.3.8. Stop 15 – Rifugio Lambertenghi Fontana III section

The Rifugio Lambertenghi Fontana III (RLF III) section (Fig. 28) is located about 100 m south of the mountain hut in the western side of the valley, along the path from Rifugio Lambertenghi Romanin to Mt. Capolago/Seekopf, at coordinates N 46°26'22.7", E 12°52'05.4". More than 15 meters of limestone crop out in a World War I trench, immediately west of the path. The section is subdivided into two parts, 5 and 10.5 m thick respectively, separated by a covered interval about 10 m thick.

The lower part of the section, up to sample RLF III 3A, is represented by grey micritic limestone, with a sparse crinoid remnants and scattered rare brachiopods. It represents a transitional facies between the Alticola and the Seekopf formations, still attributed to the former.

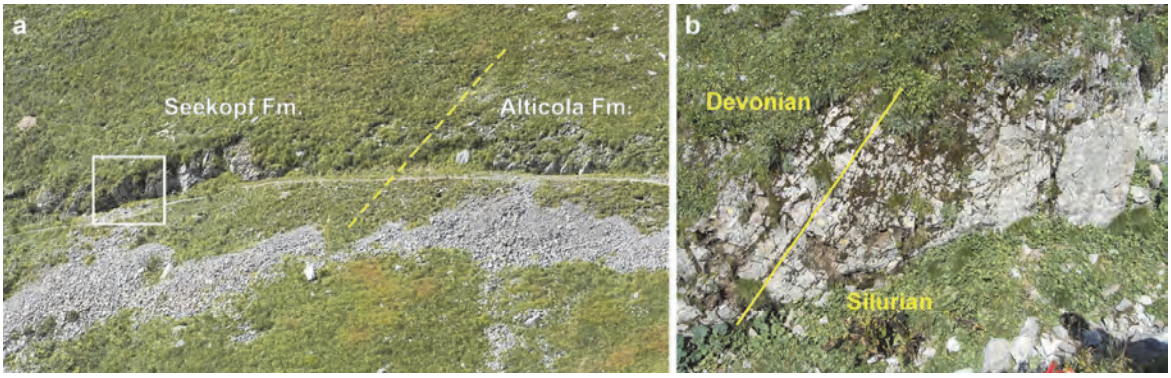

Fig. 28. The Rifugio Lambertenghi Fontana III section. a) Panoramic view of the section with indication of the lithostratigraphic units; b) Detail of the part of the section across the Silurian/Devonian boundary (box in fig. a).

The upper part of the section belongs to the Seekopf Fm. It is represented by a fossiliferous packstone and wakestone, with the fossil content increasing toward the top of the section. However, the state of preservation of the fauna is poor. Crinoids are always abundant and brachiopods often present, at places concentrated in centimeter-thick coquina-like levels. The fauna includes bivalves, nautiloid cephalopods, rare trilobites and solitary corals. In the uppermost part of the section, above sample RLF III 2, bedding planes are difficult to observe, due to heavy weathering and fracturing of the rocks.

The age of the section ranges from the Lower *Oul. el. detortus* Zone to the *Icr. hesperius* Zone.

The Silurian/Devonian boundary is located in the uppermost part of the section, at level of sample RLF III 1L, slightly above the entry of *Z. remscheidensis* and in the upper part of the prominent $\delta^{13}C$ shift typical of uppermost Pridoli.

References: CORRIGA et al. (2009), CORRADINI & CORRIGA (2010).

3.3.9. Stop 16 – Costone Lambertenghi/Seekopf Sockel section

The Costone Lambertenghi/Seekopf sockel section (Fig. 29) is located along the state border west of the Wolayer Pass, at coordinates N 46°36'33.6" E 12°51'58.5" (base), N 46°36'32.0" E 12°51'52.6" (top). Strata of Ordovician to Carboniferous ages are here exposed which are tectonically superimposed The lower and the upper parts belong to different sedimentary sequences, separated by a major thrust. The lower part of the section has been studied much more in detail than the upper part.

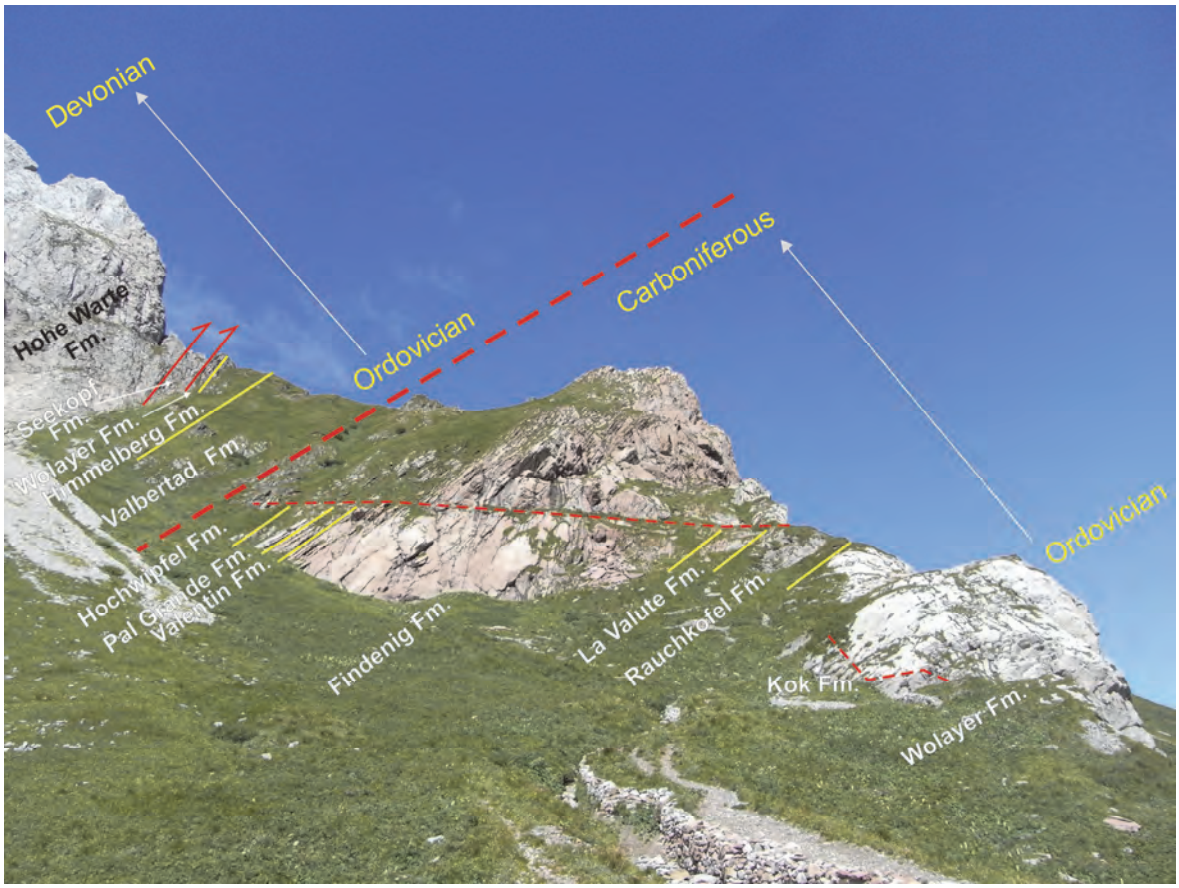

Fig. 29. Panoramic view to the northwest of the Costone Lambertenghi/Seekopf Sockel section, with indication of lithostratigraphic units and structural features.

The following lithostratigraphic units can be recognised (from base to top):
- Wolayer Fm.: coarse grained cystoid limestone. Thickness: about 15 m. Age: Katian-Hirnantian.
- Kok Fm.: red patchy laminated limestone with stromatolite-like structures and pink-colored wackestone/packstone with abundant trilobite remain resting disconformably upon the Wolayer Fm. Thickness: up to 1.1 m. Age: Wenlock-Ludlow (*Oz. s. rhenana-Pol. siluricus* zones, BRETT et al., 2009).
- Alticola Fm.: light grey limestone, also resting on the Wolayer Fm. Thickness: 80 cm. Age top Pridoli? to Lochkovian.
- Rauchkofel Fm.: dark grey platy limestone with centimetric black shale intercalation, followed by pinkish crinoidal limestone. Thickness: 13.90 m. Age: Lochkovian.
- La Valute Fm.: light grey flaser limestone. Thickness: 1.90 m. Age: Lochkovian.
- Findenig Fm.: red argillaceous tentaculite limestone. Thickness: estimated 30-40 m. Age: Pragian to Middle Devonian.
- Valentin Fm.: well bedded light grey micritic limestone. Thickness: 2 m. Age: No data available from this part of the section.
- Pal Grande Fm.: grey limestone. Thickness: 3 m. Age: Frasnian? (SCHÖNLAUB, 1980).
- Hochwipfel Fm: siltstone and shale. Age: Carboniferous.

In the upper part of the section, above the overthrust, the following formations crops out: Valbertad Fm., Himmelberg Fm., Wolayer Fm., Seekopf Fm. and Hohe Warte Fm. The latter forming the high white cliff of Mt. Seekopf/Capolago.

References: VAI (1967), SCHÖNLAUB (1970, 1980), BRETT et al. (2009).