

Rauchkofel Formation

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Blatt UTM 3116 Sonnenalpe Naßfeld
Blatt UTM 3117 Nötsch im Gailtal

Definition

Dark, well bedded, platy limestone (mudstone to wackestone), with intercalation of black shales and marls. Locally calcarenites and cherts interbedded are present, as well as finely laminated calcisiltites; in place calcirudites and thick conglomeratic beds occur.

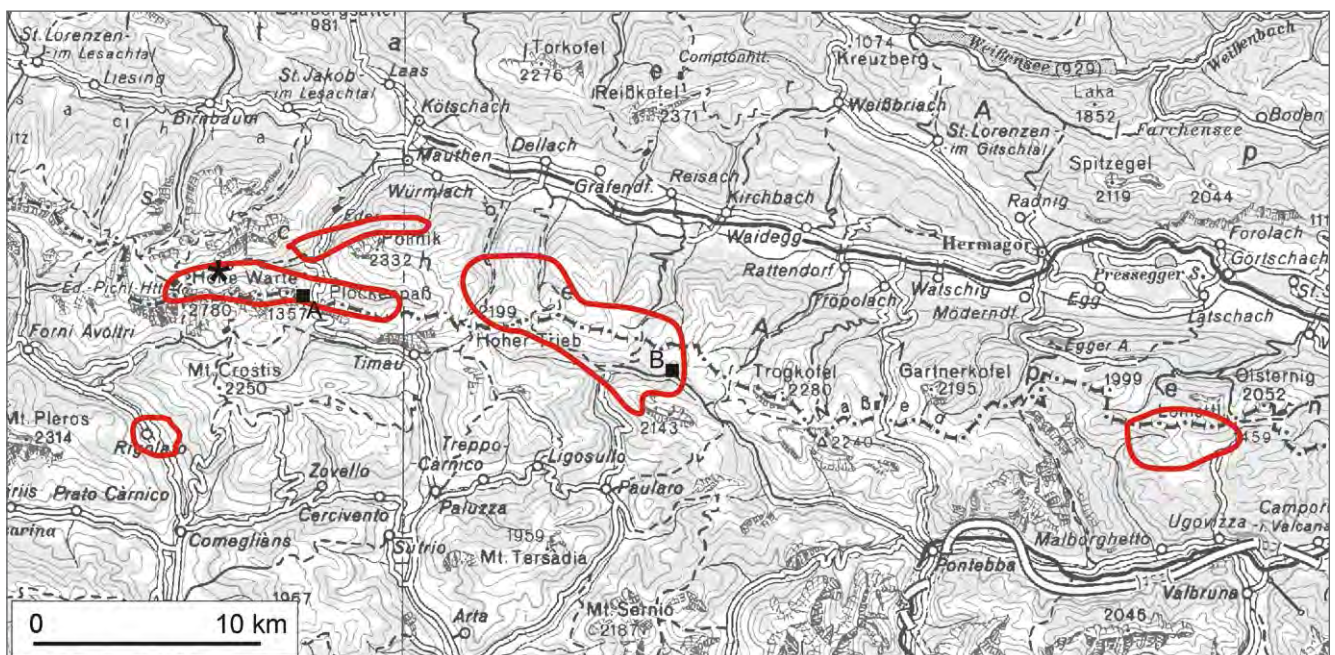
Description

The Rauchkofel Formation mainly consists of dark gray to black laminated and well-bedded, partly platy limestones intercalated with black shales and marls of various thickness. Lateral variations are common.

Thickness of beds varies from very thin to medium for limestones. Black graptolitic shales with graptolites are more abundant in the lower part of the unit, where they may constitute levels up to 15 cm thick. In the proximal parts of the basin thick to very thick calcarenitic beds and breccias occur more frequently in the upper part of the unit, but in places they may occur also in the lowermost part. A distinct horizon with loboliths is present in the lowermost part of the formation.

Fossil content

Brachiopods, chitinozoans, cephalopods (nautiloids), conodonts, crinoids (a scyphocrinoid horizon at the base of the unit), gastropods, graptolites, ostracods, radiolarians, tentaculites, trilobites.



Areas of outcrop of the Rauchkofel Formation with indication of the stratotype (asterisk) and reference sections (squares). A: Cellon Section; B: Rio Malinfier West Section.



The Rauchkofel South Section. a) log of the section (modified after SCHÖNLAUB, 1970); b) panoramic view (photo H.P. SCHÖNLAUB).

Depositional environment

Offshore.

Stratotype

Rauchkofel South Section (named “Rauchkofel IV Profil” in SCHÖNLAUB, 1970), located on the southern slope of Mt. Rauchkofel, at coordinates N 46°36'58.5”, E 12°53'23.0”.

Reference sections

Eastern slope of Mt. Cellon, where the boundaries with the Alticola Formation (WALLISER, 1964; CORRADINI et al., 2015) and with the Kellerwand Formation are exposed.

Rio Malinfier West Section (coordinates N 46°34'50”, E 13°07'151.6”), where the boundaries with the Alticola Formation, the Nölbling Formation and the La Valute Formation are exposed (CORRIGA, 2011; CORRADINI et al., 2012).

Type area

Carnic Alps.

Main outcrop areas

The Rauchkofel Formation crops out along the whole Carnic Alps, mainly in Lake Wolayer-Rauchkofel, Mt. Cellon-Pal Piccolo-Freikofel, Oberbuchach-Rio Malinfier and Monte Cocco sectors, and near Rigolato village.

Thickness

Very variable: 2–11 m where overlain by the La Valute Formation, and up to 120 m where overlain by the Kellerwand Formation.

Boundaries

Underlying unit – Alticola Formation (conformable, sharp contact).

Overlying unit – La Valute Formation (conformable, sharp contact), Nölbling Formation (conformable, gradual contact), Kellerwand Formation (conformable, gradual contact).

Lateral unit – Seekopf Formation, Nölbling Formation, La Valute Formation, Findenig Formation.

Derivation of name

After Mt. Rauchkofel.

Synonymy

Schwarze Plattenkalke: GAERTNER (1931).

ey-Plattenkalke: GAERTNER (1931).

ey-Schichten: GAERTNER (1931).

Formazione di Monte Lodin [partim]: SELLI (1963).

Schwarze Kalke der Einheiten 0b, 0d, 0f, 0g: BANDEL (1969).

Calcari lastroidi: VAI (in BRAGA et al., 1971); SPALLETTA et al. (1982).

ey limestone: SCHÖNLAUB (1980).

Pelagic Rauchkofel Limestone: KREUTZER (1992, sensu SCHÖNLAUB, 1985b).

Grey bedded limestone: VAI (1998).

Calcari dolomitici e lastroidi: VENTURINI (2006).

Calcari del Rauchkofel [partim]: SPALLETTA & PONDRELLI (2009).

Chronostratigraphic age

Devonian: Lochkovian, from just above the Silurian/Devonian boundary into the upper Lochkovian. However, where the unit is overlain by the La Valute Formation, it is limited to the lower Lochkovian, or just reaches into the middle Lochkovian.

Biostratigraphy

Conodonts. – From within the *Icr. hesperius* Zone (CORRIGA & CORRADINI, 2009; CORRADINI et al., 2015) into the *M. pandora* β Zone.



Views of the Rauchkofel Formation in the field. a) thin bedded limestones in the Cellon Section (photo C. CORRADINI); b) dark limestones and black shales alternation in the Rio Malinfier West Section (photo C. CORRADINI); c) detail of a laminated limestone bed in the Mt. Freikofel area (photo M. PONDRELLI).

However, where the Rauchkofel Formation is overlain by the La Valute Formation the upper boundary lies in the upper part of the *Icr. postwoschmidti* Zone (CORRIGA & CORRADINI, 2009), or in the lower part of the *A. carlsi* Zone (SCHÖNLAUB, 1980, 1985a; CORRIGA, 2011; CORRADINI et al., 2012).

Graptolites. – From the *Monograptus uniformis* to the *M. hercynicus* zones (SCHÖNLAUB, 1970, 1985a; JAEGER, 1975).

Chitinozoans. – The *Eisenackitina bohemica* Zone was documented by PRIEWALDER (1997) at the base of the unit.

Complementary references -

Remarks -

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