

Bischofalm Formation

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Österreichische Karte 1:50.000
Blatt BMN 197 Kötschach
Blatt BMN 198 Weißbriach
Blatt BMN 199 Hermagor

Carta Topografica d'Italia 1:50.000
Foglio 031 Ampezzo
Foglio 032 Tolmezzo
Foglio 033 Tarvisio

Blatt UTM 3109 Oberdrauburg
Blatt UTM 3110 Kötschach-Mauthen
Blatt UTM 3116 Sonnenalpe Naßfeld
Blatt UTM 3117 Nötsch im Gailtal

Definition

Black siliceous and alum shale, lydite and grayish green argillaceous shale in the middle part.

Description

The Bischofalm Formation consists of monotonous sequences of interbedded radiolarian cherts and alum shales in the lower and upper part of the unit, and with a distinct gray-greenish intermezzo, that has provided graptolites as well.

Fossil content

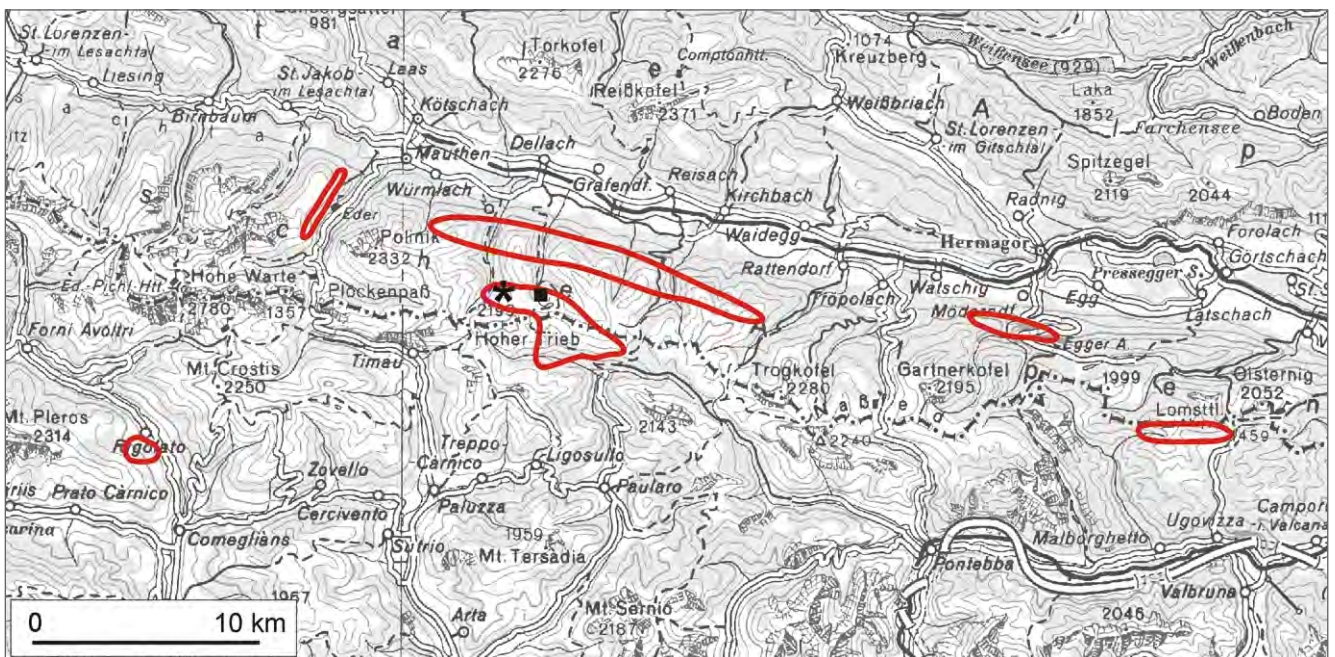
Conodonts, graptolites, radiolarians.

Depositional environment

Deep shelf to basinal euxinic.

Stratotype

Bischofalm "Hauptprofil" of Graptolithengraben Section at altitude 1560 m (FLÜGEL et al., 1977; SCHÖNLAUB, 1985) at coordinates N 46°36'48", E 13°03'38".



Main areal distribution of the Bischofalm Formation with indication of the stratotype (asterisk) and of the reference section (square). Asterisk: Graptolithengraben Section; square: Waterfall Section.



Views of the Graptolithengraben Section. a) lithostratigraphic column of the section (redrawn from FLÜGEL et al., 1977 and SCHÖNLAUB, 1985); b) close view of the Bischofalm Formation exposed in the Graptolithengraben Section (photo H.P. SCHÖNLAUB). Note that the section is reversed.

Reference sections

Waterfall Section (SCHÖNLAUB, 1985; ŠTORCH & SCHÖNLAUB, 2012), east of Zollnersee Hut, at coordinates N 46°36'20", E 13°04'18", exposing the base of the Silurian that is missing in the stratotype.

Type area

Central Carnic Alps.

Main outcrop areas

Bischofalm, area around Lake Zollner, Dellach Alm, area of Rio Cercevesa-Casera Lodin to Meledis, Gugel, Pessendellach near the eastern end of Carnic Alps. Area north of Monte Cocco.

Thickness

Estimated about 60 - 80 m.

Boundaries

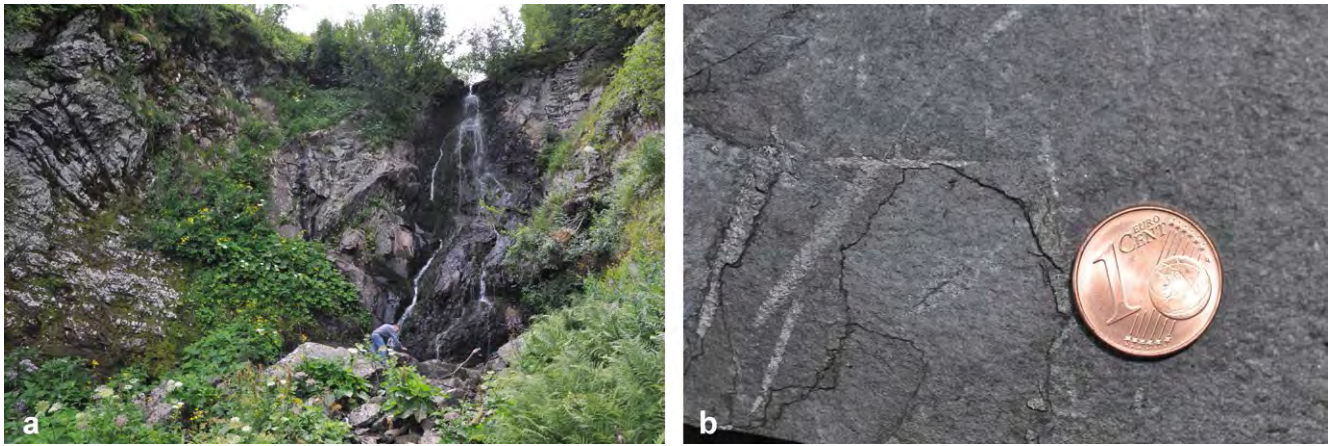
Underlying units – Plöcken Formation (conformable, sharp contact).

Overlying units – Zollner Formation (conformable, gradual contact).

Lateral units – Nölbling Formation.

Derivation of name

After the locality of Bischofalm (Austria).



Views of the Bischofalm Formation in the field (photos H.P. SCHÖNLAUB). a) global view of the Waterfall Section; b) close view of a graptolite slab.

Synonymy

Graptoliten-Schiefer: STACHE (1872).
 Gailthaler Schiefer: TARAMELLI (1874).
 Scisti a graptoliti: TARAMELLI (1895a, b).
 Gotlandiano: facies scistosa: GORTANI (1926).
 Siluriano superiore. Scisti neri grafitici o selcioso grafitici: GORTANI & DESIO (1927).
 Calcari e marne nere alternati, talora con argilliti ai Graptoliti; calcari rossicci o nerastri ad "*Orthoceras*", calcari nodulari: ASSERETO et al. (1968).
 Calcari chiari a Crinoidi; marne brune e argilliti nere: ASSERETO et al. (1968).
 Lower Graptolitic Shales: FLÜGEL et al. (1977).
 Grey-Green eß Shales: FLÜGEL et al. (1977).
 Upper Graptolitic Shales: FLÜGEL et al. (1977).
 Untere Bischofalm-Schiefer: JAEGER & SCHÖNLAUB (1994).
 Mittlere Bischofalm-Schiefer: JAEGER & SCHÖNLAUB (1994).
 Obere Bischofalm-Schiefer: JAEGER & SCHÖNLAUB (1994).
 Argilliti a graptoliti: VAI et al. (2002).
 Formazione della Bischofalm: VENTURINI (2006).

Chronostratigraphic age

Silurian – Devonian: Rhuddanian to Lochkovian.

Biostratigraphy

Graptolites. – *Akidograptus acuminatus*-*Monograptus hercynicus* zones (FLÜGEL et al., 1977; JAEGER & SCHÖNLAUB, 1980, 1994; SCHÖNLAUB, 1985; ŠTORCH & SCHÖNLAUB, 2012).

Complementary references

Geochemistry. – PASAVA & SCHÖNLAUB (1999).

Isotopes. – WENZEL (1997).

Remarks

Outcrops are often affected by tectonics that prevents in many cases definition of original thickness. Individual outcrops are in tectonic contact with other units.

Several K-bentonites levels were described and discussed by HISTON et al. (2007).

Reflectance on graptolites was performed by RANTITSCH (1992).

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