

Hoher Trieb Formation

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Österreichische Karte 1:50.000

Blatt BMN 197 Kötschach

Blatt BMN 198 Weißbriach

Blatt BMN 199 Hermagor

Blatt UTM 3109 Oberdrauburg

Blatt UTM 3110 Kötschach-Mauthen

Blatt UTM 3116 Sonnenalpe Naßfeld

Blatt UTM 3117 Nötsch im Gailtal

Carta Topografica d'Italia 1:50.000

Foglio 018 Passo di Monte Croce Carnico

Foglio 031 Ampezzo

Foglio 032 Tolmezzo

Foglio 033 Tarvisio

Definition

Well-bedded pack-/grainstone and float-/rudstone, wackestone, cherts and laminated black shales (SELLI, 1963a; PÖLSLER, 1969; SCHÖNLAUB, 1969, 1980, 1985a, b; KREUTZER, 1992a, b; HUBMANN et al., 2003; SPALLETTA & PONDRELLI, 2009; KIDO et al., 2011a, b, c; PONDRELLI et al., 2015).

Description

The Hoher Trieb Formation consists of five well-bedded facies listed below:

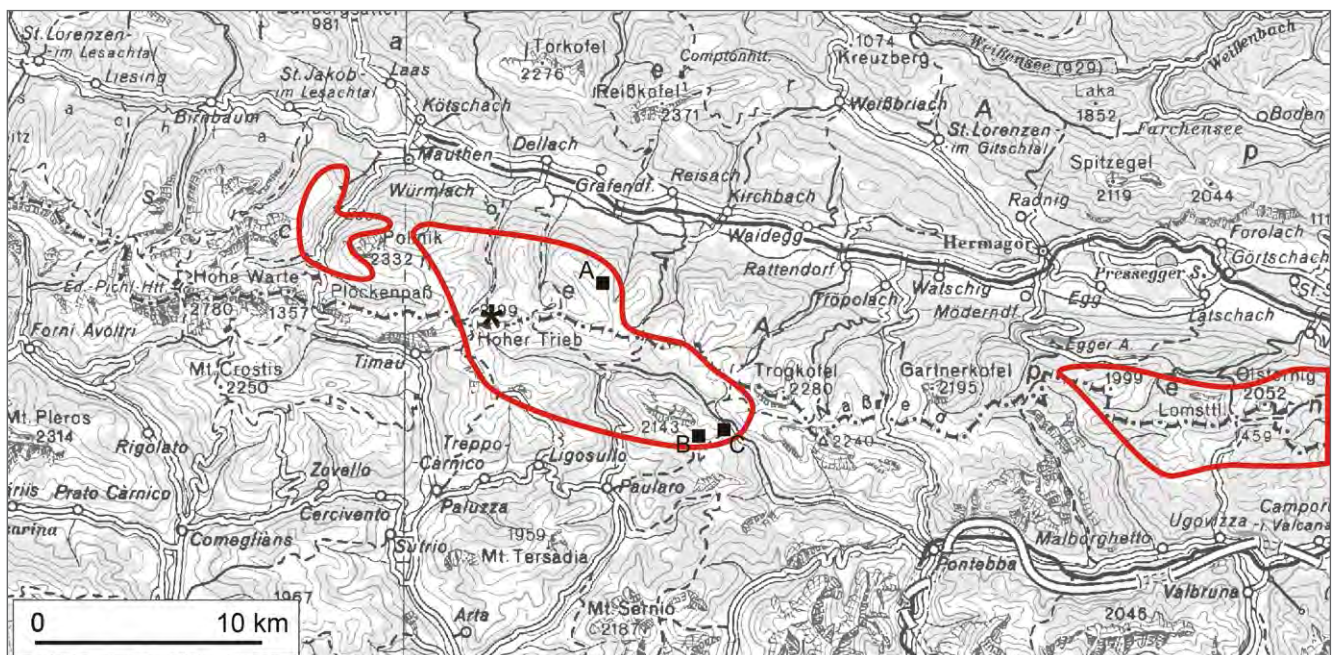
Facies A: medium dark gray very thick-bedded rudstone and floatstone; matrix consists mainly of grainstone; silicified corals are common among the clasts;

Facies B: medium dark gray thin to thick-bedded pack-/grainstone locally showing evidence of tractive structures;

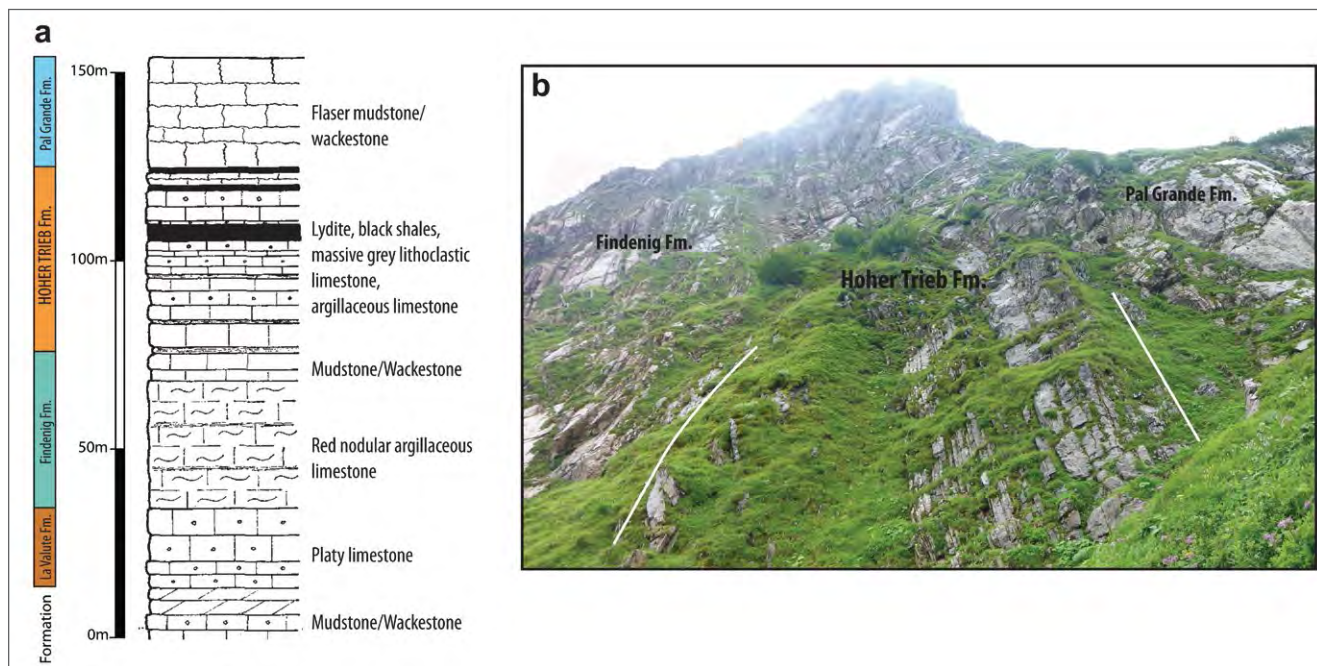
Facies C: medium dark gray thin to medium-bedded wackestone;

Facies D: black thin to medium-bedded laminated cherts; cherts are also locally present in nodules mainly within facies C;

Facies E: black very thin to thin-bedded laminated shales.



Areas of outcrop of the Hoher Trieb Formation with indication of the stratotype (asterisk) and reference sections (squares). A: Oberbuchach Section; B: Forca di Lanza Section; C: Zuc di Malaseit Bassa Section.



The Hoher Trieb Section. a) log of the Hoher Trieb Formation (SCHÖNLAUB, 1969); b) view of the section taken from the East (photo M. PONDRELLI).

Fossil content

Cephalopods, conodonts, rugose and tabulate corals, foraminifers, radiolarians, stromatoporoids, tentaculites and trilobites have been documented (ALBERTI, 1985; SCHÖNLAUB, 1985a; KREUTZER, 1992b; KIDO et al., 2011b, c).

Depositional environment

The Hoher Trieb Formation was formed at the toe-of-slope of a carbonate apron (PONDRELLI et al., 2015). Deposits of hyperconcentrated and concentrated density flows (Facies A) and turbidity flows (Facies B) are embedded within a record of pelagic (Facies C and D) and hemipelagic sediments (Facies E). The platform-derived carbonates are supplied from a reef environment. Black shales suggest formation under temporary dysoxic and anoxic conditions.

Stratotype

Hoher Trieb Section, located west of Mt. Hoher Trieb/Cuestalta (SCHÖNLAUB, 1969), between coordinates N 46°35'53.9", E 13°03'20.0" (base of the section) and N 46°35'52.5", E 13°03'18.8" (top of the section).

Reference sections

Zuc di Malaseit Bassa section (KIDO et al., 2011a, b, c), located west of Zuc di Malaseit along path 441 at coordinates N 46°33'19.6", E 13°11'10.6", where the interval with black shales and cherts across the Eifelian-Givetian boundary is well exposed.

Oberbuchach section (SCHÖNLAUB, 1980, 1985a) at coordinates N 46°37'33.9", E 13°06'18.3", where the lower part of the unit is better exposed.

Forca di Lanza section (PONDRELLI et al., 2015), between coordinates N 46°33'19.5", E 13°09'55.7" (base of the section) and N 46°33'18.5", E 13°09'58.8" (top of the section), where the transition with the Pal Grande Formation is well exposed.

Type area

Carnic Alps.

Main outcrop areas

The Hoher Trieb Formation crops out in the areas between the Hinterjoch and Nölbling Höhe, between Mt. Hoher Trieb/Cuestalta and Forca di Lanza, and between Mt. Schönwipfel and Mt. Poludnig.

Thickness

About 25 m to about 50 m.

Boundaries

Underlying units – Findenig Formation (conformable interfingering).

Overlying units – Pal Grande Formation (conformable sharp).

Lateral units – Vinz Formation, Cellon Formation, Freikofel Formation (proximal part); Findenig Formation, Valentin Formation (distal part).

Derivation of name

After Mount Hoher Trieb.

Synonymy

Facies corallina [partim]: TARAMELLI (1895).

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

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

“20m-Bank” [partim]: PÖLSLER (1969).

Gebankte Kalke mit Lydit [partim]: PÖLSLER (1969).

Blockhorizont [partim]: PÖLSLER (1969).

Massiger Kalk mit verkieselten Korallen [partim]: PÖLSLER (1969).

Dunkler Plattenkalk: SCHÖNLAUB (1969).

Hoher Trieb Kalk: SCHÖNLAUB (1981).

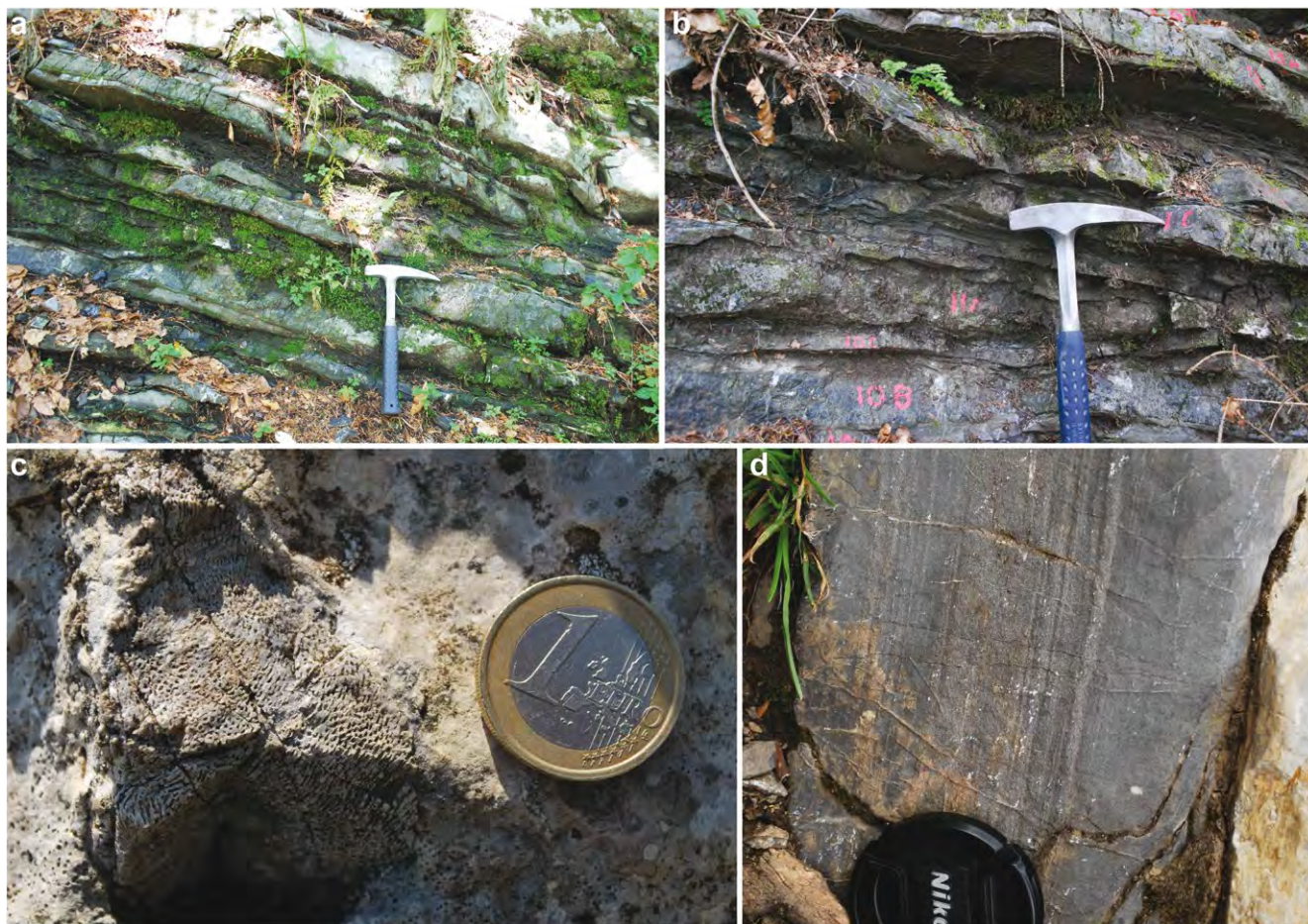
Tentaculite pelagic limestone [partim]: SPALLETTA & VENTURINI (1989).

Hoher Trieb Formation: KREUTZER (1992a).

Cuestalta Limestone [partim]: BRIME et al. (2008).

Chronostratigraphic age

Devonian: Emsian to Frasnian (SCHÖNLAUB, 1980, 1985a; PERRI & SPALLETTA, 1998; KIDO et al., 2011a, b, c; PONDRELLI et al., 2015).



Views of the Hoher Trieb Formation in the field (photos M. PONDRELLI). a) interbedded Facies C, D, E: Zuc di Malaseit Bassa Section; b) interbedded Facies C, D, E: Zuc di Malaseit Bassa Section; c) silicified coral in Facies A: Forca di Lanza; d) laminated grainstone passing to packstone (Facies B): Zuc di Malaseit Bassa Section.

Biostratigraphy

Conodonts. – The base of this formation is diachronous: conodont data from the Mt. Culet area (PERRI & SPALLETTA, 1998) provide a *serotinus* Zone for the basal part of the Hoher Trieb Formation while in the Mt. Pizzul area the base of the unit appears to belong at least to the *costatus* Zone (PONDRELLI et al., 2015).

The top of the formation reaches the MN3 Zone at the Forca di Lanza area (PONDRELLI et al., 2015).

Complementary references -

Remarks -

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