

# Polinik 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 018 Passo di Monte Croce Carnico

Blatt UTM 3109 Oberdrauburg

Blatt UTM 3110 Kötschach-Mauthen

Blatt UTM 3116 Sonnenalpe Naßfeld

Blatt UTM 3117 Nötsch im Gailtal

## Definition

Bedded dark gray limestone intercalated with dolomitic limestone and dolostone.

## Description

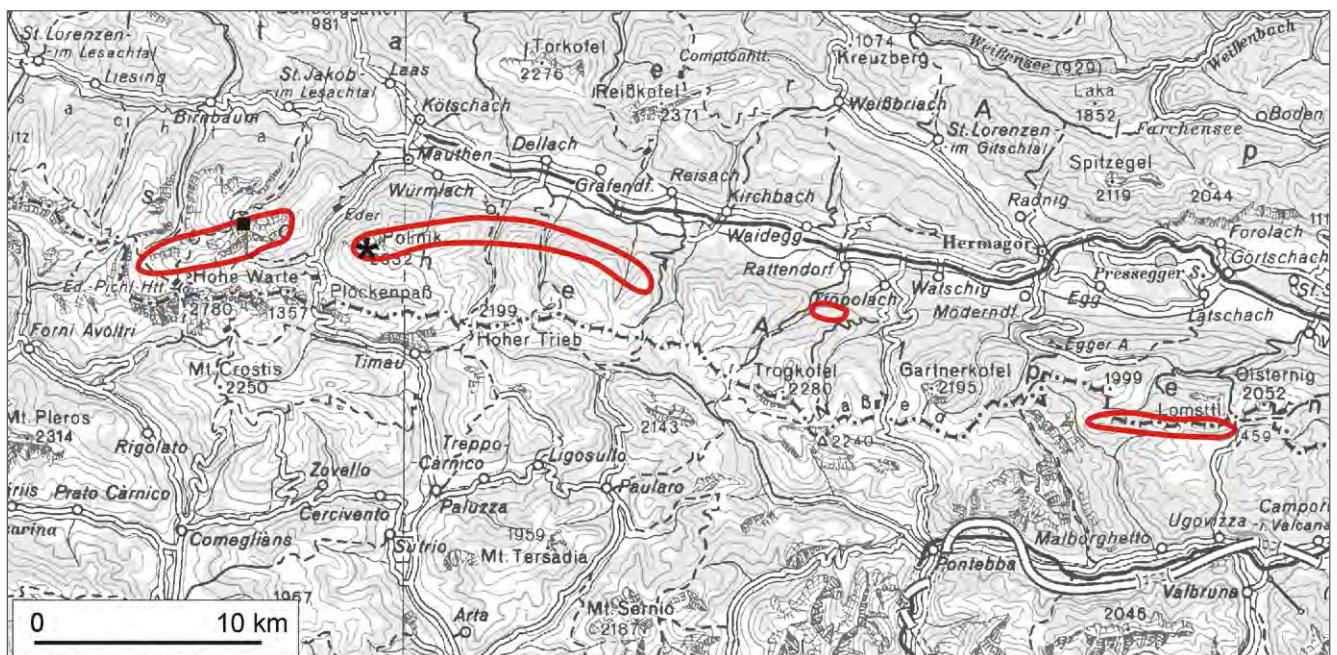
The Polinik Formation consists dominantly of algal laminites and *Amphipora* limestone; lithoclastic beds are common. Near the base are crinoidal limestone and dolostone exposed (BANDEL, 1972; KREUTZER, 1992a, b).

## Fossil content

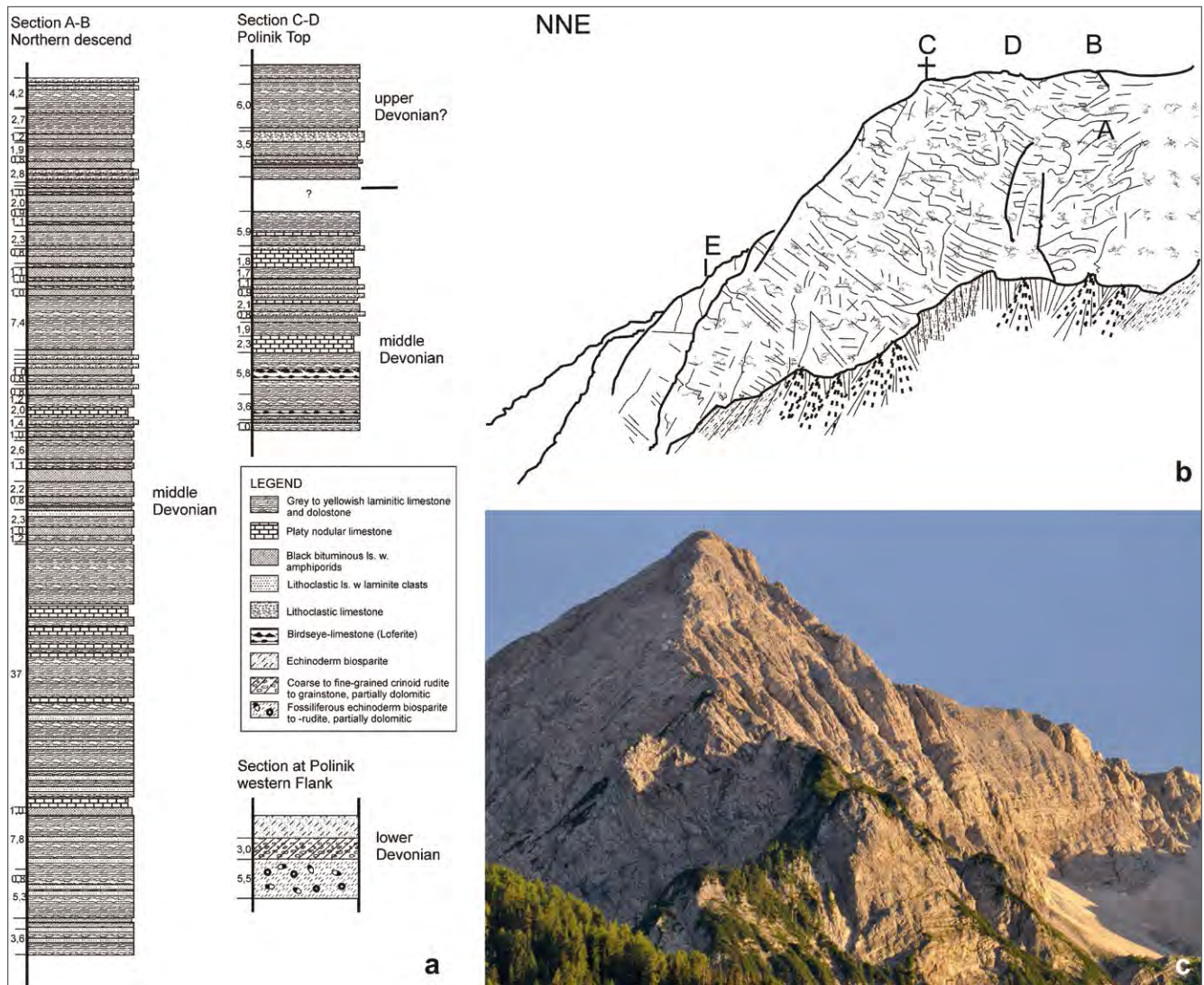
Brachiopods, calcareous algae, calcispheres, tabulate corals, crinoids, foraminifers, gastropods, ostracods, stromatoporooids, trilobites.

## Depositional environment

Largely a cyclic shallow water succession deposited in a sheltered lagoon. Early diagenetic dolomitization points to hypersaline seawater, the abundance of lithoclastic horizons suggests tempestites (storm deposits) formed during intermittent storms. Overall, the lithologies are indicative of intertidal to supratidal depths. Shallowing upward sequences are common (BANDEL, 1972; KREUTZER, 1992a, b).



Areas of outcrop of the Polinik Formation with indication of the stratotype (asterisk) and reference section (square). Additional outcrops in eastern continuity are in the Bartolosattel area.



The Polinik Section. a) log of Mount Polinik (adapted from BANDEL, 1972); b) drawing of Mount Polinik with locations of sections A-B and D-C (adapted from BANDEL, 1972). The lower Devonian section cannot be seen in this view; c) panoramic view of Mount Polinik (photo H.P. SCHÖNLAUB).

## Stratotype

Mt. Polinik at coordinates: N 46°37'37", E 12°58'52".

## Reference sections

Section on the northern side of Mt. Gamskofel at Böses Gangele between Raimunda Törl and Wodner Törl at coordinates N 46°38'01", E 12°54'06" (KREUTZER, 1992b: 270), which is better accessible than the stratotype section.

## Type area

Central Carnic Alps.

## Main outcrop areas

The Polinik Formation is best exposed and preserved at Mt. Polinik. The Gamskofel and Mooskofel massives appear to have similar lithologies. All along the Carnic Alps are more or less tectonized (metamorphosed) fragments of the Polinik Formation exposed (formerly Feldkogel Limestone).

## Thickness

Estimated 700 m at Mt. Polinik (BANDEL, 1972); 800 m at Mt. Gamskofel (KREUTZER, 1992b).





Views of the Polinik Formation in the field. a) laminated limestone (photo A. MÖRTL); b) rock surface with tabulate corals (photo A. MÖRTL).

## Boundaries

*Underlying units* – Seekopf Formation (?).

*Overlying units* – Plotta Formation (unconformable contact).

*Lateral units* – Hohe Warte Formation, Lambertenghi Formation, Seewarte Formation, Spinotti Formation, Kellergrat Formation, Creta di Collina Formation (?).

## Derivation of name

After Mt. Polinik in the Western Carnic Alps.

## Synonymy

Dolomitische Schichten des Pollinigg: FRECH (1887).

Gamskofel-Kalk: KREUTZER (1992b).

Feldkogel-Kalk: KREUTZER (1992b).

## Chronostratigraphic age

Devonian: Pragian to Frasnian, possibly younger.

## Biostratigraphy

*Brachiopods.* – *Stringocephalus burtini* at Gamskofel (KREUTZER, 1990, 1992b).

*Conodonts.* – *Palmatolepis* sp. at Mooskofel (KREUTZER, 1992a).

## Complementary references

*Sedimentology and Fossils.* – MÖRTL (2014).

## Remarks

BANDEL (1972) thought that the Gamskofel and the Polinik successions are of similar age and lithologies whereas KREUTZER (1992b) felt that the limestones of Polinik and Gamskofel are different and he assigned the Polinik succession and the Mooskofel Massif to the Feldkogel Limestone. He suggested a separate carbonate platform as depositional model. KREUTZER (1992a) found *Palmatolepis* in carbonates from Mt. Mooskofel indicating a younger age for the top than is known at Mt. Gamskofel. He felt that the metamorphosed Mooskofel lithologies are closer to the Polinik carbonates and assigned both to a “Northern Shallow Water Nappe” which is thought to encompass deposits of a different carbonate platform than the Southern Shallow Water Nappe (or Kellerwand Nappe) comprised of the Hohe Warte Massif, Biegengebirge and Gamskofel Massif.

## References

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