

Vinz Formation

MONICA PONDRELLI, CARLO CORRADINI, MARIA G. CORRIGA, HANS-PETER SCHÖNLAUB, CLAUDIA SPALLETTA, SUSANNE M.L. POHLER, ANGELO MOSSONI, LUCA SIMONETTO, THOMAS J. SUTTNER, MARIA CRISTINA PERRI & ERIKA KIDO

Österreichische Karte 1:50.000

Blatt BMN 197 Kötschach

Blatt BMN 198 Weißbriach

Blatt UTM 3109 Oberdrauburg

Blatt UTM 3110 Kötschach-Mauthen

Blatt UTM 3116 Sonnenalpe Naßfeld

Carta Topografica d'Italia 1:50.000

Foglio 018 Passo di Monte Croce Carnico

Foglio 031 Ampezzo

Foglio 032 Tolmezzo

Definition

Prevalent stromatoporoid and coral-bearing floatstone/rudstone interbedded with lithoclastic packstone/grainstone and pelagic mudstone/wackestone (KREUTZER & SCHÖNLAUB, 1984; SCHÖNLAUB, 1985; KREUTZER, 1990, 1992a, b; HUBMANN et al., 2003; SPALLETTA & PONDRELLI, 2009; SCHNELLBÄCHER, 2010).

Description

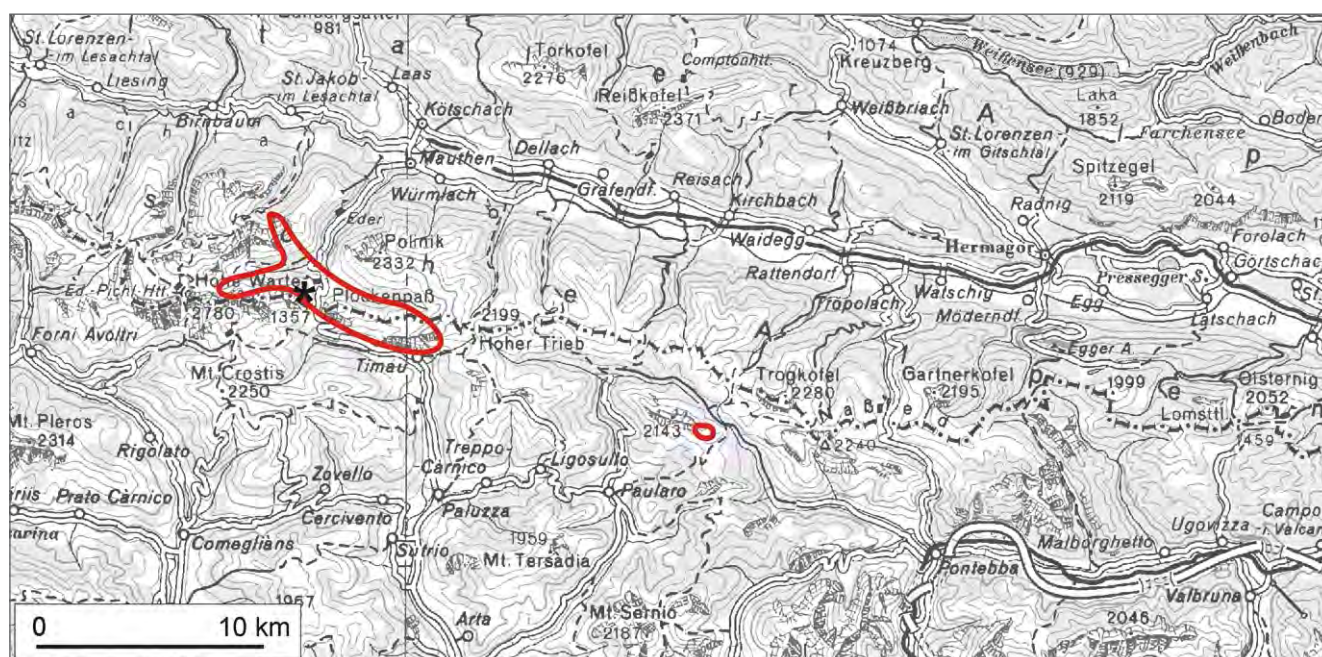
The Vinz Formation consists of four well-bedded facies listed in order of decreasing abundance.

Facies A: well bedded medium dark gray, medium to thick bedded, poorly sorted coral- and stromatoporoid-bearing rudstone (more rarely floatstone) with clasts up to about 10 cm of diameter and poorly sorted very coarse to fine grainstone matrix; sometimes rudstone shows a fining upward trend up to grainstone;

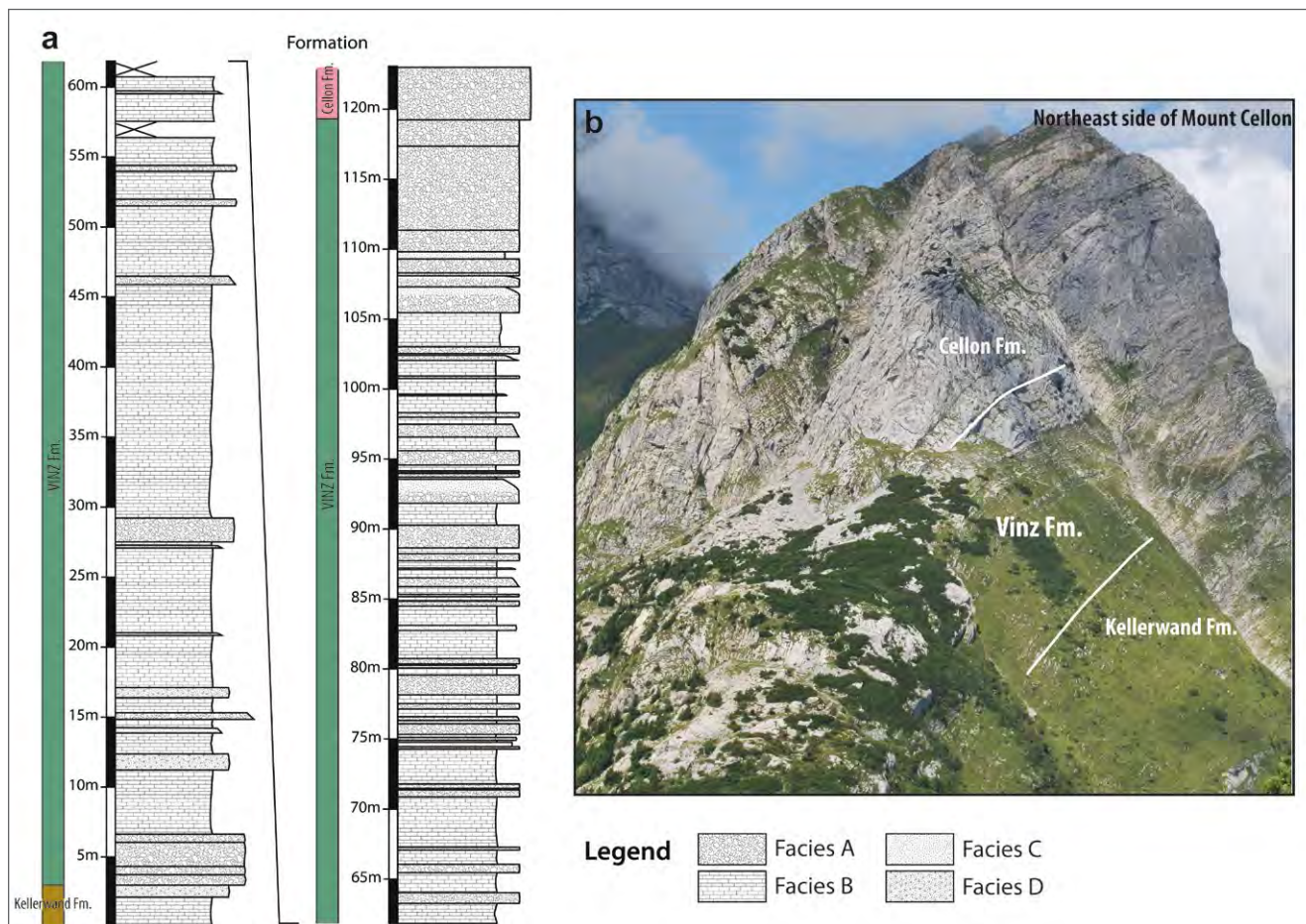
Facies B: medium dark gray, thin to medium bedded, wackestone to packstone with moderate yellow thin laminae of silt;

Facies C: medium dark gray, thin to thick bedded, often fining upward, moderately to well sorted locally laminated grainstone (from very coarse up to granules to fine-grained) to packstone;

Facies D: rare medium light gray, medium to thick bedded, moderately to well sorted crinoidal-bearing grainstone with sparite cement.



Areas of outcrop of the Vinz Formation with indication of the stratotype (asterisk).



The Cellaon Section. a) log of the Vinz Formation; b) view of the section taken from Pal Piccolo/Kleiner Pal (photo M. PONDRELLI).

Fossil content

Cephalopods, conodonts, foraminifers, ostracods and tentaculites have been found in the mudstone/wackestone deposits. Reworked bivalves, corals, echinoderms, foraminifers, ostracods and parathuramminaceae are described from the lithoclastic facies (KREUTZER, 1990, 1992a, b).

Depositional environment

The Vinz Formation was deposited in different environments depending on different facies:

Facies A/Facies C: gravity-driven resedimented deposits along the slope and toe-of-slope (some levels in Facies C might still be tempestites);

Facies B: pelagic sedimentation (basin and outer ramp);

Facies D: shoreface (inner ramp).

Stratotype

Cellaon Section, located on the north-eastern slope of Mt. Cellaon/Creta di Collinetta (BANDEL, 1972), between coordinates N 46°36'28.5" E 12°56'17.5" (base of the section) and N 46°36'25.5" E 12°56'16.4" (top of the section).

Reference sections -

Type area

Central Carnic Alps.

Main outcrop areas

The Vinz Formation crops out in the Rauchkofel area, in the south side of the Valentintal and between the Cellaon/Creta di Collinetta and the Creta di Timau. A small outcrop is located south-east of Zermula.



Views of the Vinz Formation in the field (photos M. PONDRELLI); a) Facies A and B: Freikofel A section; b) Facies A: particular of a coral-bearing bed, Cellon Section.

Thickness

About 170 m (Kellerwand) to about 105 m (Freikofel).

Boundaries

Underlying units – Kellerwand Formation (conformable interfingering contact).

Overlying units – Cellon Formation (conformable sharp contact).

Lateral units – Lambertenghi Formation (?), Spinotti Formation (proximal part); Findenig Formation, Hoher Trieb Formation (distal part).

Derivation of name

After the Vinz peak at the lower Kellerwand.

Synonymy

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

Dunkler Plattenkalk: SCHÖNLAUB (1969).

Calcari stratificati giallastri [partim]: SPALLETTA et al. (1982).

Dunkelgrauer, geflaseter Plattenkalk im Wechsel mit Schuttbrekzien: KREUTZER & SCHÖNLAUB (1984).

Kellerwand Kalk [partim]: SCHÖNLAUB (1985).

Plattenkalke der Unteren Kellerwand [partim]: KREUTZER (1990).

Yellow bedded limestones [partim]: SPALLETTA & VENTURINI (1990).

Vinz Kalk: KREUTZER (1992a).

Vinz limestone: KREUTZER (1992b).

Calcareniti di transizione distali [partim]: VENTURINI (2006).

Calcareniti di transizione prossimali [partim]: VENTURINI (2006).

Pal Grande Calcarenite [partim]: BRIME et al. (2008).

Calcareniti di Pal Grande [partim]: SPALLETTA & PONDRELLI (2009).

Chronostratigraphic age

Devonian: Emsian to lower Givetian (KREUTZER, 1990, 1992a, b).

Biostratigraphy

Conodonts. – The base of Vinz Formation has been assigned to the *inversus* Zone (*laticostatus* Subzone) (Cellon Section) and the top to the *hemiansatus* Zone (Freikofel section).

Complementary references -

Remarks -

References

- BANDEL, K. (1972): Palökologie und Paläogeographie im Devon und Unterkarbon der zentralen Karnischen Alpen. – *Palaeontographica Abteilung A*, **141/1–4**, 1–117, Stuttgart.
- BRIME, C., PERRI, M.C., PONDRELLI, M., SPALLETTA, C. & VENTURINI, C. (2008): Polyphase metamorphism in the eastern Carnic Alps (N Italy-S Austria): Clay minerals and conodont Colour Alteration Index evidence. – *International Journal of Earth Sciences*, **97/6**, 1213–1229, Berlin-Heidelberg.
- HUBMANN, B., POHLER, S., SCHÖNLAUB, H.P. & MESSNER, F. (2003): Paleozoic Coral-Sponge Bearing Successions in Austria. – *Berichte der Geologischen Bundesanstalt*, **61**, 1–91, Wien.
- KREUTZER, L.H. (1990): Mikrofazies, Stratigraphie und Paläogeographie des Zentralkarnischen Hauptkammes zwischen Seewarte und Cellon. – *Jahrbuch der Geologischen Bundesanstalt*, **133/2**, 275–343, Wien.
- KREUTZER, L.H. (1992a): Palinspastische Entzerrung und Neugliederung des Devons in den Zentralkarnischen Alpen aufgrund von neuen Untersuchungen. – *Jahrbuch der Geologischen Bundesanstalt*, **135/1**, 261–272, Wien.
- KREUTZER, L.H. (1992b): Photoatlas zu den variszischen Karbonat-Gesteinen der Karnischen Alpen (Österreich/Italien). – *Abhandlungen der Geologischen Bundesanstalt*, **47**, 1–129, Wien.
- KREUTZER, L.H. & SCHÖNLAUB, H.P. (1984): Geologische Detailkarte des Gebietes zwischen Kellerwarte und Plöckenpaß. – *Erläuterungen, Blatt 197 Kötschach, Beilage 2*, Geologische Bundesanstalt, Wien.
- SCHNELLBÄCHER, P. (2010): Stratigraphy, transport mechanisms and provenience of Devonian carbonate slope deposits (Freikofel, Carnic Alps). – Unpublished master thesis, Universität Greifswald. – 124 p., Greifswald.
- SCHÖNLAUB, H.P. (1969): Das Paläozoikum zwischen Bischofalm und Hohem Trieb (Zentrale Karnische Alpen). – *Jahrbuch der Geologischen Bundesanstalt*, **112/2**, 265–320, Wien.
- SCHÖNLAUB, H.P. (1985): Das Paläozoikum der Karnischen Alpen. – In: SCHÖNLAUB, H.P. (ed.): *Arbeitstagung der Geologischen Bundesanstalt 1985 Kötschach-Mauthen, Gailtal* – Geologische Bundesanstalt, 34–52, Wien.
- SELLI, R. (1963): Schema geologico delle Alpi Carniche e Giulie occidentali. Scala 1:100.000. – *Giornale di Geologia*, **30**, 1–136, Bologna.
- SPALLETTA, C. & PONDRELLI, M. (2009): Calcareniti di Pal Grande. – In: VENTURINI, C. (ed.): *Note Illustrative del Foglio 031 Ampezzo*. – *Carta Geologica d'Italia alla scala 1:50000*, Istituto Superiore per la Protezione e la Ricerca Ambientale (ex-Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici, Servizio Geologico d'Italia), 43, Stampa A.T.I. – S.EL.CA. srl. – L.A.C. srl. – System Cart srl., Firenze.
- SPALLETTA, C. & VENTURINI, C. (1990): Stratigraphic correlation form of the Palaeozoic sequence in the Carnic Alps. – *Rendiconti della Società Geologica Italiana*, **12**, 417–421, Roma.
- SPALLETTA, C., VAI, G.B. & VENTURINI, C. (1982): La Catena Paleocarnica. – In: CASTELLARIN, A. & VAI, G.B. (eds.): *Guida alla geologia del Sudalpino centro-orientale*. – *Guide Geologiche Regionali*, Società Geologica Italiana, 281–292, Bologna.
- VENTURINI, C. (2006): Evoluzione geologica delle Alpi Carniche. – *Edizioni del Museo Friulano di Storia Naturale*, **48**, 208 p., Udine.