

(SCHÖNLAUB, 1991: p. 119); Consuelo-Laminite (KREUTZER, 1992a: p. 270).

**Lithology:** Well bedded laminated limestone, birdseye limestone, crinoidal debris limestone.

**Fossils:** Calcareous algae, bivalves, brachiopods (e.g., *Karpinskia consuelo*), corals, echinoderms, foraminifers, gastropods, ostracods, stromatoporoids (KREUTZER, 1992b: p. 29).

**Origin, facies:** Marine limestone, neritic unit belonging to the Southern Shallow-water Facies (KREUTZER, 1990).

**Chronostratigraphic age:** Emsian (KREUTZER, 1992a: p. 270; SCHÖNLAUB et al., 2004: p. 19).

**Biostratigraphy:** -

**Thickness:** 130 m.

**Lithostratigraphically higher rank unit:** -

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Seewarte Limestone (conformable contact).

**Overlying unit(s):** Spinotti Limestone (conformable contact).

**Lateral unit(s):** Gamskofel Limestone, Eiskar Limestone.

**Geographic distribution:** Carnic Alps.

**Remarks:** -

**Complementary references:** BANDEL (1972), SCHÖNLAUB (1984b), VAI (1998), SCHÖNLAUB & HISTON (2000), HUBMANN et al. (2003), SCHÖNLAUB et al. (2004), SUTTNER & KIDO (2011).

### Spinotti-Kalk / Spinotti Limestone

THOMAS J. SUTTNER, ERIKA KIDO

**Validity:** Invalid; first observed by STACHE (1884) and later by GAERTNER (1931); facies described by POHLER (1982) and KREUTZER (1990, 1992a); name of this unit first mentioned by KREUTZER (1992b: p. 30).

**Type area:** ÖK50-UTM, map sheets 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3116 Sonnenalpe Naßfeld (ÖK50-BMN, map sheet 197 Kötschach (Italian side)).

**Type section:** -

**Reference section(s):** Trail along Sentiero Spinotti between Rifugio Lambertenghi e Romanin and Rifugio Giovanni e Olinto Marinelle (N 46°36'06" / E 12°52'26"), Hohe Warte (KREUTZER, 1992a).

**Derivation of name:** After Sentiero Spinotti.

**Synonyms:** Riffkalk-Facies der Stockwerke H-G-H [partim] (STACHE, 1884: p. 339); Pentamerenkalk (GAERTNER, 1931: p. 148); Riffkalk mit *Pentamerus* aff. *pseudobaschkiricus* (GAERTNER, 1931: p. 147); La serie calcarea di M. Zermula [partim] (FERRARI & VAI, 1966); Stromatoporen-Korallen-Crinoidenkalk (SCHÖNLAUB, 1971–1973); Gebankter Birdseye-Amphiporen-Brachiopodenkalk (SCHÖNLAUB, 1971–1973); Pentamerus Lst. (SCHÖNLAUB, 1980: Fig. 3); Amphipora Lst. (SCHÖNLAUB, 1980b: Fig. 3); Korallen/Crinoiden-K. (SCHÖNLAUB, 1985a: Fig. 10); Amphipora-Kalk (SCHÖNLAUB, 1985a: Fig. 10); Stromatoporen-Korallen-Crinoidenschutt-kalk (SCHÖNLAUB, 1985a: p. 42); Gebankter Birdseye-Amphiporen-Brachiopoden-Kalk (SCHÖNLAUB, 1985a: p. 42); Crinoiden-Kalk and Birdseye-Kalk (KREUTZER, 1990); Korallen-Crinoidenkalk (SCHÖNLAUB, 1991: p. 105); Amphiporenkalk (SCHÖNLAUB, 1991: p. 105); Fossilenschutt-kalke (SCHÖNLAUB, 1991: p. 119); "Birdseye"-Kalk (SCHÖNLAUB, 1991: p. 119); Geschichtete "Birdseye"-kalke (SCHÖNLAUB, 1991: p. 119).

porenkalk (SCHÖNLAUB, 1991: p. 105); Fossilenschutt-kalke (SCHÖNLAUB, 1991: p. 119); "Birdseye"-Kalk (SCHÖNLAUB, 1991: p. 119); Geschichtete "Birdseye"-kalke (SCHÖNLAUB, 1991: p. 119).

**Lithology:** Massive limestone, layers of crinoidal debris and *Amphipora* limestone, birdseye limestone.

**Fossils:** Calcareous algae, bivalves, brachiopods, corals (rugose and tabulate), echinoderms, gastropods, stromatoporoids.

**Origin, facies:** Marine limestone, neritic unit (Southern Shallow-water Facies).

**Chronostratigraphic age:** Eifelian–lower Givetian (VAI, 1963; BANDEL, 1972; SCHÖNLAUB et al., 2004: p. 15–16).

**Biostratigraphy:** -

**Thickness:** 220 m.

**Lithostratigraphically higher rank unit:** -

**Lithostratigraphic subdivision:** Spinotti A–D and Amphipora Limestone; see remarks.

**Underlying unit(s):** Lambertenghi Limestone (conformable contact).

**Overlying unit(s):** Kellergrat Reef Limestone (conformable contact); Kronhof Limestone (unconformable contact; SCHÖNLAUB & KREUTZER, 1993: Fig. 5).

**Lateral unit(s):** Gamskofel Limestone, Eiskar Limestone.

**Geographic distribution:** Carnic Alps.

**Remarks:** According to the lithostratigraphic subdivision, the Spinotti Limestone is composed of crinoidal and bioclastic limestones (subdivided into four units based on its facies characters: Spinotti A–D) and "birdseye limestone" with *Amphipora* (SCHÖNLAUB et al., 2004: p. 13–16).

**Complementary references:** VAI (1967, 1998), SCHÖNLAUB (1984b), HUBMANN & FENNINGER (1993), SCHÖNLAUB & HISTON (2000), HUBMANN et al. (2003), VENTURINI (2006).

### Eiskar-Kalk / Eiskar Limestone

THOMAS J. SUTTNER, ERIKA KIDO

**Validity:** Invalid; the name of this limestone was first used on the map of KREUTZER & SCHÖNLAUB (1984); well described by SCHÖNLAUB (1985a: Fig. 10, p. 43) and revised by KREUTZER (1990: p. 306, 1992a); included within the summary of the Variscan carbonate sequences in the Carnic Alps (KREUTZER, 1992b).

**Type area:** ÖK50-UTM, map sheets 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3116 Sonnenalpe Naßfeld (ÖK50-BMN, map sheet 197 Kötschach).

**Type section:** -

**Reference section(s):** Between Kellerwarte and Plöckenpass (KREUTZER & SCHÖNLAUB, 1984).

**Derivation of name:** After the Eiskar at the Kellerspitzen in the area of the upper Kellerwand cliff (SCHÖNLAUB, 1991: p. 118).

**Synonyms:** Emsium-Kalk; Eifelium-Kalk; Givetium-Kalk der Kellerspitzen (cf. KREUTZER 1990: p. 306).

**Lithology:** Bioclastic limestone, birdseye limestone.

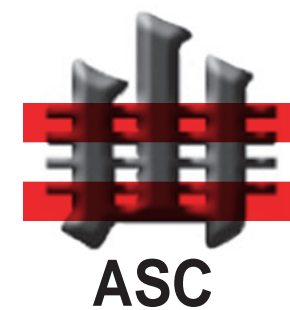
**Fossils:** Calcareous algae, bivalves, corals, echinoderms, gastropods (KREUTZER, 1992b: p. 29).

**Origin, facies:** Marine limestone, neritic unit of the Southern Shallow-water Facies (KREUTZER, 1990).

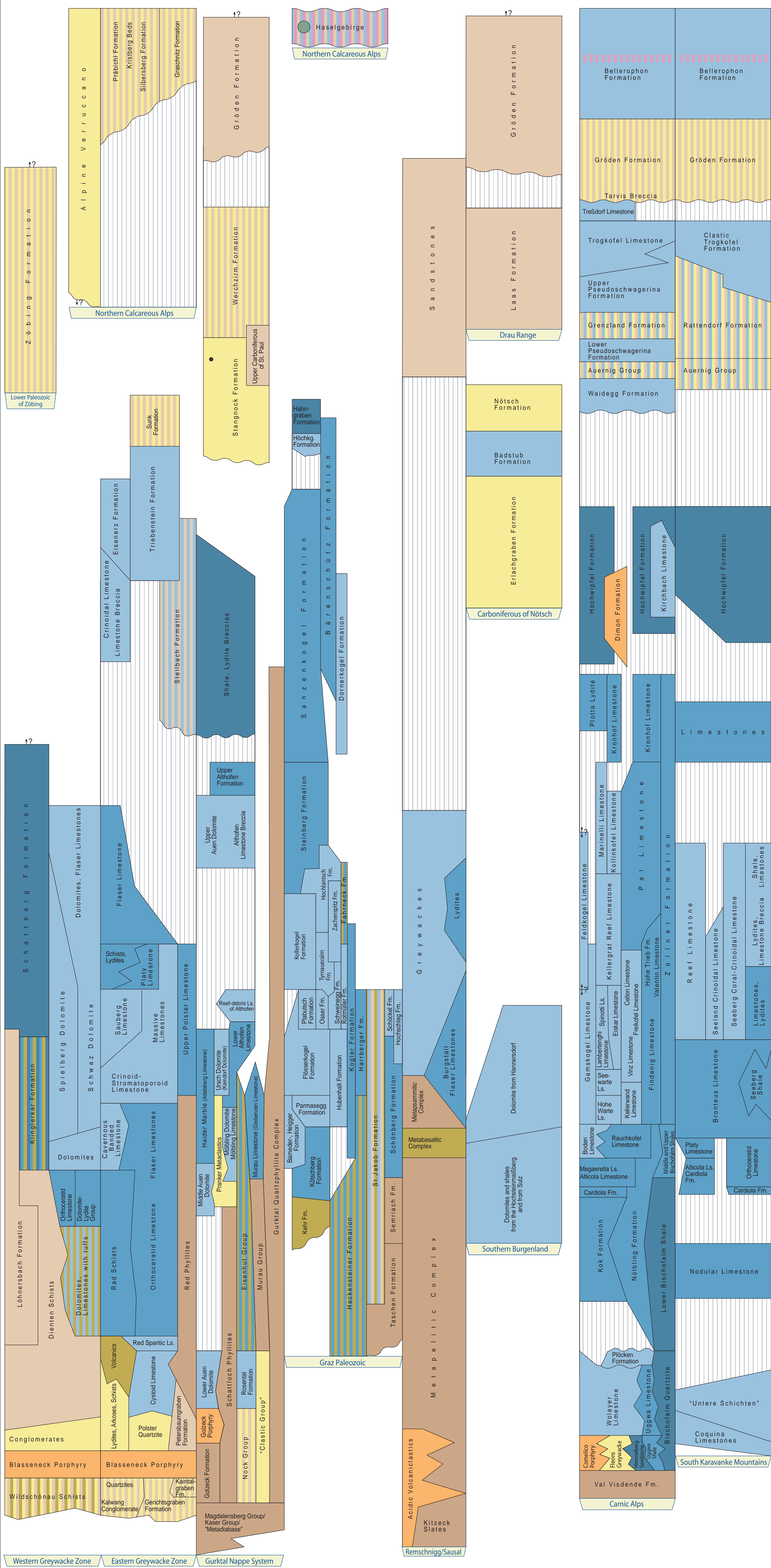
# Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission



ERA	SYSTEM / PERIOD / SERIES / EPOCH	STAGE / AGE	DURATION Ma	Global Classification					
				ERATHM / ERA	SYSTEM / PERIOD / SERIES / EPOCH				
PALEOZOIC	PERMIAN	CHANGHSINGIAN / Dorashanian	251	PERMIAN	MID PERMIAN / GUADALUPIAN				
		WUCHIAPINGIAN / Dzhulfian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	UPPER PERMIAN / CARBONIFEROUS			GZHELIAN	295	PERMIAN	LOWER PERMIAN / CISURALIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
PERMIAN	UPPER PERMIAN / CARBONIFEROUS			SERPUKHOVIAN	315				
				VISEAN	320				
					325				
PERMIAN	LOWER PERMIAN / MISSISSIPPIAN			TOURNAISIAN	330	PERMIAN	LOWER PERMIAN / MISSISSIPPIAN		
				335					
				340					
		345							
		350							
		355							
		359.2							
		365							
		370							
		375							
PERMIAN	UPPER DEVONIAN	FAMENNIAN	380	PERMIAN	UPPER DEVONIAN				
		FRASNIAN	385						
		GIVETIAN	390						
		EIFELIAN	395						
		DEVONIAN	LOWER DEVONIAN			EMSIAN	400		
						405			
		PRAGIAN	410						
		LOCHKOVIAN	415						
		PERMIAN	LOWER DEVONIAN			LUDFORDIAN	420	PERMIAN	LOWER DEVONIAN
						GORSTIAN	425		
HOMERIAN	430								
SHEINWOOD	435								
TELYCHIAN	440								
AERONIAN	443.7								
RHUDDANIAN	445								
HIRNANTIAN	447								
PERMIAN	UPPER ORDOVICIAN			450	PERMIAN	UPPER ORDOVICIAN			
				455					
		460							
		465							
		470							
		475							
		480							
		485							
		488.3							
		490							
PERMIAN	UPPER CAMBRIAN	495	PERMIAN	UPPER CAMBRIAN					
		500							
		505							
		510							
		515							
		520							
		525							
		530							
		535							
		540							
PERMIAN	LOWER CAMBRIAN	542	PERMIAN	LOWER CAMBRIAN					
		545							
		550							
		555							
		560							
		565							
		570							
		575							
		580							
		585							



- Legend**
- pelagic, offshore, siliciclastic
  - pelagic, nearshore, calcareous
  - shallow marin, neritic
  - terrestrial-continental, coarse clastic
  - terrestrial-continental, fine clastic
  - evaporite (chloride, sulphate)
  - rhyolite, dacite
  - (basaltic) andesite, trachyandesite
  - basalt
  - phyllite
  - mixed-facies (in corresponding colors)
  - coal (may include several seams)
  - ? position/age doubtful/controversial
  - | equal units
  - \ older unit left \ younger unit right
  - hiatus
  - unconformity
  - GSSP
  - Fm. Formation
  - Ls. Limestone

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Cutout and English adaptation of the "Die Stratigraphische Tabelle von Österreich 2004": Geological Survey of Austria

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