

**Reference section(s):** Greitnerkogel (N 47°12'55" / E 15°17'25") (FRITZ, 1991).

**Derivation of name:** After the hill Parmasegg (785 m) 28 km north of Graz (FRITZ, 1991).

**Synonyms:** Crinoiden-Schichten (H. FLÜGEL, 1960, 1961, 1975); partly: Kalkschiefer-Folge (CLAR, 1874); unterer Crinoidenkalk (HOERNES, 1880); Kalkschieferstufe (HERITSCH, 1906); Kalkschieferstufe i.A. (WAAGEN, 1937); Plattenkalke und Schiefer des e-gamma (SEELMEIER, 1944); ef-Flaser-Plattenkalke (SCHOUPE, 1953); plattige Kalkschiefer (WEBER, 1990).

**Lithology:** Major parts of the succession consist of platy crinoidal limestones intercalated with sandy marls and sand/siltstones.

**Fossils:** Fossils are rare (conodonts, badly preserved rugose corals, indeterminable crinoids).

**Origin, facies:** Intertidal to shallow subtidal environment.

**Chronostratigraphic age:** Pragian (may locally also contain uppermost Silurian (*eosteinhornensis* conodont zone); FRITZ, 1991: p. 232)–lower Emsian (?).

**Biostratigraphy:** See above.

**Thickness:** 150–200 m.

**Lithostratigraphically higher rank unit:** Rannach Group.

**Lithostratigraphic subdivision:** FRITZ (1991) distinguished four members (Dolomit-Siltschiefer Member, Karbonat-Mergel Member, Plattenkalk Member and Siltstein Member) in the type region. FLÜGEL (2000) divided the formation into three members:

Greitnerkogel Member: Blue-grey platy limestones and crinoidal limestones; less than 100 m in thickness.

Oberbichl Member: Succession of brown platy silty limestones, flaser- and crinoid-limestones, and sand/siltstones; some tens of meters in thickness.

Stiwoll Member: Yellowish marly sand/siltstones; about 80 m in thickness.

**Underlying unit(s):** Kötschberg Formation.

**Overlying unit(s):** Flösserkogel Formation.

**Lateral unit(s):** Bameder Formation, Heigger Formation.

**Geographic distribution:** Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheets 134 Passail, 163 Voitsberg, 164 Graz.

**Remarks:** -

**Complementary references:** HUBMANN & MESSNER (2007).

### Kogler-Formation / Kogler Formation

BERNHARD HUBMANN

**Validity:** Valid; first nomination by GOLLNER & ZIER (1985: "Koglerformation"), formalized by FLÜGEL (2000: p. 43; Kogler-Formation).

**Type area:** ÖK50-UTM, map sheet 4223 Weiz (ÖK50-BMN, map sheet 134 Passail).

**Type section:** No type section defined, but FLÜGEL (2000) selected a type region in the vicinity of the farmstead "Kogler", south of St. Erhard, ÖK50-BMN, map sheet 134 Passail (N 47°22'43" / E 15°27'13").

**Reference section(s):** -

**Derivation of name:** After the farmstead "Kogler", south of St. Erhard (Breitenau valley), approx. 55 km north of Graz.

**Synonyms:** Partly: Kalkschiefer-Folge (CLAR, 1874); Kalkschieferstufe i. A. (WAAGEN, 1937).

**Lithology:** Darkblue to darkgrey, platy and banded limestones, locally with sandstone alternations.

**Fossils:** Conodonts; rare tabulate and rugose corals.

**Origin, facies:** Shallow marine deposits.

**Chronostratigraphic age:** Due to the lack of stratigraphically meaningful fossils no exact age determinable; presumably Lower to Middle Devonian (?Upper Devonian).

**Biostratigraphy:** -

**Thickness:** Up to 800 m.

**Lithostratigraphically higher rank unit:** Peggau Group (FLÜGEL, 2000).

**Lithostratigraphic subdivision:** FLÜGEL (2000) distinguished three members:

Geschwend Member: Alternating limestones, silt- to sandstones and subordinate argillaceous shales and dolomites, locally volcanites; up to 800 m (?) in thickness.

Sattelbauer Member: Lightgrey, locally fossiliferous limestones (corals, brachiopods) with chert nodules; thickness about 150 m.

Spatl Member: Reddish to violet micritic (flaser) limestones, sandstone and argillaceous shales with intercalations of thin-bedded alkaline volcanoclastics; about 100 m in thickness.

**Underlying unit(s):** In the area east of the Hochlantsch and the basin of Passail the Kogler Formation is underlain by the Rauchenberg Member of the Schönberg Formation.

**Overlying unit(s):** North of the Tyrnaueralm successions of the Laufnitzdorf Nappe overlying the Kogler Formation, whereas south of the Tyrnaueralm the formation is overlain by successions of the Schöckel Nappe.

**Lateral unit(s):** -

**Geographic distribution:** Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheets 133 Leoben, 134 Passail, 163 Voitsberg.

**Remarks:** Lithological content of the formation is very similar to the Hochschlag Formation and the Hubenhalt Formation respectively (FLÜGEL, 2000).

**Complementary references:** EBNER (1998).

### Hubenhalt-Formation / Hubenhalt Formation

BERNHARD HUBMANN

**Validity:** Valid; first description by PENECKE (1890: "Kalke und Kalkschiefer der Hubenhalt"), formalized by FLÜGEL (2000: p. 44–45; Hubenhalt-Formation).

**Type area:** Hubenhalt northwest of Fladnitz (Teichalpe area), ÖK50-UTM, map sheet 4223 Weiz (ÖK50-BMN, map sheet 134 Passail).

**Type section:** No type section defined. FLÜGEL (2000) selected a type region at Hubenhalt, northwest of Fladnitz ÖK50-BMN, map sheet 134 Passail (N 47°19'15" / E 15°26'40"), approx. 40 km north of Graz.

**Reference section(s):** -

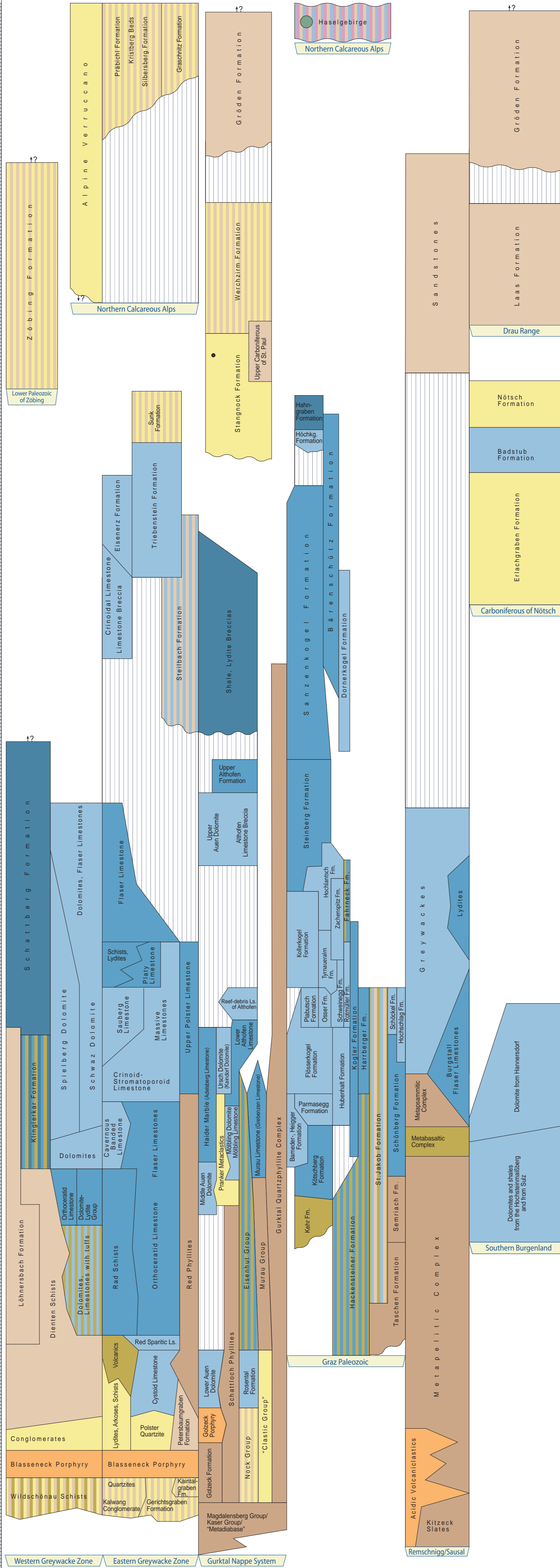
# Austrian Stratigraphic Chart 2004 - Paleozoic

(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 / LOPINGIAN				
		WUCHIAPINGIAN / Dabuffian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	UPPER PERMIAN / CARBONIFEROUS / PENNSYLVANIAN			GZHELIAN	295	PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
PERMIAN	LOWER PERMIAN / CISURALIAN			SERPUKHOVIAN	315				
				VISEAN	320				
				TOURNAISIAN	325				
				330					
PERMIAN	UPPER PERMIAN / DEVONIAN			FAMENNIAN	335	PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN		
				FRASNIAN	340				
		GIVETIAN	345						
		EIFELIAN	350						
		PERMIAN	LOWER PERMIAN / CISURALIAN	EMSIA	355				
				PRAGIAN	360				
				LOCHKOVIAN	365				
				370					
		PERMIAN	UPPER PERMIAN / DEVONIAN	LUDFORDIAN / GORSTIAN	375			PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN
				HOMERIAN / SHEINWOOD	380				
TELYCHIAN	385								
AERONIAN	390								
PERMIAN	LOWER PERMIAN / CISURALIAN			RHUDDANIAN	395				
				HIRNANTIAN	400				
				405					
				410					
PERMIAN	UPPER PERMIAN / DEVONIAN			WEN-LUD-LOCK / LOW	415	PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN		
				LUDFORDIAN / GORSTIAN	420				
		HOMERIAN / SHEINWOOD	425						
		TELYCHIAN	430						
		PERMIAN	LOWER PERMIAN / CISURALIAN	RHUDDANIAN	435				
				HIRNANTIAN	440				
				445					
				450					
		PERMIAN	UPPER PERMIAN / DEVONIAN	UPPER ORDOVICIAN	455			PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN
				MIDDLE ORDOVICIAN	460				
DARRIWILIAN	465								
470									
PERMIAN	LOWER PERMIAN / CISURALIAN			TREMA-DOCIAN	475				
				480					
				485					
				490					
PERMIAN	UPPER PERMIAN / DEVONIAN			PAIBIAN	495	PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN		
				495					
		500							
		505							
		PERMIAN	LOWER PERMIAN / CISURALIAN	MIDDLE CAMBRIAN	510				
				515					
				520					
				525					
		PERMIAN	UPPER PERMIAN / DEVONIAN	LOWER CAMBRIAN	530			PERMIAN	LOWER PERMIAN / GUADALUPIAN / LOPINGIAN
				535					
540									
542									



### Legend

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

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

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