

Derivation of name: After Hubenhalt an area east of Tyrnau, approx. 40 km north of Graz.

Synonyms: Kalke und Kalkschiefer der Hubenhalt (PENECKE, 1890); Kalkschiefer der Hubenhalt (CLAR et al., 1929); Schichten der Hubenhalt (H. FLÜGEL, 1975).

Lithology: Various platy to slaty limestones and dolomites with sandstone intercalations.

Fossils: Conodonts and corals.

Origin, facies: Deeper marine environment with restricted water circulation (HUBAUER, 1986).

Chronostratigraphic age: Pragian–Emsian.

Biostratigraphy: -

Thickness: 130–250 m.

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

Lithostratigraphic subdivision: HUBAUER (1986) distinguished four formations within the “Kalkschieferformationen” between Tyrnauergraben and Schremsbach (Hochlantsch area, west of Passail basin); FLÜGEL (2000) adopted HUBAUER’s subdivisions but changed their hierarchy into members.

Gscheidberg Member: Brownish, limonitic limestones and subordinate alkaline metatuffs; up to 200 m in thickness.

Hausebner Member: Alternating crinoidal limestones, flaser limestones, marly siltstones and calcareous sandstones, subordinate dolostones and tuffitic shales; thickness up to 250 m.

Heuberg Member: Grey to brown flaser limestones, dolomitic marls and slaty sandstones; about 200 m in thickness.

Sulberg Member: Blue-grey (flaser)limestones, sandstone with frequent intercalations of dolostones and carbonatic sandstones; up to 130 m in thickness.

Underlying unit(s): Unknown due to tectonic cut.

Overlying unit(s): Plabutsch Formation, Tyrnaueralm Formation.

Lateral unit(s): -

Geographic distribution: Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheet 134 Passail.

Remarks: -

Complementary references: FLÜGEL & HUBAUER (1984).

Harrberger-Formation / Harrberger Formation

BERNHARD HUBMANN

Validity: Valid; first description and formalization by GOLLNER (1981: p. 62; Harrberger-Formation).

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

Type section: GOLLNER (1981) published five sections (A–D) at the northern slope of the Hochlantsch in the vicinity of the farmstead “Harrberger” south of Breitenau valley (N 47°22’15” / E 15°26’10”). Section A at altitude 1,015 and 1,230 m was chosen as type section by GOLLNER (1981).

Reference section(s): In the vicinity of the farmstead Harrberger GOLLNER (1981) described four reference sections of the formation, section B at 1120 to 1185 m altitude, section C at 1,100 and 1,240 m and section D at

1,135 and 1,200 m; section E is along a forest road at 1,150 m altitude.

Remarks: GOLLNER et al. (1982) distinguished three series within the formation which were re-named and considered as members by FLÜGEL (2000).

Derivation of name: After the abandoned farmstead Harrberger south of the Breitenau valley, approx. 55 km north of Graz.

Synonyms: Partly: Bänderkalk-Kalkschiefer-Zug (CLAR et al., 1929).

Lithology: Limestones with tentaculites, argillaceous shales, sandstones, lydites, radiolarites and tuffs.

Fossils: Conodonts, tentaculites, radiolarians.

Origin, facies: Calm pelagic environment of some 10 to 100 m water depth (GOLLNER, 1981).

Chronostratigraphic age: Emsian–Frasnian; not Eifelian as indicated in the ASC 2004.

Biostratigraphy: *gronbergi* to *triangularis* conodont zones.

Thickness: 70–90 m.

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

Lithostratigraphic subdivision: -

Underlying unit(s): Formations of the Gschwend Nappes (tectonic contact).

Overlying unit(s): Formations of the Osser and Hochlantsch Nappe (tectonic contact).

Lateral unit(s): -

Geographic distribution: Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheet 134 Passail.

Remarks: -

Complementary references: GOLLNER & ZIER (1982), FLÜGEL & NEUBAUER (1984).

Flösserkogel-Formation / Flösserkogel Formation

BERNHARD HUBMANN

Validity: Valid; first description by PENECKE (1894: “Quarzit-Dolomit-Stufe”); formalized by FLÜGEL (2000: p. 19; Flösserkogel-Formation).

Type area: ÖK50-UTM, map sheets 4223 Weiz, 4228 Voitsberg, 4229 Graz (ÖK50-BMN, map sheets 134 Passail, 162 Köflach, 163 Voitsberg, 164 Graz).

Type section: No type section defined; FENNINGER & HOLZER (1978) published several dislocated sections; FLÜGEL (2000) proposed a type region at Flösserkogel (elevation spot 696 m on ÖK50-BMN, map sheet 164 Graz) (N 47°06’15” / E 15°22’06”).

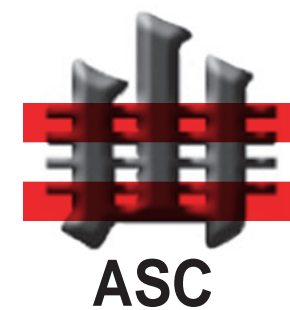
Reference section(s): Following sections studied by FENNINGER & HOLZER (1978) may be used for reference: Göstinggraben (N 47°06’01” / E 15°22’49”), Pfaffenkogel (N 47°09’54” / E 15°19’02”) (see also HUBMANN & MESSNER, 2005), Eichberg (N 47°06’54” / E 15°22’47”), and Trefenberg (Treffenkogel, 745 m) (N 47°09’07” / E 15°16’38”).

Remarks: This formation covers large areal parts in the Rannach Nappe but lacks good outcrops due to its high weathering capability; in the Hochlantsch Nappe the thickness is reduced due to tectonic amputation.

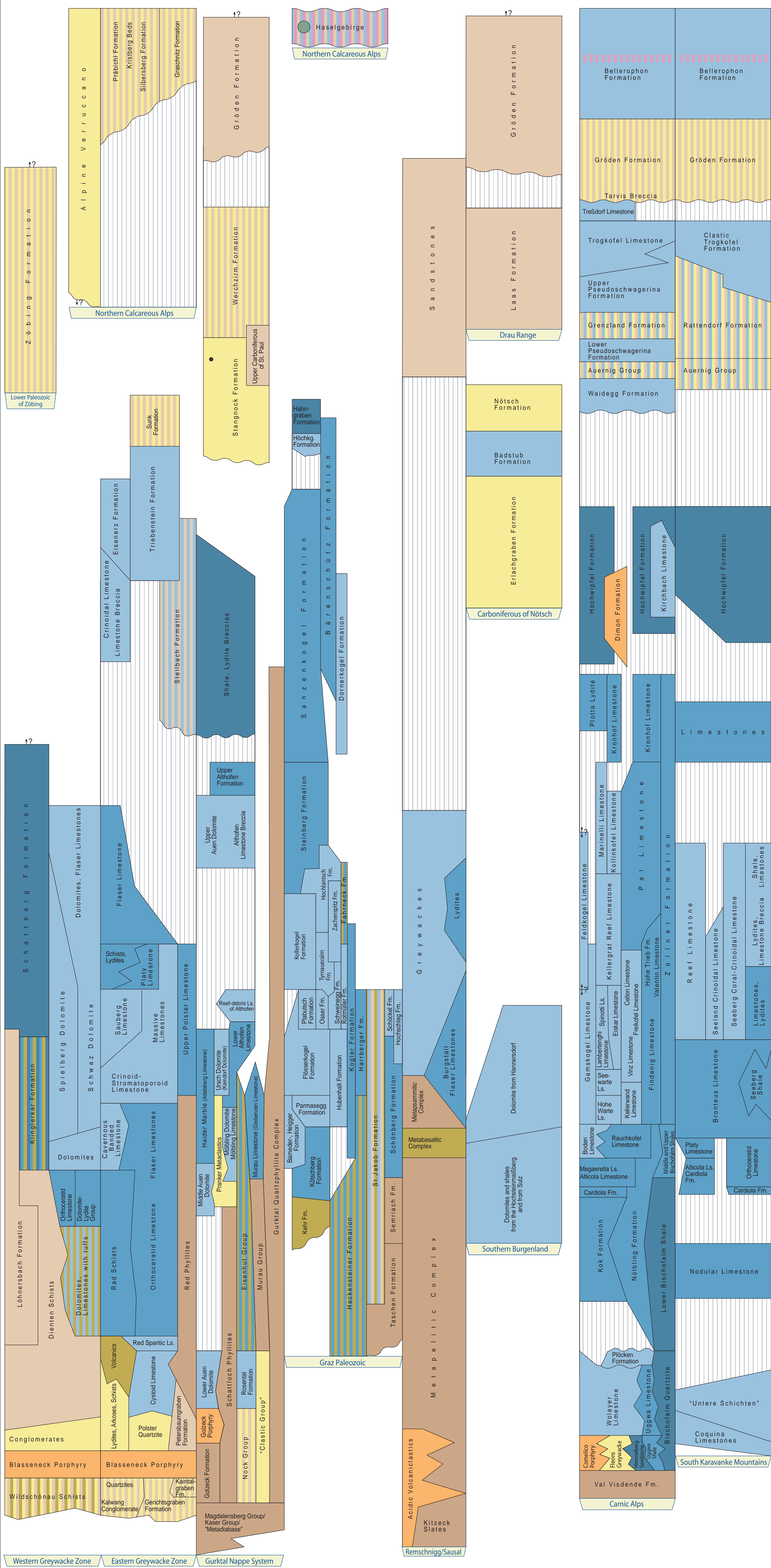
Austrian Stratigraphic Chart 2004 - Paleozoic

(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 / Dufallian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	CARBONIFEROUS			GZHELIAN	295	CARBONIFEROUS	U. CARBONIFEROUS / PENNSYLVANIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
CARBONIFEROUS	LOWER CARBONIFEROUS / MISSISSIPPIAN			SERPUKHOVIAN	315				
				VISEAN	320				
				TOURNAISIAN	325				
PERMIAN	DEVONIAN			FAMENNIAN	350	DEVONIAN	UPPER DEVONIAN		
				FRASNIAN	355				
				GIVETIAN	360				
		EIFELIAN	365						
		DEVONIAN	LOWER DEVONIAN	EMSIAN	370				
				PRAGIAN	375				
				LOCHKOVIAN	380				
		PERMIAN	DEVONIAN	LUDFORDIAN / GORSTIAN	385			DEVONIAN	MIDDLE DEVONIAN
				HOMERIAN / SHEINWOOD	390				
				TELYCHIAN	395				
AERONIAN	400								
RHUDDANIAN	405								
PERMIAN	SILURIAN			LLANDOVERY	410				
				HIRNANTIAN	415				
				WEN-LUD-LOCK	420				
PERMIAN	ORDOVICIAN			DARRIWILIAN	425	ORDOVICIAN	UPPER ORDOVICIAN		
				TREMACIAN	430				
		PAIBIAN	435						
		PERMIAN	MIDDLE CAMBRIAN	440					
				445					
				450					
		PERMIAN	CAMBRIAN	455	CAMBRIAN			LOWER CAMBRIAN	
				460					
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- 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

The Austrian Stratigraphic Chart 2004 - Paleozoic is a supplement of:
 Hubmann, B., Ebner, F., Ferretti, A., Kido, E., Krainer, K., Neubauer, F., Schönlaub, H.-P. & Suttner, T.J. (2014): The Paleozoic Era (them), 2nd edition. - In: Pillner, W.E. (Ed.): The lithostratigraphic units of the Austrian Stratigraphic Chart 2004 (sedimentary successions) - Vol. 1 - Abhandlungen der Geologischen Bundesanstalt, 66, 9-133, Wien.

Printing: Grasl Druck & Neue Medien GmbH, Bad Vöslau 2014

Landesmuseum Joanneum, OAW, Geologische Bundesanstalt, UNI GRAZ, OGG, Universität Wien, Naturhistorisches Museum Wien