

sections aggregates of quartz, chlorite and muscovite can be seen which are interpreted as former lapilli or relics of collapsed pumice. However, as pointed out by HEINISCH (1981) the crystal-rich Comelico Porphyry is strongly re-crystallized and thus difficult to link to a particular type.

Fossils: -

Origin, facies: The geotectonic position is difficult to assess because ignimbrites of similar composition occur in different geotectonic settings. A back-arc basin position or a position in a post-collisional extensional field of a continental crust is possible. Its origin within the latter is documented by S-type zircons (HUBICH & LOESCHKE, 1993: p. 370).

Chronostratigraphic age: Based on zircon crystals a late Ordovician age is suggested by HUBICH & LOESCHKE (1993: p. 366).

Biostratigraphy: -

Thickness: 670 m

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Val Visdende Formation (conformable contact?).

Overlying unit(s): Following HUBICH & LOESCHKE (1993: Fig. 3, p. 355) the Comelico Porphyry is succeeded by quartzites (reworked material from the Comelico Porphyry), shale, flaser limestone and lydites of Silurian age; the Wolayer Limestone does not directly follow above the Comelico Porphyry as shown in the ASC 2004.

Lateral unit(s): Fleons Greywacke; Val Visdende Formation (sensu HUBICH & LOESCHKE, 1993).

Geographic distribution: Western Carnic Alps.

Remarks: -

Complementary references: SASSI et al. (1979), HUBICH et al. (1993), SCHÖNLAUB & HISTON (1999, 2000).

Fleons-Grauwanke / Fleons Greywacke

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ANNALISA FERRETTI

Validity: Invalid; first observed by FRECH (1894b), followed by descriptions of GEYER (1899: p. 100), PELLIZZER & TOMADIN (1962), CARLONI (1971: p. 17–18), SCHÖNLAUB (1985a: p. 36–38) and by a detailed study of HINDERER (1992).

Type area: ÖK50-UTM, map sheets 3108 Sillian, 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3116 Sonnenalpe Naßfeld (ÖK50-BMN, map sheets 196 Obertilliach, 197 Kötschach).

Type section: Monte Fleons-Raudenspitze (N 46°39'45" / E 12°44'05") (HINDERER, 1992: Figs. 2, 4).

Reference section(s): Letterspitz and near the Roßkark (HINDERER, 1992: p. 338), Tscharrspitze (HUBICH et al., 1993: Fig. 3).

Derivation of name: After Mount Fleons [= Raudenspitze] (HINDERER, 1992: p. 338) near the village Fleons di sopra (N 46°38'16" / E 12°44'58").

Synonyms: Mauthener Schichten (FRECH, 1894b); Grüne Eruptivgesteine (Diabastuffe) und bunte Schiefer (GEYER, 1899: p. 100); Diabastuffe (GEYER, 1902); Fleonsgrauwacken (PELLIZZER & TOMADIN, 1962); Formazione del Monte Fleons (CARLONI, 1971: p. 17–18); Fleons-Grauwancken

(SCHÖNLAUB, 1985a: p. 36–38); Fleonsformation (HINDERER, 1988); Roßkarkonglomerat and Tscharrknollenfazies (HINDERER, 1992); Greywacke Series (HINDERER, 1992); Fleons-Formation (HINDERER, 1992); Formazione di Fleons (DUCA, 2004).

Lithology: Volcaniclastic sediments (quartzites, quartzitic schists, greywacke and conglomerates).

Fossils: Brachiopods (?), bryozoans (SCHÖNLAUB, 1985a; SCHÖNLAUB & FLAJS, 1993).

Origin, facies: Wave-dominated coastal environment with locally developed fan deposits (HINDERER, 1992).

Chronostratigraphic age: Late Ordovician age (Katian) is supported by fossil bearing intercalations of Uggwa Shale at Mount Raudenspitze (SCHÖNLAUB & FLAJS, 1993: p. 236).

Biostratigraphy: -

Thickness: > 500 m.

Lithostratigraphically higher rank unit: Fleons Facies (informal).

Lithostratigraphic subdivision: "Grauwackenserie" and "Quarzitische Serie" (HINDERER, 1992).

Underlying unit(s): Val Visdende Formation (conformable contact?).

Overlying unit(s): Following SCHÖNLAUB & FLAJS (1993: p. 236, 240–241) grey-green silty shales are interbedded between the Fleons Greywacke at the base of the overlying Uggwa Limestone (conformable contact?); the Wolayer Limestone does not directly follow above the Fleons Greywacke as shown in the ASC 2004.

Lateral unit(s): Val Visdende Formation and Himmelberg Sandstone, respectively (SCHÖNLAUB, 1985a: p. 36; HINDERER 1992: p. 364–365).

Geographic distribution: Western Carnic Alps.

Remarks: -

Complementary references: SELLI (1946, 1963), SCHÖNLAUB & HISTON (1999, 2000), SCHÖNLAUB (2000b), CARULLI (2006).

Himmelberg-Sandstein / Himmelberg Sandstone

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ANNALISA FERRETTI

Validity: Invalid; first mentioned by GAERTNER (1931: p. 125); described in detail by SCHÖNLAUB (1969a: Tab. 1, p. 273, 1971a: p. 99–102).

Type area: ÖK50-UTM, map sheets 3108 Sillian, 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3111 Spittal an der Drau, 3116 Sonnenalpe Naßfeld, 3117 Nötsch im Gailtal (ÖK50-BMN, map sheets 196 Obertilliach, 197 Kötschach, 199 Hermagor).

Type section: -

Reference section(s): Upper Himmelberg Alm (see remarks) west of Mount Polinik northeast of Plöckenhaus (N 46°37'40" / E 12°57'50"), Rauchkofel (N 46°36'55" / E 12°52'31") (SCHÖNLAUB, 1971a: Fig. 2).

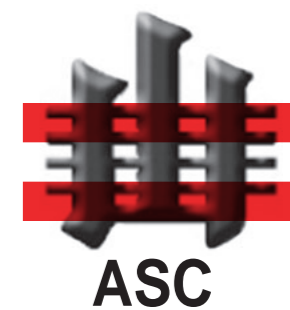
Derivation of name: After Himmelberger Alm (GAERTNER, 1931: p. 125).

Synonyms: Himmelberger Quarzit (GAERTNER, 1931); Dolomitisches Sandsteine (SCHÖNLAUB, 1969a); Wechsellagerung Echinodermatenkalke-Karbonatsandsteine (SCHÖN-

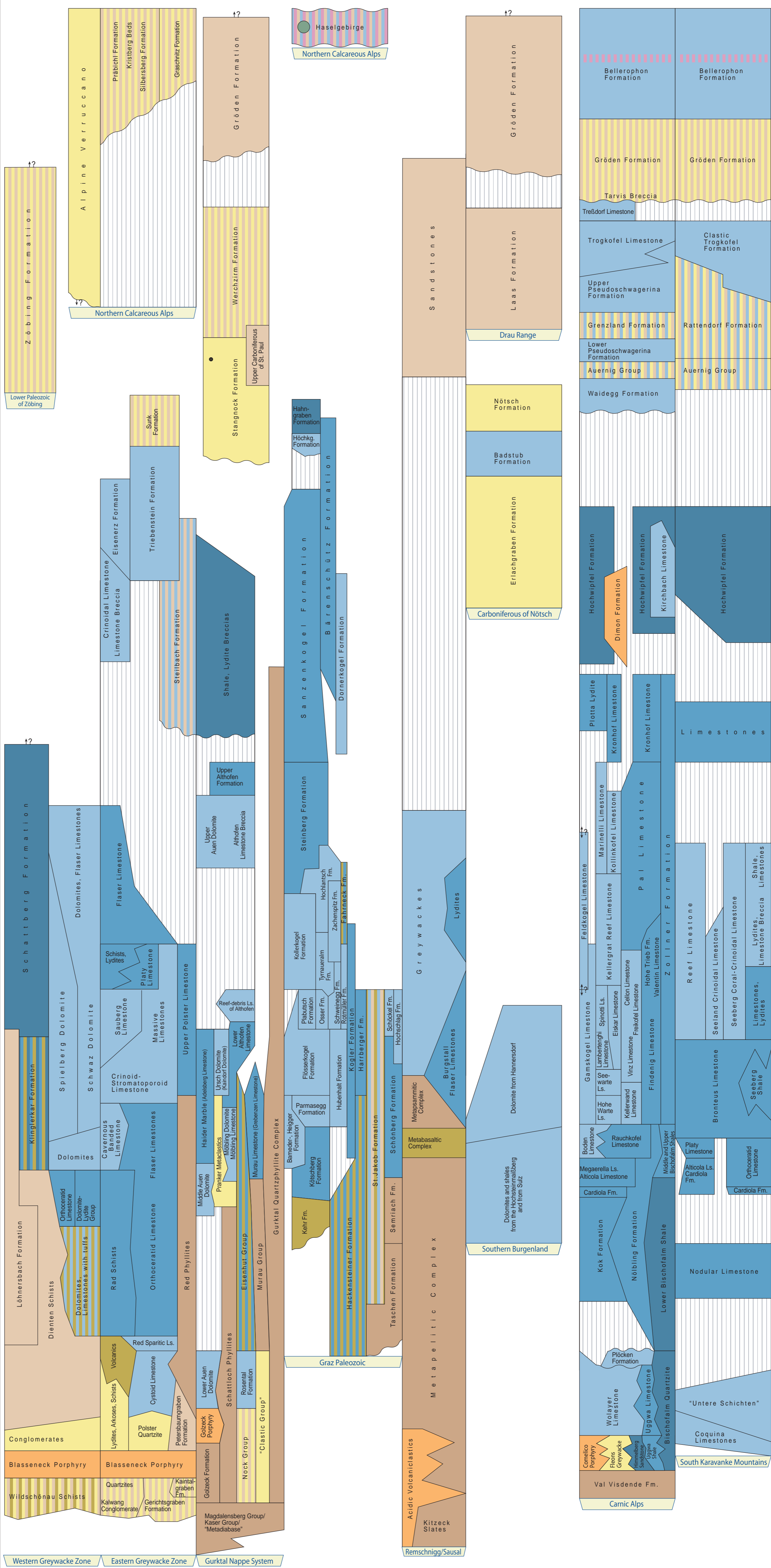
Austrian Stratigraphic Chart 2004 - Paleozoic

(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 / Dufuflian	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 / CISURALIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
PERMIAN	UPPER PERMIAN / CARBONIFEROUS / PENNSYLVANIAN			SERPUKHOVIAN	315				
				VISEAN	320				
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				FRASNIAN	365				
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		PRAGIAN	415						
		LOCHKOVIAN	420						
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		PERMIAN	UPPER PERMIAN / DEVONIAN			LUDFORDIAN / GORSTIAN	450	PERMIAN	UPPER PERMIAN / DEVONIAN
HOMERIAN / SHEINWOOD	455								
TELYCHIAN	460								
AERONIAN	465								
RHUDDANIAN	470								
HIRNANTIAN	475								
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PERMIAN	UPPER PERMIAN / DEVONIAN	PAIBIAN	495	PERMIAN	UPPER PERMIAN / DEVONIAN				
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CAMBRIAN	UPPER CAMBRIAN	MIDDLE CAMBRIAN	LOWER CAMBRIAN	CAMBRIAN	UPPER CAMBRIAN				
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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

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