Underlying unit(s): Bronteus Limestone (conformable contact).

Overlying unit(s): Limestones (unconformable contact).

Lateral unit(s): Seeland Crinoidal Limestone; Limestones, Lydites; Lydites, Limestone Breccia; Shale, Limestones.

Geographic distribution: Karavanke Mountains (Eisenkappel and Seeberg area).

Remarks: -

Complementary references: PENECKE (1887), SCHÖNLAUB (1971b, 1979), TESSENSOHN (1974a), MOSHAMMER (1987), RANTITSCH (1990, 1992b), RAMOVŠ (1999), SCHÖNLAUB & HISTON (1999, 2000).

Kalke, Lydite / Limestones, Lydites

THOMAS J. SUTTNER

Validity: Invalid; described by KUPSCH et al. (1971); lithological characters and biostratigraphy by TESSENSOHN (1974a) and MOSHAMMER (1989, 1990).

Type area: ÖK50-UTM, map sheet 4114 Bad Eisenkappel (ÖK50-BMN, map sheets 212 Vellach, 213 Bad Eisenkappel).

Type section: -

Reference section(s): Stanwiese section in Vellach (TESSENSOHN, 1974a: p. 115); Trögen Klamm section-group B (N 46°28'00" / E 14°30'24"), C (N 46°27'59" / E 14°35'03"), E (N 46°28'00" / E 14°30'30"), F1 (N 46°28'02" / E 14°30'12"), F2 (N 46°28'01" / E 14°30'18") published by MOSHAMMER (1989, 1990).

Derivation of name: After dominating lithologies.

Synonyms: Dunkelblaugraue, gebankte, verkieselte Schuttkalke (MOSHAMMER, 1990: Fig. 2); schwarzer Lydit (MOSHAMMER, 1990); "Radiolarien Chert" (MOSHAMMER, 1990: p. 575).

Lithology: Blackish limestone alternating with lydites and blackish shale.

Fossils: Conodonts, crinoids, radiolarians.

Origin, facies: Marine limestone, pelagic unit.

Chronostratigraphic age: Emsian–Givetian.

Biostratigraphy: *varcus* conodont zone (MOSHAMMER, 1989).

Thickness: Approx. 30 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Bronteus Limestone (conformable contact).

Overlying unit(s): Lydites, Limestone Breccia (conformable contact).

Lateral unit(s): Seeberg Coral-Crinoidal Limestone.

Geographic distribution: Karavanke Mountains (Eisenkappel and Seeberg area).

Remarks: -

Complementary references: SCHÖNLAUB (1971b, 1979), MOSHAMMER (1987), SCHÖNLAUB & HISTON (1999, 2000).

Lydite, Kalkbrekzie / Lydites, Limestone Breccia

THOMAS J. SUTTNER

Validity: Invalid; first recognized by LIPOLD (1856b); later described by KUPSCH et al. (1971); lithologically defined and biostratigraphically dated by TESSENSOHN (1974a) and MOSHAMMER (1989, 1990).

Type area: ÖK50-UTM, map sheet 4114 Bad Eisenkappel (ÖK50-BMN, map sheets 212 Vellach, 213 Bad Eisenkappel).

Type section: -

Reference section(s): Hainschgraben near Zell Pfarre (Eisenkappel area); Stanwiese section in Vellach (TESSENSOHN, 1974a: p. 115); Trögen Klamm section-group B (N 46°28'00" / E 14°30'24"), C (N 46°27'59" / E 14°35'03"), E (N 46°28'00" / E 14°30'30"), F1 (N 46°28'02" / E 14°30'12"), F2 (N 46°28'01" / E 14°30'18") published by MOSHAMMER (1989, 1990).

Derivation of name: After dominating lithologies.

Synonyms: Gailthaler Schichten (Kalk und Schiefer) (LIPOLD, 1856b: p. 349); schwarzer Lydit (MOSHAMMER, 1990: Fig. 2); "Radiolarien Chert" (MOSHAMMER, 1990: p. 575).

Lithology: Limestone breccia (with pebble sized components of reef rubble), lydite alternating with limestone beds.

Fossils: Conodonts, corals, crinoids, radiolarians.

Origin, facies: Marine pelagic deposits; note wrong color code in the ASC 2004.

Chronostratigraphic age: Givetian–Frasnian.

Biostratigraphy: *varcus* conodont zone (MOSHAMMER, 1989).

Thickness: Approx. 6 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Limestones, lydites (conformable contact).

Overlying unit(s): Shale, limestones (conformable contact).

Lateral unit(s): Seeberg Coral-Crinoidal Limestone.

Geographic distribution: Karavanke Mountains (Eisenkappel and Seeberg area).

Remarks: -

Complementary references: SCHÖNENBERG (1965, 1967), SCHÖNLAUB (1979), MOSHAMMER (1987), SCHÖNLAUB & HISTON (1999, 2000).

Tonschiefer, Kalke / Shale, Limestones

THOMAS J. SUTTNER

Validity: Invalid; first recognized by LIPOLD (1856b); later described by KUPSCH et al. (1971); lithologically defined and biostratigraphically dated by TESSENSOHN (1974a) and MOSHAMMER (1989, 1990).

Type area: ÖK50-UTM, map sheet 4114 Bad Eisenkappel (ÖK50-BMN, map sheets 212 Vellach, 213 Bad Eisenkappel).

Type section: -

Reference section(s): Stanwiese section in Vellach (TESSENSOHN, 1974a: p. 115); Trögen Klamm section-group B

(N 46°28'00" / E 14°30'24"), C (N 46°27'59" / E 14°35'03"), E (N 46°28'00" / E 14°30'30"), F1 (N 46°28'02" / E 14°30'12"), F2 (N 46°28'01" / E 14°30'18") published by MOSHAMMER (1989, 1990).

Derivation of name: After dominating lithologies.

Synonyms: Gailthaler Schichten (Kalk und Schiefer) (LIPOLD, 1856b: p. 349); rötlicher, gebankter bis geflaserter Kalk (do II) (MOSHAMMER, 1989: Fig. 3); "Mudstone mit Cephalopoden" (MOSHAMMER, 1990: p. 575).

Lithology: Shale alternating with thin limestone layers.

Fossils: Cephalopods.

Origin, facies: Marine pelagic deposits; note wrong color code in the ASC 2004.

Chronostratigraphic age: Frasnian–Famennian.

Biostratigraphy: *marginifera* conodont zone (MOSHAMMER, 1989: p. 627).

Thickness: Approx. 2 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Lydites, limestone breccia (conformable contact).

Overlying unit(s): Limestones (unconformable contact).

Lateral unit(s): Seeberg Coral-Crinoidal Limestone.

Geographic distribution: Karavanke Mountains (Eisenkappel and Seeberg area).

Remarks: -

Complementary references: SCHÖNENBERG (1965, 1967), SCHÖNLAUB (1971a, 1979), MOSHAMMER (1987), SCHÖNLAUB & HISTON (1999, 2000).

Kalke / Limestones

THOMAS J. SUTTNER

Validity: Invalid; first recognized by LIPOLD (1856b) and TELLER (1898); later described by KOLLMANN (1938) and KUPSCH et al. (1971); biostratigraphy by SCHULZE (1968).

Type area: ÖK50-UTM, map sheet 4114 Bad Eisenkappel (ÖK50-BMN, map sheets 212 Vellach, 213 Bad Eisenkappel).

Type section: -

Reference section(s): South-east of Storschitz, between Seebergpaß and Jeritsch-Felsen (N 46°25'09" / E 14°32'10"; N 46°25'11" / E 14°31'49"), south-west of the Pasterkfelsen (N 46°25'42" / E 14°32'48") published by SCHULZE (1968).

Derivation of name: After lithology.

Synonyms: Gailthaler Kalk (LIPOLD, 1856b: p. 350); Devon in Bänderkalkfazies (KOLLMANN, 1938); Bänderkalkschuppen (KUPSCH et al., 1971: Fig. 2, p. 95); Bänderkalke (KUPSCH et al., 1971: Fig. 3, p. 95); graue Bänderkalke bzw. Graue spätige Kalke des Unter-Karbon (SCHULZE, 1968); banded limestone (SCHÖNLAUB, 1980b).

Lithology: Grey, laminated limestone (reddish brown weathering), grey sparry limestone.

Fossils: Brachiopods, cephalopods, conodonts, crinoids.

Origin, facies: Marine limestone, pelagic unit.

Chronostratigraphic age: Tournaisian.

Biostratigraphy: *anchoralis* conodont zone (SCHULZE, 1968: p. 176); middle *Gattendorfia* ammonoid zone to middle *Pericyclus* ammonoid zone (SCHULZE, 1968: p. 176).

Thickness: Approx. 300 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Reef Limestone; Seeland Crinoidal Limestone; Seeberg Coral-Crinoidal Limestone; Shale, Limestones (all units mentioned: unconformable contact).

Overlying unit(s): Hochwipfel Formation (unconformable contact).

Lateral unit(s): -

Geographic distribution: Karavanke Mountains (Seeberg area).

Remarks: -

Complementary references: HERITSCH (1927d), SCHÖNLAUB (1979), KREUTZER et al. (1997), SCHÖNLAUB & HISTON (1999, 2000).

Hochwipfel-Formation / Hochwipfel Formation

(description see Carnic Alps)

Post-Variscan Sequence

Auernig-Gruppe / Auernig Group

(see description in Carnic Alps)

Rattendorf-Formation / Rattendorf Formation

HANS P. SCHÖNLAUB

Validity: Invalid.

Type area: ÖK50-UTM, map sheet 3116 Sonnenalpe Naßfeld (ÖK50-BMN, map sheet 198 Weißbriach), Carnic Alps, Carinthia.

Type section: Not defined.

Reference section(s): Section on western cliff of Mountain Schulterkofel following the crest south of Rattendorfer Alm to Zottachkopf (HERITSCH et al., 1934: p. 176).

Remarks: According to HERITSCH et al. (1934: p. 163) the post-Variscan sequence of the Carnic Alps is subdivided into the "Auernig-Schichten" and the "Rattendorfer Schichten" ranging from the upper Carboniferous to the Lower Permian. The latter were subdivided into the Lower Schwagerina Lst., the Grenzlandbänke and the Upper Schwagerina Lst.

Derivation of name: After the village of Rattendorf west of Hermagor to which the pastures around Rattendorfer Alm belongs.

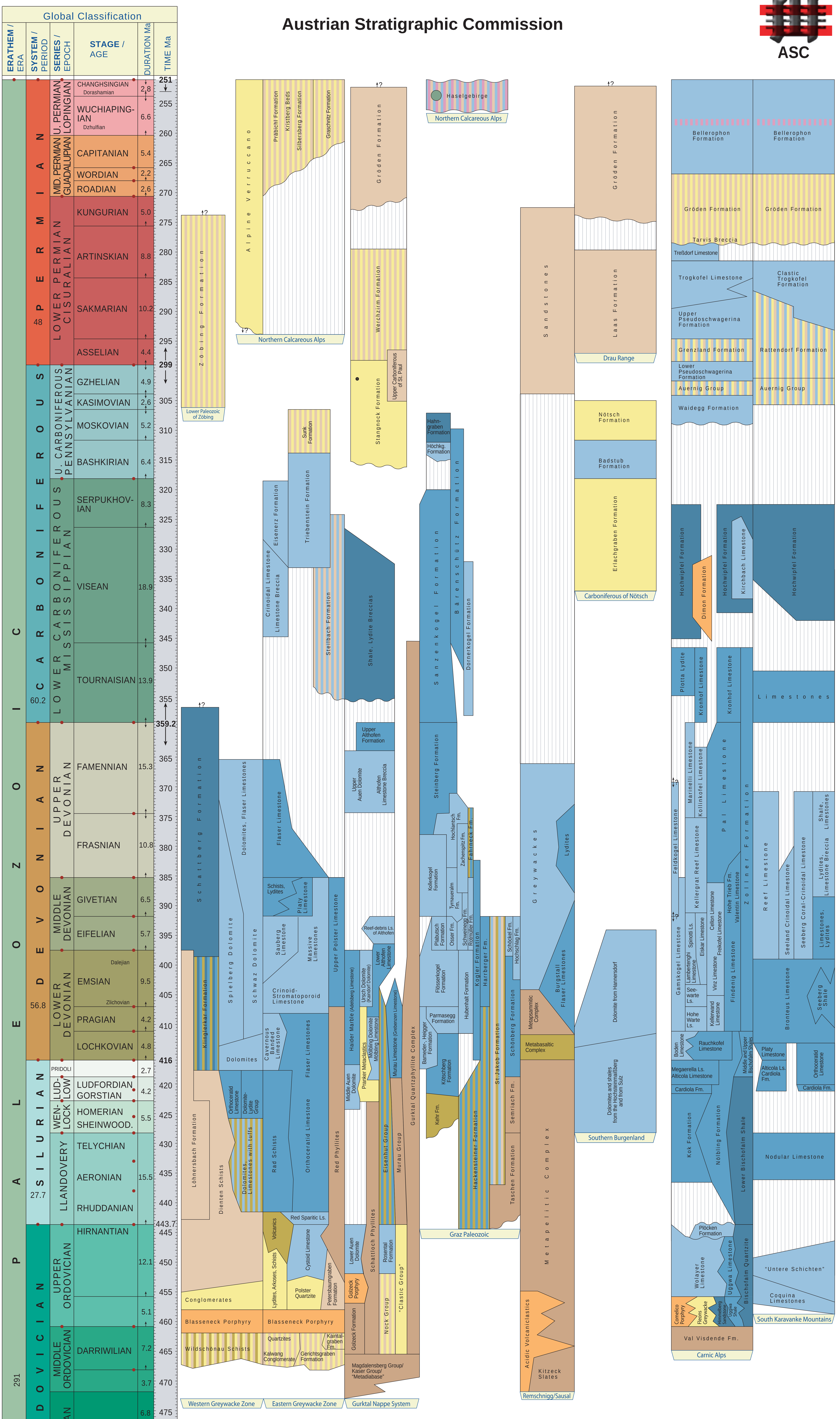
Synonyms: Rattendorfer Schichten.

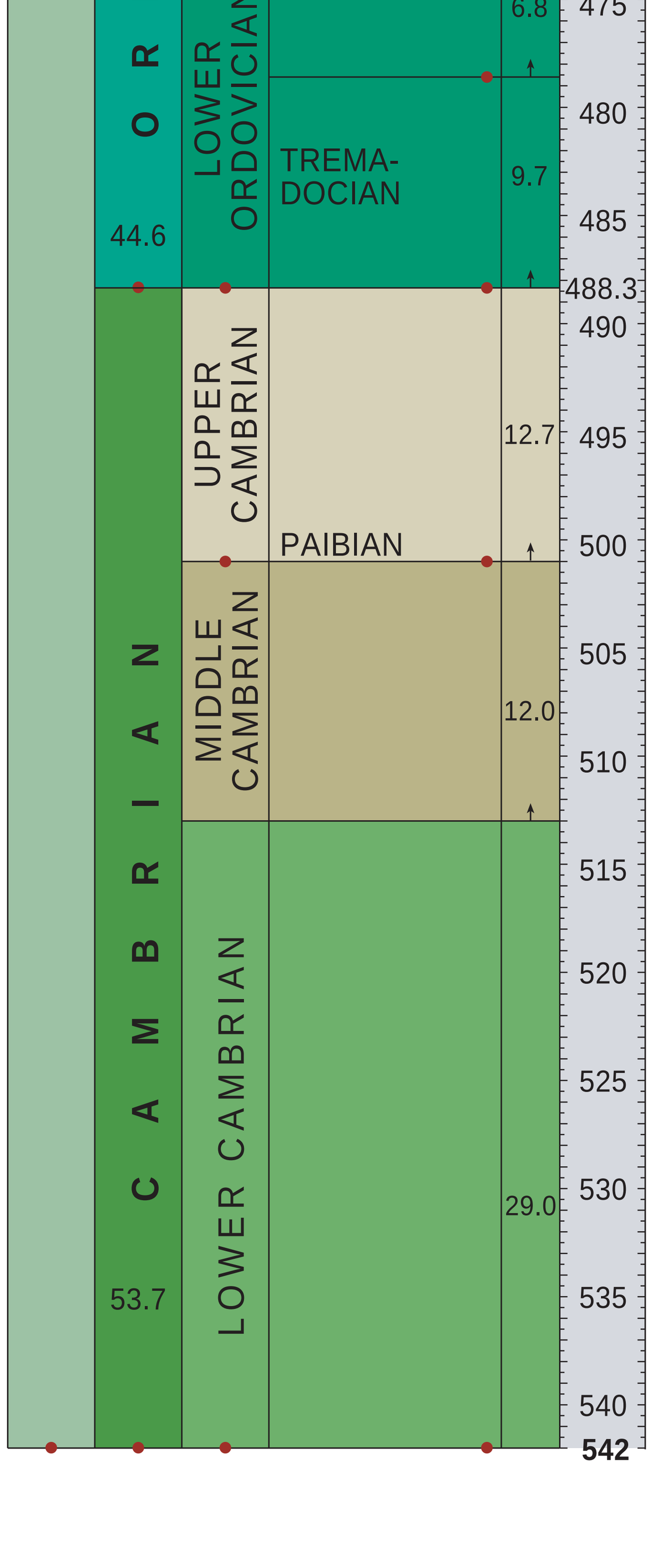
Lithology: This lithostratigraphic unit is generally used to designate a Lower Permian sequence of limestones and clastics which cannot be further assigned to one of the Lower Permian formations, e.g., the Schulterkofel, Grenzland or Zweikofel Formation.

Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission





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	
basalt	Fm. Formation
phyllite	Ls. Limestone
mixed-facies (in corresponding colors)	

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: Piller, W.E. [Ed.]: The lithostratigraphic units of the Austrian Stratigraphic Chart 2004 (sedimentary successions) – Vol. I – Abhandlungen der Geologischen Bundesanstalt, 66, 9–133, Wien.

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

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