Alticola-Kalk / Alticola Limestone

THOMAS J. SUTTNER, HANS P. SCHÖNLAUB

Validity: Invalid; first described by FRECH (1887: p. 684, 701, 706) as "Zone des *Orthoceras alticola*"; well described by GAERTNER (1931); biostratigraphic and sedimentological investigations were carried out by WALLISER (1964) and SCHÖNLAUB (1985a); a summary on this unit is provided by KREUTZER (1992b) and later by BRETT et al. (2009).

Type area: ÖK50-UTM, map sheets 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3111 Spittal an der Drau, 3116 Sonnenalpe Naßfeld, 3117 Nötsch im Gailtal, 3118 Arnoldstein, 4114 Bad Eisenkappel (ÖK50-BMN, map sheets 197 Kötschach, 198 Weißbriach, 199 Hermagor, 200 Arnoldstein, 201-210 Villach-Assling, 212 Vellach, 213 Bad Eisenkappel).

Type section: -

Reference section(s): Cellon avalanche gully (WALLISER, 1964), N 46°36'32" / E 12°56'23"; Rauchkofel Boden section, Valentintörl section, near Pessendellach, south of Arnoldstein, near Agoritschach, Monte Cocco II section (BRETT et al., 2009); Kokra- and Korpitschgraben, Feistritzgraben below Illitsch, Worounitzagraben, Trögern and Seeberg (KUPSCH et al., 1971).

Derivation of name: After the nauiloid species *Orthoceras alticola* BARRANDE (FRECH, 1887).

Synonyms: Untersilurische Schichten [partim] (STACHE, 1874); Unterer rother Orthoceren Kalk, wechsellagernd mit grauem Kalke (FRECH, 1887: p. 684); Zone des *Orthoceras alticola* (FRECH, 1887: p. 684, 701); Bunte Flaser- oder Bänderkalke und Kalkphyllite des Obersilur [partim] (GEYER, 1899); Calcari reticolati – facies a Cefalopodi (GORTANI & VINASSA DE REGNY, 1909); Orthoceren-(*alticola*-) Kalke (GAERTNER, 1931); Orthocerenkalk (HABERFELNER & HERITSCH, 1932b); Alticola Limestone (SCHÖNLAUB, 1970); Calcare ad Alticola (SPALLETTA et al., 1982); Alticola Formation (KREUTZER, 1992b).

Lithology: Grey to red bedded orthocerid limestone with interbedded layers of coarse fossil debris yielding brachiopod valves.

Fossils: Acritarchs (PRIEWALDER, 1987), bivalves (KRIZ, 1979, 1999), brachiopods (PLODOWSKI, 1971, 1973), cephalopods (RISTEDT, 1968; BOGOLEPOVA, 1998; HISTON, 1999), chitinozoans (PRIEWALDER, 1997), conodonts (WALLISER, 1964; SCHÖNLAUB, 1979), echinoderms, foraminifers (LANGER, 1969), graptolites (JAEGER, 1975), rugose corals (PICKETT, 2007), scyphocrinitids (FERRETTI et al., 1999: p. 60), trace fossils (HISTON & SCHÖNLAUB, 1999), trilobites (HAAS, 1969; SANTEL, 1999).

Origin, facies: Marine limestone, pelagic unit (Plöcken Facies).

Chronostratigraphic age: Ludlow–Pridoli.

Biostratigraphy: *latialatus* and *eosteinhornensis* conodont zones (WALLISER, 1964).

Thickness: 20 m.

Lithostratigraphically higher rank unit: Plöcken Facies (informal).

Lithostratigraphic subdivision: -

Underlying unit(s): Cardiola Formation (conformable contact).

Overlying unit(s): Megaerella Limestone (conformable contact).

Lateral unit(s): Nölbling Formation.

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

Remarks: -

Complementary references: GEYER (1894), SPITZ (1909), HERITSCH (1929, 1943), WALLISER (1957), FLÜGEL (1965), PÖLSLER (1967), HAAS (1969), MANARA & VAI (1970), SCHÖNLAUB (1971a, 1980b, 1982c, 1982d, 1991, 1997), TIETZ (1976), SIEWERT (1984), MOSHAMMER (1987, 1990), KREUTZER (1994), SCHÖNLAUB et al. (1997, 2004), WENZEL (1997), VAI (1998, 1999), HISTON et al. (1999), PASAVA & SCHÖNLAUB (1999), SCHÖNLAUB & HISTON (1999, 2000), PRIEWALDER (2000), BRETT et al. (2009), CORRIGA & CORRADINI (2009).

Megaerella-Kalk / Megaerella Limestone

THOMAS J. SUTTNER, ERIKA KIDO, HANS P. SCHÖNLAUB

Validity: Invalid; discriminated by FRECH (1887: p. 687, 700, 714) as "Zone der *Rhynchonella Megaera*"; well described by GAERTNER (1931); biostratigraphic and sedimentologic investigations were carried out by WALLISER (1964) and SCHÖNLAUB (1980b, 1985a); a summary of this unit is provided by KREUTZER (1992b) and BRETT et al. (2009).

Type area: ÖK50-UTM, map sheets 3109 Oberdrauburg, 3110 Kötschach-Mauthen, 3111 Spittal an der Drau, 3116 Sonnenalpe Naßfeld, 3117 Nötsch im Gailtal (ÖK50-BMN, map sheets 197 Kötschach, 198 Weißbriach (?), 199 Hermagor).

Type section: -

Reference section(s): Cellon avalanche gully (WALLISER, 1964), N 46°36'31" / E 12°56'22"; Seewarte, Valentintörl (SCHÖNLAUB, 1980b).

Derivation of name: After the brachiopod *Rhynchonella megaera* (FRECH, 1887: p. 687).

Synonyms: Zone der *Rhynchonella Megaera* (FRECH, 1887); Calcari reticolati – facies a Brachiopodi (GORTANI & VINASSA DE REGNY, 1909); *Rhynchonella megaera*-Schichten (GAERTNER, 1931); *Rh. megaera*-Schichten (WALLISER, 1957); Kalk mit *H. megaera* (PÖLSLER, 1967); Black nodular Limestones (SCHÖNLAUB, 1980b); Megaerella Beds (SCHÖNLAUB, 1980b); Strati a Megaerella (SPALLETTA et al., 1982); Megaerella Formation (KREUTZER, 1992b).

Lithology: Bright, greyish, bioclastic limestones (BRETT et al., 2009).

Fossils: Acritarchs (PRIEWALDER, 1987), bivalves (KRIZ, 1979, 1999), brachiopods (PLODOWSKI, 1971, 1973), bryozoans, cephalopods (RISTEDT, 1968; BOGOLEPOVA, 1998; HISTON, 1999), chitinozoans (PRIEWALDER, 1997), conodonts (WALLISER, 1964; SCHÖNLAUB, 1979), echinoderms, foraminifers (LANGER, 1969), graptolites (JAEGER, 1975), scyphocrinitids (SCHÖNLAUB, 1970, 1985a; HISTON et al., 1999: p. 51), trace fossils (HISTON & SCHÖNLAUB, 1999), trilobites (HAAS, 1969; SANTEL, 1999).

Origin, facies: Marine limestone, shallow to moderately deep shelf (Plöcken Facies).

Chronostratigraphic age: Pridoli.

Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission

ASC

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	Fm. Formation
basalt	Ls. Limestone
phyllite	
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:
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