Derivation of name: After facies characters.

Synonyms: Gebankte Kalke (KUPSCH et al., 1971); schillreiche Kalke (LOESCHKE & ROLSER, 1971: p. 153); Kalk (MOSHAMMER, 1989: Fig. 3).

Lithology: Grey bioclastic flaser limestone.

Fossils: Brachiopods, bryozoans, crinoids, conodonts, ostracods, trilobites.

Origin, facies: Marine limestone, neritic unit.

Chronostratigraphic age: Upper Ordovician (Katian).

Biostratigraphy: *ordovicicus* conodont zone (MOSHAMMER, 1989: p. 625).

Thickness: Approx. 8 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): -

Overlying unit(s): "Untere Schichten" (unconformable contact?).

Lateral unit(s): Equivalent units are seen within the Ordovician limestones of the Carnic Alps (MOSHAMMER, 1989).

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

Remarks: Following KUPSCH et al. (1971) the south-alpine Paleozoic units of the Eastern Karavanke Mountains (Text-Fig. 4) are separated by the Triassic of the Koschuta (Trögen Klamm). The area to the south is called the Paleozoic of Seeberg (Seeberg Aufbruch sensu SIEWERT, 1984; informal) and the area north if it is known as Paleozoic of Eisenkappel (Trögen Group sensu MOSHAMMER & FLÜGEL, 1987; formalized). In general, the Seeberg Aufbruch ("Window") can be distinguished from the Trögen Group according to differences within the depositional environment that developed regionally (LOESCHKE & ROLSER, 1971; SIEWERT, 1984: p. 41–45; MOSHAMMER, 1990: Fig. 2).

Complementary references: LOESCHKE (1974), JAEGER et al. (1975), SCHÖNLAUB (1979), MOSHAMMER (1987), SCHÖNLAUB & HISTON (1999, 2000), HUBMANN et al. (2003, 2006).

„Untere Schichten" / "Untere Schichten"

THOMAS J. SUTTNER

Validity: Invalid; "Untere Schichten" first mentioned by GAERTNER (1931); additional work on this unit has been done by KUPSCH et al. (1971) and SCHÖNLAUB (1979).

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

Type section: -

Reference section(s): Feistritzgraben (SCHÖNLAUB, 1979).

Derivation of name: In the strict sense the name "Untere Schichten" represents a lithostratigraphic term that was introduced by GAERTNER (1931: p. 133).

Synonyms: Tonschiefer-Lydit-Sedimentation (KUPSCH et al., 1971).

Lithology: Blackish shale and sandstones.

Fossils: Brachiopods, graptolites.

Origin, facies: Marine limestone, neritic unit.

Chronostratigraphic age: Upper Ordovician (Hirnantian).

Biostratigraphy: *persculptus* graptolite zone (SCHÖNLAUB, 1979: Fig. 19, p. 45).

Thickness: Approx. 20 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Coquina Limestones (unconformable contact?).

Overlying unit(s): Nodular Limestone (unconformable contact).

Lateral unit(s): Equivalent units are exposed within the Carnic Alps (JAEGER et al., 1975).

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

Remarks: -

Complementary references: LOESCHKE (1974), SCHÖNLAUB & HISTON (1999, 2000).

Knollenkalk / Nodular Limestone

THOMAS J. SUTTNER

Validity: Invalid; mentioned by ROLSER (1968) and KUPSCH et al. (1971); biostratigraphy of an equivalent, but more distally deposited unit by MOSHAMMER (1989).

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

Type section: -

Reference section(s): Section near Gehöft Illitsch south of Finkenstein (SCHÖNLAUB, 1979); Trögen Klamm section-group A (N 46°28'04" / E 14°30'28"), B (N 46°28'00" / E 14°30'24"), E (N 46°28'00" / E 14°30'30") published by MOSHAMMER (1989, 1990).

Derivation of name: After facies characters.

Synonyms: grobspätige Crinoidenkalkfazies (SCHÖNLAUB, 1975); schwarze Kieselschiefer (MOSHAMMER, 1989).

Lithology: Bedded crinoidal limestone, dark siliceous shale.

Fossils: Brachiopods, chitinozoans, conodonts, crinoids, trilobites.

Origin, facies: Marine limestone, pelagic unit.

Chronostratigraphic age: Llandovery.

Biostratigraphy: *staurognathoides* and *celloni* conodont zones (MOSHAMMER, 1989: p. 625).

Thickness: Approx. 15 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): "Untere Schichten" (unconformable contact).

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

Lateral unit(s): -

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

Remarks: -

Complementary references: LOESCHKE & ROLSER (1971), LOESCHKE (1974), SCHÖNLAUB (1979), TESSENSOHN (1983), MOSHAMMER (1987), SCHÖNLAUB & HISTON (1999, 2000).

Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission

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

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

Landesmuseum Joanneum

ÖAW

Geologische Bundesanstalt

UNI GRAZ

Universität Wien

Naturhistorisches Museum Wien