Derivation of name: After Magdalensberg (KAHLER, 1953: p. 12).

Synonyms: Kalktrapp und dioritischer Porphyr (ROSTHORN & CANAVAL, 1853); grüne Schiefer (LIPOLD, 1856a); paläozoische Grauwackenschiefer und Diabasgesteine (BECK, 1931); Mandelgesteine und Lockergesteine (KAHLER & WOLFSEGGER, 1934); Magdalensbergserie (RIEHL-HERWIRSCH, 1970); Magdalensberg-Folge [partim] (THIEDIG, 2005).

Lithology: Phyllitic shale, conglomerate layers; pillow lavas; greenish and purple tuffs, ferruginous dolomitic tuffs with carbonatic lenses, lydites.

Fossils: An overview of the fauna is provided by RIEHL-HERWIRSCH (1970) who listed bryozoans, chitinozoans (see also GROSCHOPF, 1970), conodonts, graptolites, ostracods, radiolarians and scolecodonts. Macrofossils from the Magdalensberg Group are brachiopods obtained by SEELMEIER (1939, 1940) and HAVLICEK et al. (1987). Acritarchs were described by REITZ (1994).

Origin, facies: Submarine stratovolcano(s).

Chronostratigraphic age: Floian–Darriwilian (?).

Biostratigraphy: According to the acritarch assemblage Early to Middle Ordovician age is suggested for the Lower Magdalensberg Group by REITZ (1994).

Thickness: > 500 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: Following REITZ (1994), the Magdalensberg Group is divided into a Lower Magdalensberg Group (dominated by clastic rocks) and Upper Magdalensberg Group (dominated by volcanic rocks). This subdivision follows earlier discriminations of KAHLER (1953), RIEHL-HERWIRSCH (1970) and GROSCHOPF (1970).

Underlying unit(s): -

Overlying unit(s): Golzeck Formation, Schattloch Phyllites, Nock Group; "Gurktal Quartzphyllite Complex".

Lateral unit(s): -

Geographic distribution: Carinthia, highland east of Magdalensberg between St. Christoph and Brückl (RIEHL-HERWIRSCH, 1970), in the surrounding of Bleiburg and at the border to Slovenia at St. Georgen (compare REITZ, 1994).

Remarks: -

Complementary references: PETERS (1855), MURBAN (1938), FRITSCH et al. (1960), STREHL (1962), FRITSCH (1969), BUCHROITHNER (1979), NEUBAUER (1979), SCHÖNLAUB (1979, 1992), NEUBAUER & PISTOTNIK (1984), GOSEN et al. (1985), MULFINGER (1988), LOESCHKE (1989a), PISTOTNIK (1989), HOLZER & GORITSCHNIG (1997), KETTRUP (1998).

Golzeck-Formation / Golzeck Formation

THOMAS J. SUTTNER

Validity: Valid; the unit is well described as "Golzeck-Schiefer" by NEUBAUER (1979), but the name Golzeck Formation first appears on the scheme of SCHÖNLAUB (1992: Fig. 13, p. 399).

Type area: ÖK50-UTM, map sheets 3230 Tamsweg, 4225 Murau (ÖK50-BMN, map sheets 158 Stadl, 159 Murau).

Type section: The type section is located south of Murau in the Auen area (N 47°02'31" / E 14°09'23"; N 47°02'37" / E 14°09'28"; N 47°02'26" / E 14°09'25") near the Haider farmstead along a forest road (NEUBAUER, 1979: Fig. 2, p. 460).

Reference section(s): -

Derivation of name: After Mount Golzeck (in the Auen area).

Synonyms: Arkosenschiefer (THURNER, 1958); Golzeck-Schiefer (NEUBAUER, 1979).

Lithology: grey to greyish green shale, metapsammites, phyllitic shale, ferruginous dolomite (NEUBAUER, 1979: p. 459).

Fossils: Conodonts, crinoids.

Origin, facies: Marine deposits consisting of weathering products of acidic volcanites and metamorphic areas (compare NEUBAUER, 1984: Fig. 17, p. 56); phyllitic unit.

Chronostratigraphic age: Middle–Late Ordovician (NEUBAUER, 1979).

Biostratigraphy: Among six conodont taxa described from this unit (compare NEUBAUER, 1979), fragments assigned to *Amorphognathus*? sp. indicate Late Ordovician. Based on the assemblage provided by NEUBAUER (1979), no further assignment can be made, which would constrain the unit to a distinctive biostratigraphic zone.

Thickness: > 100 m.

Lithostratigraphically higher rank unit: Auen Group (see remarks).

Lithostratigraphic subdivision: -

Underlying unit(s): Magdalensberg Group, Kaser Group, "Metadiabase".

Overlying unit(s): Golzeck Porphyry (conformable contact).

Lateral unit(s): Schattloch Phyllites (conformable contact).

Geographic distribution: Styria and Carinthia, in the surrounding of Murau, especially south of it near the Styrian/Carinthian states border in the area of Auen (NEUBAUER, 1979: Fig. 1).

Remarks: NEUBAUER (1979) distinguished three groups within the Lower Paleozoic sequence of the Gurktal Nappe: the Auen Group, Pranker Group and Murau Group. Within the Auen Group (compare Text-Fig. 3) mainly carbonatic units (Lower Auen Dolomite, Middle Auen Dolomite, Haider Marble and Upper Auen Dolomite) together with shales (Golzeck Formation) and magmatic deposits (Golzeck Porphyry) are lumped.

Complementary references: SCHÖNLAUB (1979), NEUBAUER & PISTOTNIK (1984), GOSEN et al. (1985).

Golzeck-Porphyroid / Golzeck Porphyry

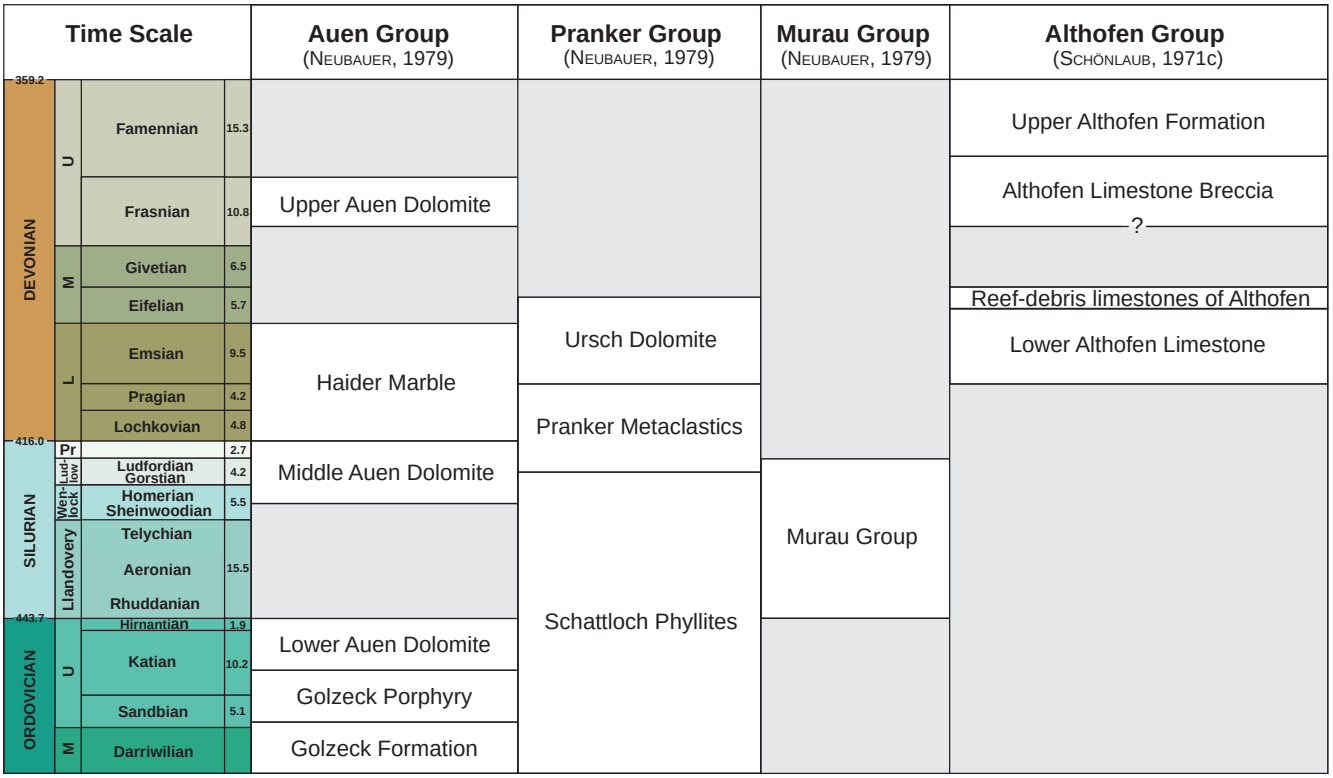
THOMAS J. SUTTNER

Validity: Invalid; first mapped by GEYER (1891a, b); well described by NEUBAUER (1979).

Type area: ÖK50-UTM, map sheets 3230 Tamsweg, 4225 Murau (ÖK50-BMN, map sheets 158 Stadl, 159 Murau).

Type section: -

Reference section(s): Section in the vicinity of Haider farmstead located south of Murau in the Auen area (N 47°02'27" / E 14°09'24").



Text-Fig. 3.
Literature-based subdivision and correlation of the Auen, Pranker, Murau and Althofen groups (Gurktal Nappe).

Derivation of name: After a magmatic unit at Mount Golzeck (in the Auen area).

Synonyms: Golzeck-Quarzporphyr (Neubauer, 1979).

Lithology: Quartzporphyry and purple metatuffs.

Fossils: -

Origin, facies: Following Neubauer (1984: p. 56) the Golzeck Porphyry forms the volcanic basement of a submarine swell facies which is represented by the overlying carbonatic development of the Auen Group; magmatic unit.

Chronostratigraphic age: Late Ordovician age is concluded by Gosen et al. (1985: p. 696), as this unit is overlain by meta-rhyolites and carbonates (Lower Auen Dolomite), of which the base of the latter deposits is assigned to the *ordovicicus* Zone (Neubauer, 1979: p. 464).

Biostratigraphy: -

Thickness: Approx. 7 m.

Lithostratigraphically higher rank unit: Auen Group (see remarks at Golzeck Formation).

Lithostratigraphic subdivision: -

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

Overlying unit(s): Lower Auen Dolomite (conformable contact).

Lateral unit(s): Schattloch Phyllites.

Geographic distribution: Styria and Carinthia, in the surrounding of Murau, especially south of it near the Styrian/Carinthian states border in the area of Auen (Neubauer, 1979: Fig. 1).

Remarks: -

Complementary references: Schönlaub (1979, 1992), Neubauer & Pistotnik (1984).

Unterer Auen-Dolomit / Lower Auen Dolomite

Thomas J. Suttner

Validity: Invalid; the name "Unterer Auen-Dolomit" for this unit was first used by Neubauer (1979: p. 464), who mapped and revised the Lower Paleozoic succession of low metamorphic sediments around Murau.

Type area: ÖK50-UTM, map sheets 3230 Tamsweg, 4225 Murau (ÖK50-BMN, map sheets 158 Stadl, 159 Murau).

Type section: -

Reference section(s): Section approx. 100 m north of Haider farmstead located south of Murau in the Auen area (N 47°02'33" / E 14°09'16").

Derivation of name: After Auen area (compare locality map of Neubauer, 1979: Fig. 1).

Synonyms: Dolomitkeile von Laßnitzau [partim] (Thurner, 1956: p. 164).

Lithology: Micaceous light pink to greenish marbles, ferruginous dolomite lense, bright and grey dolomite (massive and bedded intervals).

Fossils: Conodonts.

Origin, facies: Shallow marine, neritic unit.

Chronostratigraphic age: Katian to Hirnantian (Neubauer, 1979).

Biostratigraphy: *ordovicicus* conodont zone.

Thickness: 6 m.

Lithostratigraphically higher rank unit: Auen Group (see remarks at Golzeck Formation).

Lithostratigraphic subdivision: -

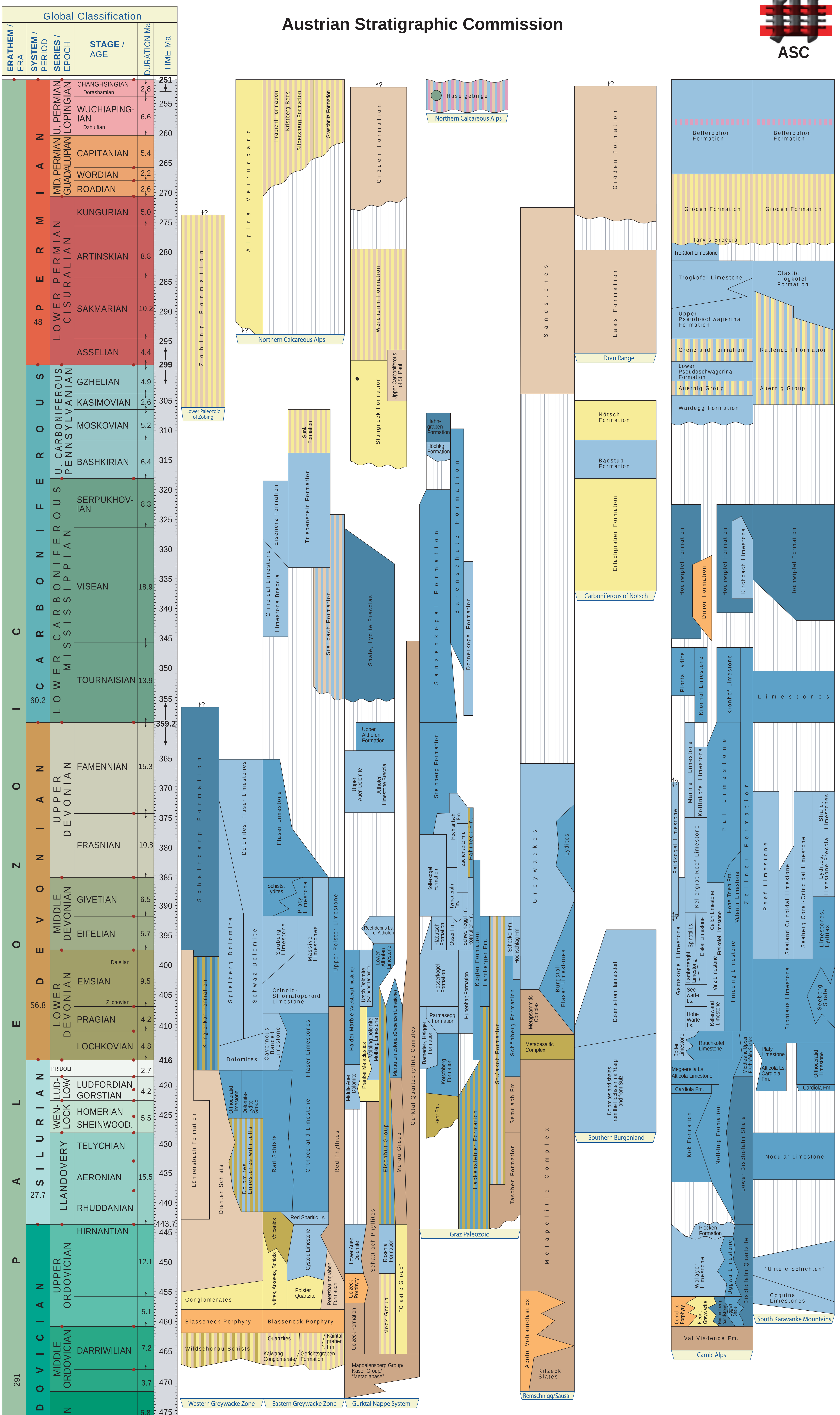
Underlying unit(s): Golzeck Porphyry (conformable contact).

Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission

ASC



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

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