

## Raasberg-Formation / Raasberg Formation

(not shown in the ASC 2004)

BERNHARD HUBMANN

**Validity:** Valid; first description by FLÜGEL & MAURIN (1956: "gelbe Gesteinsserie"), resp. FLÜGEL (1961: "Raasberg-Folge"); formalized by FLÜGEL (2000: p. 41; Raasberg-Formation).

**Type area:** ÖK50-UTM, map sheet 4223 Weiz (ÖK50-BMN, map sheet 165 Weiz).

**Type section:** FLÜGEL (2000) selected a type region at Raasberg, east of ÖK50-UTM, map sheet 4223 Weiz (ÖK50-BMN, map sheet 165 Weiz) (N 47°15'01" / E 15°39'37").

**Reference section(s):** -

**Derivation of name:** After "Raasberg" (1,009 m), a mountain east of Weiz, approx. 48 km east of Graz.

**Synonyms:** Gelbe Gesteinsserie (FLÜGEL & MAURIN, 1956); "fragliche Triasserie" (FLÜGEL & MAURIN, 1957a); "triasverdächtige Gesteine" (FLÜGEL & MAURIN, 1957b); partly: Grenzzone (KUNTSCHNIG, 1927).

**Lithology:** Sericitic quartzites, yellow platy limestones and white to light grey dolostones.

**Fossils:** Unknown.

**Origin, facies:** Shallow marin ?

**Chronostratigraphic age:** Presumably Pragian–Eifelian.

**Biostratigraphy:** -

**Thickness:** Up to 500 m.

**Lithostratigraphically higher rank unit:** Peggau Group.

**Lithostratigraphic subdivision:** FLÜGEL & MAURIN (1957a) recognized four lithofacial types which were considered as members by FLÜGEL (2000), i.e., Egg Member, Häulerkreuz Member, Lammkogel Member and Stroß Member.

Egg Member: Light grey to white dolomites with local intercalations of quartzites and dolomitic limestones; at least 250 m in thickness reddish-purple to green volcanics within grey to bluish dolostones; about 50 m (up to 200 m) in thickness.

Häulerkreuz Member: Light blue to bluegrey, coarse grained limestones and dolomites, yellow sericitic quartzites and metatuffs; thickness unknown.

Lammkogel Member: Yellow to light grey quartzites and quartzitic slates; 100 to 200 m in thickness.

Stroß Member: White to light reddish dolomites and light grey limestones with cellular dolomites, subordinate greenstones; up to 200 m in thickness.

**Underlying unit(s):** Crystalline rocks tectonically underlying the Graz Paleozoic.

**Overlying unit(s):** Schöckel Formation.

**Lateral unit(s):** -

**Geographic distribution:** Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheets 134 Passail, 162 Köflach, 163 Voitsberg, 164 Graz, 165 Weiz.

**Remarks:** CLAR (1933) compared the succession with Lower Devonian sequences of the Rannach Nappe, whereas FLÜGEL & MAURIN (1956, 1957a, b) and H. FLÜGEL (1961, 1975) supposed a possible Mesozoic (?Triassic) age.

**Complementary references:** -

## Schöckel-Formation / Schöckel Formation

BERNHARD HUBMANN

**Validity:** Valid; first description by CLAR (1874: Schöcklkalk); formalized by FLÜGEL (2000: p. 42; Schöckelkalk-Formation; change of name into Schöckel-Formation by EBNER et al. (2001).

**Type area:** ÖK50-UTM, map sheet 4229 Graz (ÖK50-BMN, map sheet 164 Graz).

**Type section:** No type section defined, but FLÜGEL (2000) selected as type region the Schöckel, a mountain north of Graz, ÖK50-UTM, map sheet 4229 Graz (ÖK50-BMN, map sheet 164 Graz) (N 47°11'54" / E 15°27'55").

**Reference section(s):** -

**Derivation of name:** After Schöckel (1,445 m), a mountain north of Graz (mind the variations in spelling of the mountain through time, Schöckl vs. Schöckel).

**Synonyms:** Peggauer Kalk (STANDFEST, 1881); Kalke des Raasberggipfel (MAURIN & FLÜGEL, 1958).

**Lithology:** Blue-white, mostly well-bedded banded limestones.

**Fossils:** -

**Origin, facies:** Presumably offshore shallow environment.

**Chronostratigraphic age:** Presumably Eifelian–Givetian.

**Biostratigraphy:** -

**Thickness:** Several (?) hundreds of meters.

**Lithostratigraphically higher rank unit:** Peggau Group (FLÜGEL, 2000).

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Schönberg Formation, Raasberg Formation.

**Overlying unit(s):** -

**Lateral unit(s):** Hochschlag Formation.

**Geographic distribution:** Styria, highland in the surroundings of Graz; ÖK50-BMN, map sheets 133 Leoben, 134 Passail, 162 Köflach, 163 Voitsberg, 164 Graz, 165 Weiz.

**Remarks:** SEELMEIER (1941) discerned three lithological types, grey-blue "semi-metamorphic" limestones, pure white limestones, and white-grey to grey-blue mostly well banded limestones.

**Complementary references:** EBNER et al. (2000).

## Hackensteiner-Formation / Hackensteiner Formation

BERNHARD HUBMANN

**Validity:** Valid; first description and formalization by GOLLNER et al. (1982: p. 64–69).

**Type area:** ÖK50-UTM, map sheet 4223 Weiz (ÖK50-BMN, map sheet 134 Passail).

**Type section:** The type sections between Laufnitzdorf and south of St. Jakob (N 47°08'56" / E 15°23'33") were described by GOLLNER et al. (1982).

**Reference section(s):** -

Remarks: GOLLNER et al. (1982) distinguished three series within the formation which were re-named and considered as members by FLÜGEL (2000).

**Derivation of name:** After the farmstead Hackensteiner north of Laufnitzdorf (Frohnleiten).

# 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 / Dzhulfian   | 255                        |                       |                                       |            |                   |          |                                  |
|            |                                     | CAPITANIAN                  | 260                        |                       |                                       |            |                   |          |                                  |
|            |                                     | WORDIAN                     | 265                        |                       |                                       |            |                   |          |                                  |
|            |                                     | ROADIAN                     | 270                        |                       |                                       |            |                   |          |                                  |
|            |                                     | PERMIAN                     | LOWER PERMIAN / CISURALIAN |                       |                                       | KUNGURIAN  | 275               |          |                                  |
|            |                                     |                             |                            |                       |                                       | ARTINSKIAN | 280               |          |                                  |
|            |                                     |                             |                            |                       |                                       | SAKMARIAN  | 285               |          |                                  |
|            |                                     |                             |                            |                       |                                       | ASSELIAN   | 290               |          |                                  |
|            |                                     | PERMIAN                     | TRIAS                      |                       |                                       | GZHELIAN   | 295               | TRIAS    | U. CARBONIFEROUS / PENNSYLVANIAN |
| KASIMOVIAN | 300                                 |                             |                            |                       |                                       |            |                   |          |                                  |
| MOSKOVIAN  | 305                                 |                             |                            |                       |                                       |            |                   |          |                                  |
| BASHKIRIAN | 310                                 |                             |                            |                       |                                       |            |                   |          |                                  |
| TRIAS      | LOWER CARBONIFEROUS / MISSISSIPPIAN |                             |                            | SERPUKHOVIAN          | 315                                   |            |                   |          |                                  |
|            |                                     |                             |                            | VISEAN                | 320                                   |            |                   |          |                                  |
|            |                                     |                             |                            | TOURNAISIAN           | 325                                   |            |                   |          |                                  |
| PERMIAN    | DEVONIAN                            |                             |                            | FAMENNIAN             | 350                                   | DEVONIAN   | UPPER DEVONIAN    |          |                                  |
|            |                                     |                             |                            | FRASNIAN              | 355                                   |            |                   |          |                                  |
|            |                                     |                             |                            | GIVETIAN              | 360                                   |            |                   |          |                                  |
|            |                                     | EIFELIAN                    | 365                        |                       |                                       |            |                   |          |                                  |
|            |                                     | DEVONIAN                    | LOWER DEVONIAN             | EMSIAN                | 370                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 375                                   |            |                   |          |                                  |
|            |                                     | PERMIAN                     | DEVONIAN                   | LUDFORDIAN / GORSTIAN | 380                                   |            |                   | DEVONIAN | MIDDLE DEVONIAN                  |
|            |                                     |                             |                            | HOMERIAN / SHEINWOOD  | 385                                   |            |                   |          |                                  |
|            |                                     |                             |                            | TELYCHIAN             | 390                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 395                                   |            |                   |          |                                  |
| RHUDDANIAN | 400                                 |                             |                            |                       |                                       |            |                   |          |                                  |
| DEVONIAN   | LOWER DEVONIAN                      |                             |                            | PRAGIAN               | 405                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 410                                   |            |                   |          |                                  |
| PERMIAN    | DEVONIAN                            |                             |                            | WEN-LOCK / LOW        | 415                                   | DEVONIAN   | LOWER DEVONIAN    |          |                                  |
|            |                                     |                             |                            | HIRNANTIAN            | 420                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LLANDOVERY            | 425                                   |            |                   |          |                                  |
|            |                                     | AERONIAN                    | 430                        |                       |                                       |            |                   |          |                                  |
|            |                                     | RHUDDANIAN                  | 435                        |                       |                                       |            |                   |          |                                  |
|            |                                     | DEVONIAN                    | LOWER DEVONIAN             | PRAGIAN               | 440                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 445                                   |            |                   |          |                                  |
|            |                                     | PERMIAN                     | DEVONIAN                   | WEN-LOCK / LOW        | 450                                   |            |                   | DEVONIAN | UPPER ORDOVICIAN                 |
|            |                                     |                             |                            | LLANDOVERY            | 455                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 460                                   |            |                   |          |                                  |
| RHUDDANIAN | 465                                 |                             |                            |                       |                                       |            |                   |          |                                  |
| DEVONIAN   | LOWER DEVONIAN                      |                             |                            | PRAGIAN               | 470                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 475                                   |            |                   |          |                                  |
| PERMIAN    | DEVONIAN                            |                             |                            | WEN-LOCK / LOW        | 480                                   | DEVONIAN   | MIDDLE ORDOVICIAN |          |                                  |
|            |                                     |                             |                            | LLANDOVERY            | 485                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 490                                   |            |                   |          |                                  |
|            |                                     |                             |                            | RHUDDANIAN            | 495                                   |            |                   |          |                                  |
|            |                                     | DEVONIAN                    | LOWER DEVONIAN             | PRAGIAN               | 500                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 505                                   |            |                   |          |                                  |
|            |                                     | PERMIAN                     | DEVONIAN                   | WEN-LOCK / LOW        | 510                                   |            |                   | DEVONIAN | LOWER ORDOVICIAN                 |
|            |                                     |                             |                            | LLANDOVERY            | 515                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 520                                   |            |                   |          |                                  |
|            |                                     |                             |                            | RHUDDANIAN            | 525                                   |            |                   |          |                                  |
| DEVONIAN   | LOWER DEVONIAN                      |                             |                            | PRAGIAN               | 530                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 535                                   |            |                   |          |                                  |
| PERMIAN    | DEVONIAN                            |                             |                            | WEN-LOCK / LOW        | 540                                   | DEVONIAN   | UPPER CAMBRIAN    |          |                                  |
|            |                                     |                             |                            | LLANDOVERY            | 545                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 550                                   |            |                   |          |                                  |
|            |                                     |                             |                            | RHUDDANIAN            | 555                                   |            |                   |          |                                  |
|            |                                     | DEVONIAN                    | LOWER DEVONIAN             | PRAGIAN               | 560                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 565                                   |            |                   |          |                                  |
|            |                                     | PERMIAN                     | DEVONIAN                   | WEN-LOCK / LOW        | 570                                   |            |                   | DEVONIAN | MIDDLE CAMBRIAN                  |
|            |                                     |                             |                            | LLANDOVERY            | 575                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 580                                   |            |                   |          |                                  |
|            |                                     |                             |                            | RHUDDANIAN            | 585                                   |            |                   |          |                                  |
| DEVONIAN   | LOWER DEVONIAN                      |                             |                            | PRAGIAN               | 590                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 595                                   |            |                   |          |                                  |
| PERMIAN    | DEVONIAN                            |                             |                            | WEN-LOCK / LOW        | 600                                   | DEVONIAN   | LOWER CAMBRIAN    |          |                                  |
|            |                                     |                             |                            | LLANDOVERY            | 605                                   |            |                   |          |                                  |
|            |                                     |                             |                            | AERONIAN              | 610                                   |            |                   |          |                                  |
|            |                                     |                             |                            | RHUDDANIAN            | 615                                   |            |                   |          |                                  |
|            |                                     | DEVONIAN                    | LOWER DEVONIAN             | PRAGIAN               | 620                                   |            |                   |          |                                  |
|            |                                     |                             |                            | LOCHKOVIAN            | 625                                   |            |                   |          |                                  |



- 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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