

The tectonic significance of these Carboniferous rocks has raised many controversial statements in the past. In fact, the true relationship between the Carboniferous sediments and the surrounding units of the Gailtal Crystalline Complex and the Permo-Triassic sequence of the Drauzug has long been a matter of debate and has not yet been solved satisfactorily.

### Erlachgraben-Formation / Erlachgraben Formation

HANS P. SCHÖNLAUB

**Validity:** Valid; first denomination and formalization by SCHÖNLAUB (1985d: p. 677–679).

**Type area:** ÖK50-UTM, map sheet 3111 Spittal an der Drau (ÖK50-BMN, map sheets 199 Hermagor, 200 Arnoldstein), Carinthia.

**Type section:** Southern slope of Erlachgraben (N 46°37'47" / E 13°35'36").

**Reference section(s):** Southwest dipping section between the Erlachgraben and its northern tributaries and the mountain Badstuben.

**Derivation of name:** After the valley of Erlachgraben west of the village of Bleiberg-Kreuth.

**Synonyms:** Erlachgraben-Folge of KODSI & FLÜGEL (1968, 1970); northern part of Nötschgraben-Folge below the Badstub Formation; Pölland Gruppe (KODSI & FLÜGEL, 1970).

**Lithology:** Dark grey arenaceous shales with interbedded quartz-rich conglomerates in the lower part grading into sandstones and micaceous siltstones above.

**Fossils:** Brachiopods, nautiloids, trilobites, bivalves (see SCHÖNLAUB, 1985d; SCHRAUT, 1999), crinoids, corals, gastropods, goniatites, smaller foraminifers, calcareous algae, trace fossils and plants (KABON, 1997; VAN AMEROM & KABON, 1999, 2000, 2003).

**Origin, facies:** Sediments of an upper continental slope with redeposited fossils from shallow marine areas (KRAI-NER, 1992).

**Chronostratigraphic age:** Uppermost Visean or lower Serpukhovian ("Namurian").

**Biostratigraphy:** Flora with *Archaeopteridium tschermakii* indicates Arnsbergium (middle Namurian A).

**Thickness:** > 500 m.

**Lithostratigraphically higher rank unit:** -

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** No basement known.

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

**Lateral unit(s):** -

**Geographic distribution:** Gail Valley between Windische Höhe in the west and Mount Dobratsch (Villacher Alpe) in the east. It culminates in the peak Badstube (1,369 m) and is crossed by the Nötsch River (see map by SCHÖNLAUB, 1985d).

**Remarks:** -

**Complementary references:** -

### Badstub-Formation / Badstub Formation

HANS P. SCHÖNLAUB

**Validity:** Valid; first denomination and formalization by SCHÖNLAUB (1985d: p. 679–682).

**Type area:** ÖK50-UTM, map sheet 3111 Spittal an der Drau (ÖK50-BMN, map sheets 199 Hermagor, 200 Arnoldstein), Carinthia.

**Type section:** Nötsch Creek (N 46°37'05" / E 13°36'49").

**Reference section(s):** Middle part of Nötsch River (Nötschbachgraben) where the bipartite Badstub Formation is exposed on the eastern and western hillsides. The best outcrop is quarried in the huge Jakomini Quarry.

**Derivation of name:** Named after the mountain Badstube (1,369 m), the highest peak in the region occupied by the Carboniferous sequence of Nötsch.

**Synonyms:** Badstub-Brekzie (SCHÖNLAUB, 1985d), Badstub-Serie (FELSER, 1935), Diabas I, II (SCHÖNLAUB, 1973).

**Lithology:** Greenish matrix-supported breccia consisting of angular to subrounded cm to dm-sized clasts of amphibolites, gneisses, granites, micaschists, quartzites, marbles and limestones.

**Fossils:** Brachiopods (*Gigantoproductus*), conodonts, foraminifers.

**Origin, facies:** Marine debris flows and turbidites on an upper slope.

**Chronostratigraphic age:** Serpukhovian.

**Biostratigraphy:** Based on conodonts (*Lochriea nodosa*), foraminifers (*Howchinia bradyana* (HOWCHIN)) and plants (*Lepidodendron* sp.) in exotic limestone clasts (FLÜGEL & SCHÖNLAUB, 1990).

**Thickness:** 350–400 m.

**Lithostratigraphically higher rank unit:** -

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Erlachgraben Formation.

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

**Lateral unit(s):** -

**Geographic distribution:** Northern side of Gail Valley between Windische Höhe in the west and Mount Dobratsch (Villacher Alpe) in the east (see map by SCHÖNLAUB, 1985d).

**Remarks:** -

**Complementary references:** -

### Nötsch-Formation / Nötsch Formation

HANS P. SCHÖNLAUB

**Validity:** Valid; first denomination and formalized by SCHÖNLAUB (1985d: p. 682–684).

**Type area:** ÖK50-UTM, map sheet 3111 Spittal an der Drau (ÖK50-BMN, map sheets 199 Hermagor, 200 Arnoldstein), Carinthia.

**Type section:** Composite section in the middle part of Nötsch River (Nötschbachgraben) (N 46°36'50" / E 13°36'41").

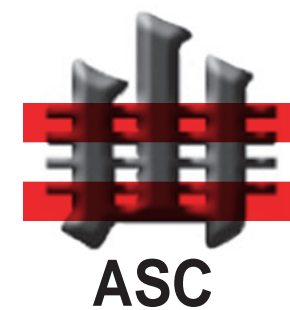
**Reference section(s):** The area around Fischerhube (Oberhöher) and the area west of mountain Badstube between Windische Höhe, Pölland and Matschiedl.

**Derivation of name:** Named after the village of Nötsch in the Gail Valley.

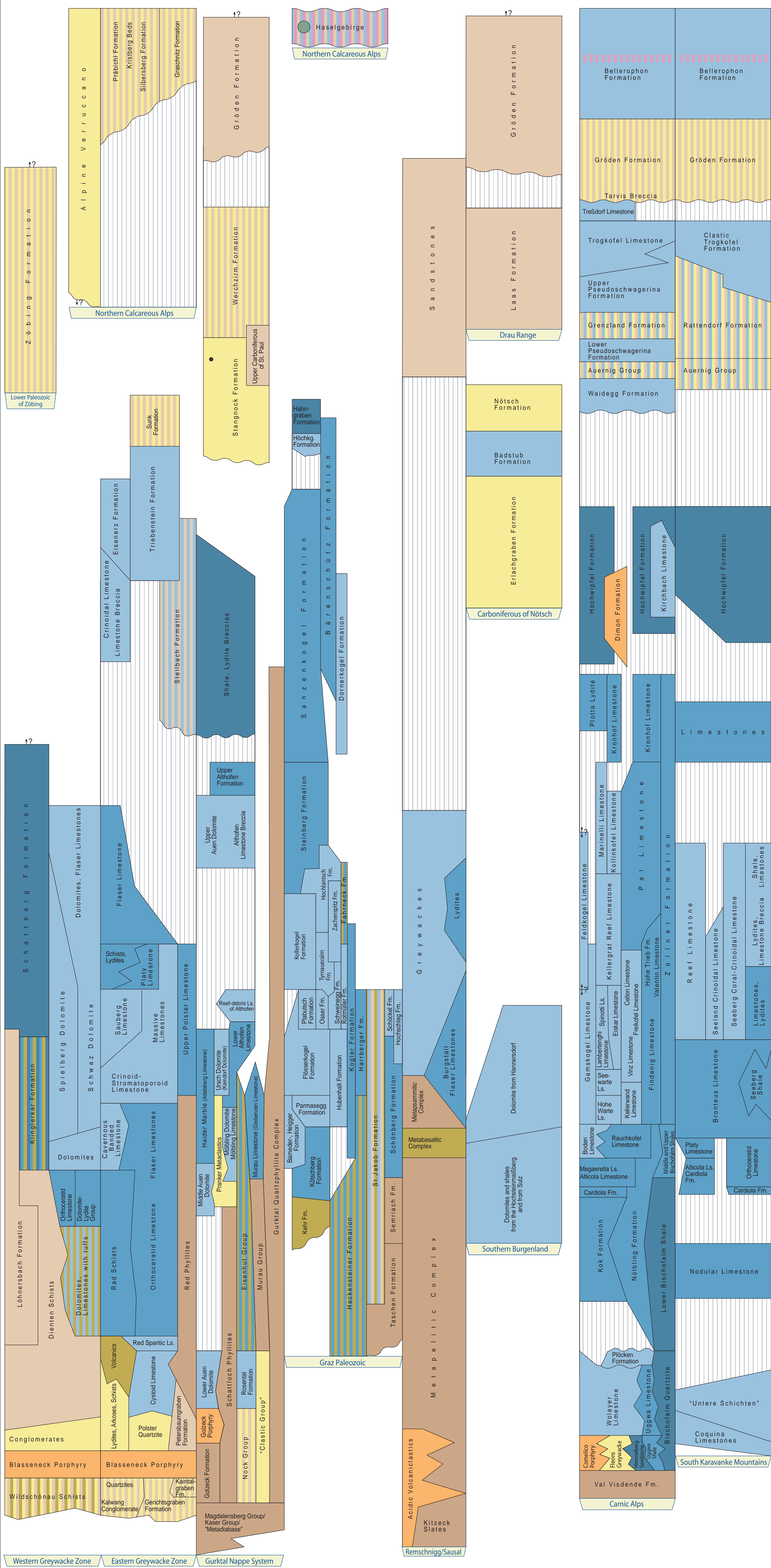
# Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission



ERA	SYSTEM / PERIOD / SERIES / EPOCH	STAGE / AGE	DURATION Ma	Global Classification				
				ERATHM / ERA	SYSTEM / PERIOD / SERIES / EPOCH			
C A M B R I A N	LOWER CAMBRIAN	PAIBIAN	495-500	P A L E O Z O I C	M I D D L E C A M B R I A N			
		MIDDLE CAMBRIAN	500-515					
	UPPER CAMBRIAN	515-520	L O W E R D E V O N I A N					
		520-530						
	MIDDLE ORDOVICIAN	530-540				M I D D L E D E V O N I A N		
		540-542						
	LOWER ORDOVICIAN	542-548.3					L O W E R D E V O N I A N	
		548.3-495						
	UPPER ORDOVICIAN	495-488.3						M I D D L E D E V O N I A N
		488.3-484.6						
MIDDLE ORDOVICIAN	484.6-475	L O W E R D E V O N I A N						
	475-465							
DARRIWILIAN	465-472		L O W E R D E V O N I A N					
	472-465							
Blasseneck Porphyry	465-460			L O W E R D E V O N I A N				
	460-455							
Polster Quartzite	455-451				L O W E R D E V O N I A N			
	451-445							
Cystod Limestone	445-443.7					L O W E R D E V O N I A N		
	443.7-440							
Red Sparric Ls.	440-435	L O W E R D E V O N I A N						
	435-430							
Red Phyllites	430-425		L O W E R D E V O N I A N					
	425-420							
Lower Auen Dolomite	420-415			L O W E R D E V O N I A N				
	415-410							
Schattloch Phyllites	410-405				L O W E R D E V O N I A N			
	405-400							
Resenal Formation	400-395					L O W E R D E V O N I A N		
	395-390							
Upper Auen Dolomite	390-385	L O W E R D E V O N I A N						
	385-380							
Halber Marble (Auenberg Limestone)	380-375		L O W E R D E V O N I A N					
	375-370							
Upper Auen Dolomite	370-365			L O W E R D E V O N I A N				
	365-360							
Upper Auen Dolomite	360-355				L O W E R D E V O N I A N			
	355-350							
Upper Auen Dolomite	350-345					L O W E R D E V O N I A N		
	345-340							
Upper Auen Dolomite	340-335	L O W E R D E V O N I A N						
	335-330							
Upper Auen Dolomite	330-325		L O W E R D E V O N I A N					
	325-320							
Upper Auen Dolomite	320-315			L O W E R D E V O N I A N				
	315-310							
Upper Auen Dolomite	310-305				L O W E R D E V O N I A N			
	305-300							
Upper Auen Dolomite	300-295					L O W E R D E V O N I A N		
	295-290							
Upper Auen Dolomite	290-285	L O W E R D E V O N I A N						
	285-280							
Upper Auen Dolomite	280-275		L O W E R D E V O N I A N					
	275-270							
Upper Auen Dolomite	270-265			L O W E R D E V O N I A N				
	265-260							
Upper Auen Dolomite	260-255				L O W E R D E V O N I A N			
	255-250							
Upper Auen Dolomite	250-245					L O W E R D E V O N I A N		
	245-240							
Upper Auen Dolomite	240-235	L O W E R D E V O N I A N						
	235-230							
Upper Auen Dolomite	230-225		L O W E R D E V O N I A N					
	225-220							
Upper Auen Dolomite	220-215			L O W E R D E V O N I A N				
	215-210							
Upper Auen Dolomite	210-205				L O W E R D E V O N I A N			
	205-200							
Upper Auen Dolomite	200-195					L O W E R D E V O N I A N		
	195-190							
Upper Auen Dolomite	190-185	L O W E R D E V O N I A N						
	185-180							
Upper Auen Dolomite	180-175		L O W E R D E V O N I A N					
	175-170							
Upper Auen Dolomite	170-165			L O W E R D E V O N I A N				
	165-160							
Upper Auen Dolomite	160-155				L O W E R D E V O N I A N			
	155-150							
Upper Auen Dolomite	150-145					L O W E R D E V O N I A N		
	145-140							
Upper Auen Dolomite	140-135	L O W E R D E V O N I A N						
	135-130							
Upper Auen Dolomite	130-125		L O W E R D E V O N I A N					
	125-120							
Upper Auen Dolomite	120-115			L O W E R D E V O N I A N				
	115-110							
Upper Auen Dolomite	110-105				L O W E R D E V O N I A N			
	105-100							
Upper Auen Dolomite	100-95					L O W E R D E V O N I A N		
	95-90							
Upper Auen Dolomite	90-85	L O W E R D E V O N I A N						
	85-80							
Upper Auen Dolomite	80-75		L O W E R D E V O N I A N					
	75-70							
Upper Auen Dolomite	70-65			L O W E R D E V O N I A N				
	65-60							
Upper Auen Dolomite	60-55				L O W E R D E V O N I A N			
	55-50							
Upper Auen Dolomite	50-45					L O W E R D E V O N I A N		
	45-40							
Upper Auen Dolomite	40-35	L O W E R D E V O N I A N						
	35-30							
Upper Auen Dolomite	30-25		L O W E R D E V O N I A N					
	25-20							
Upper Auen Dolomite	20-15			L O W E R D E V O N I A N				
	15-10							
Upper Auen Dolomite	10-5				L O W E R D E V O N I A N			
	5-0							
Upper Auen Dolomite	0-2.8					L O W E R D E V O N I A N		
	2.8-2.6							
Upper Auen Dolomite	2.6-2.2	L O W E R D E V O N I A N						
	2.2-1.8							
Upper Auen Dolomite	1.8-1.6		L O W E R D E V O N I A N					
	1.6-1.4							
Upper Auen Dolomite	1.4-1.2			L O W E R D E V O N I A N				
	1.2-1.0							
Upper Auen Dolomite	1.0-0.8				L O W E R D E V O N I A N			
	0.8-0.6							
Upper Auen Dolomite	0.6-0.4					L O W E R D E V O N I A N		
	0.4-0.2							
Upper Auen Dolomite	0.2-0.1	L O W E R D E V O N I A N						
	0.1-0.0							



- 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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