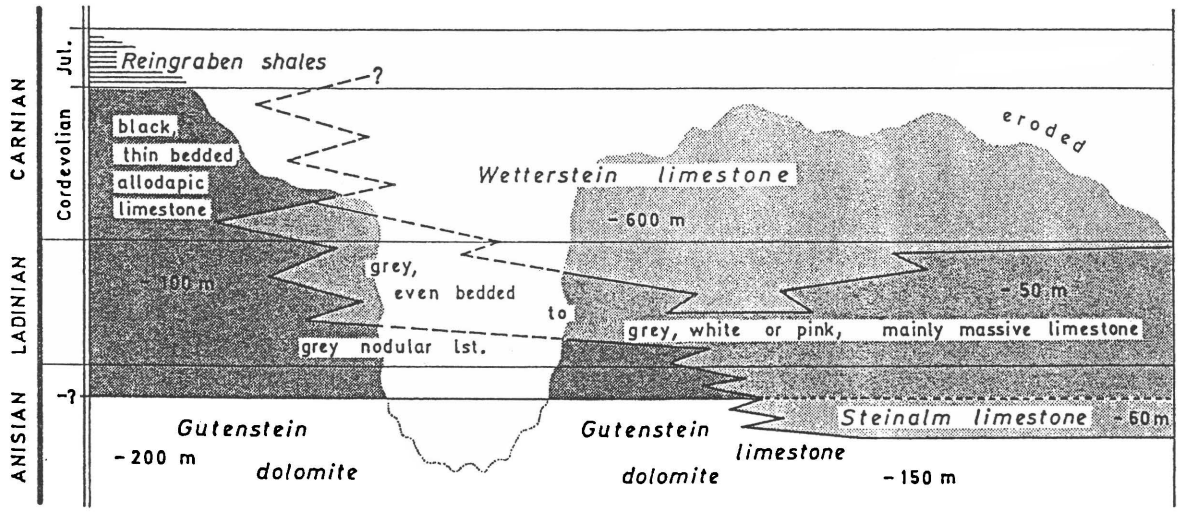
Stop 3: Kaiserbrunn - short walk into the Krummbach valley.

Wetterstein Limestone of the Schneeberg Nappe.
Ladinian to Lower Carnian platform carbonates; reef /reefdebris facies.

Published data on the facies distribution in the Wetterstein carbonate platforms of the eastern NCA are scarce and have been summarized by LOBITZER et al. 1990. The Schneeberg Nappe as part of the uppermost Juvavic Nappes provides excellent exposures on large karstified mountain plateaus and deep incised valleys between. Equivalents of the Schneeberg Nappe have been cored also in the subsurface of the Vienna Basin (e.g. Tattendorf drillhole).

Three depositional facies can be recognized in the platform carbonates of the Wetterstein Limestone of the Rax/Schneeberg area:
Lagoonal facies. Rocks of this facies are generally massive to thick bedded, locally bioturbated limestones with a diverse biota of various dasycladacean, solenoporacean and codiacean algae, molluscs (mainly gastropods), echinoderms, rare framebuilding organisms, brachiopods, foraminifers and ostracodes. Textures vary from wackestones to grainstones. Patch reefs inside the lagoon are very rare. The immediate transitional area behind the reef - the near-reef lagoon - is often characterized by boundstones or birdseye-limestones with mixed biota consisting of reef debris and the dasycladacean *Teutloporella herculea*, which one is the dominant algal species in the Rax-Schneeberg area. In the uppermost part of the lagoon additionally *Poikiloporella duplicata* occurs and indicates an Lower Carinan age.
Reef facies. The most intensely studied part of the Wetterstein Limestone is by far the reefal facies. These builtups are composed of diverse biotic assemblages of sphinctozoan and other calcisponges, corals („Thecosmilia", „Montlivaltia", „Thamnasteria"), tubiphytes, bryozoans, codiacean and solenoporacean algae, brachiopods, molluscs and rather rare foraminifers. Rock textures of reefal deposits generally are wackestones and packstones. Boundstones resulting mainly from syndepositional marine cementation are also very common. It seems that a biogenic reef framework in the sense of a wave-breaking structure did not exist in the Wetterstein reefs of the eastern NCA. Practically all reef-organisms are of small dimensions of several centimeters only. Coral-buildups of large dimensions are missing as well as other potential wave-breaking organisms. It seems that a rigid framework could have been constructed by a combination of pervasive submarine early diagenetic cementation and various encrusting organisms. The fact of immediate interfingering of the „reef" with lagoonal birdseye limestones is considered as a prove for platform-edge reefs and not an upper slope situation. Typical assemblages of a deeper water slope (ammonites, radiolarians, silicisponges) are missing. Such biota occures only in very rare small lenses of Hallstatt-type within the reef of Heukuppe (summit of Rax-plateau).
Grossoolite facies. A conspicuous feature of platform-edge facies in the Wetterstein Limestone is the development of coarse breccias. The term „Grossoolite" refers to thick, laminated, isopachous coatings of radiaxial-fibrous calcite cement and calcite-replacive dolomite around lithoclasts and skeletal particles. Although initially interpreted as being of organic origin, this coatings are now regarded as inorganic cements. The component clasts are commonly angular and often poorly sorted, ranging in size from a few centimeters to several decimeters in diameter. They are mainly composed of reefal lithologies. In places the grossoolitic breccias are the only remaining evidence of the former existence of in-situ shelf-margin reefs. Syndepositional tectonism, oversteepening of the platform margin, slope instability, or a combination of these processes must have been causative factors in the formation of such widespread breccia deposits.

Fig. 5: Facies of Wetterstein Limestone of the Schneeberg Nappe.



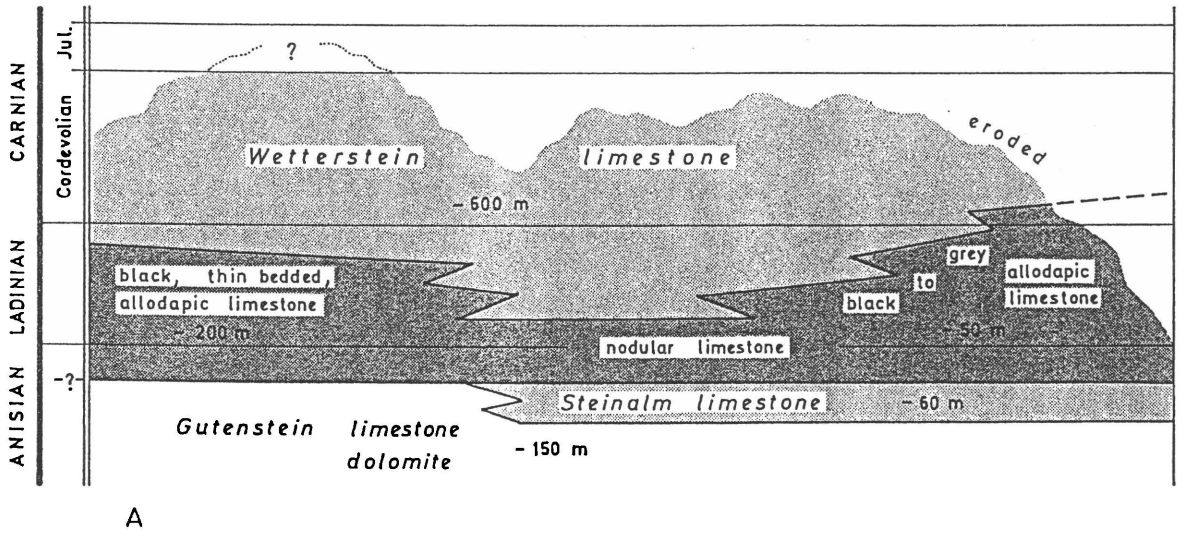


Fig. 6: Stratigraphic scheme (Anisian to Lower Carnian) of the Schneeberg Nappe, after LOBITZER et al 1990. Note lateral variability of platform to basin transitions. Approx. location of cross-sections A, B see Fig.5.