

Stop 4: Gasthof Singerin - Naßbach valley, roadside outcrop.

Grafensteig Limestone.

Ladinian to Lower Carnian slope and basinal facies of the Schneeberg Nappe.

Rocks of transitional nature between Middle Triassic platforms and basins are relatively rare in the NCA due to structural complexities. Basinal facies often are tectonically isolated from formerly contiguous platform deposits.

In general we know three different types of Anisian to Lower Carnian carbonatic basinal sediments, the Reifling Limestone, the Grafensteig Limestone and the Hallstatt Limestone.

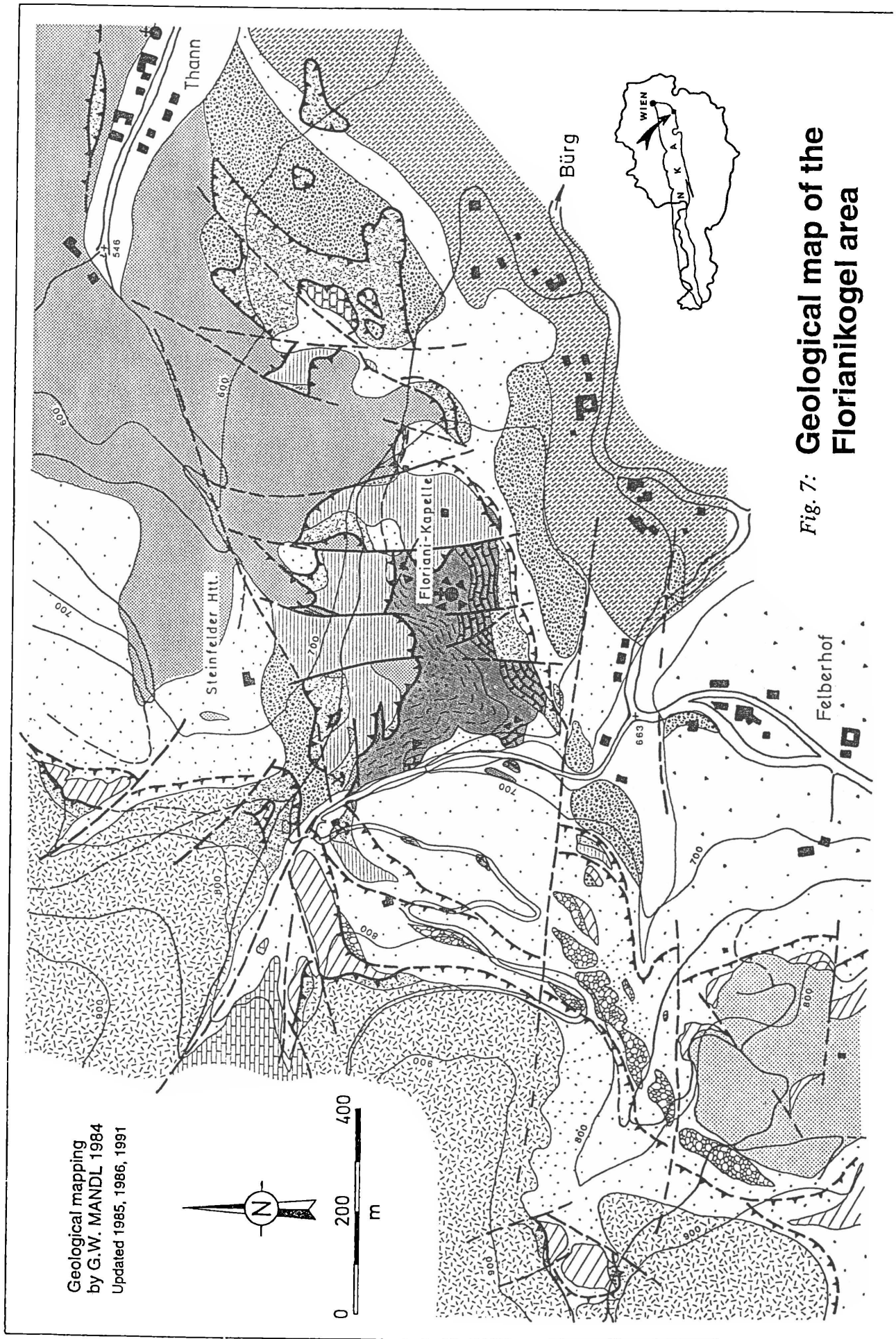
The **Reifling Limestone** is the characteristic basinal facies in the Bajuvaric and Tirolic nappes. It consists of grey well bedded nodular limestone with thin yellowish to greenish clay intercalations of partial tuffitic origin. A silica content often is concentrated in chert-nodules or -layers. Microfacies shows (pel-)micrites with abundant radiolarians and „filaments” (thin shells of planctonic bivalves) and conodonts, the macrofauna consists of ammonites, molluscs (*Daonella*) and local brachiopods.

The **Hallstatt Limestones** comprises a lot of different lithologies, mostly of variegated micritic limestones with abundant pelagic fauna like conodonts and ammonites. Hallstatt Limestones are restricted almost to the uppermost respectively southernmost tectonic units of the Juvavic Nappe System, representing the sediment of outer shelf and/or local uplifts due to diapirism of Permian evaporites.

The term **Grafensteig Limestone** has been introduced by HOHENEGGER & LEIN 1977. It is characterized by darkgrey to black well bedded limestones, mainly with even bedding planes, more or less abundant chert-nodules or -layers and - as a main feature - with intercalated allodapic beds of platform origin. It is overlain in the northern Schneeberg-area by grossoolite-breccia facies of an upper slope environment. The Grafensteig facies represents a restricted intraplateform-basin with only minor connection to open marine conditions. Pelagic faunal elements like conodonts seem to be restricted to sporadic beds and are in general poor. The Grafensteig Limestone comprises a maximal time span from Middle Anisian to Lowermost Carnian in the basin interior. At the basin-margins it ends earlier according to the prograding Wetterstein platform.

The outcrop at stop 4 presents a typical development with carbonate turbidites, showing graded bedding.

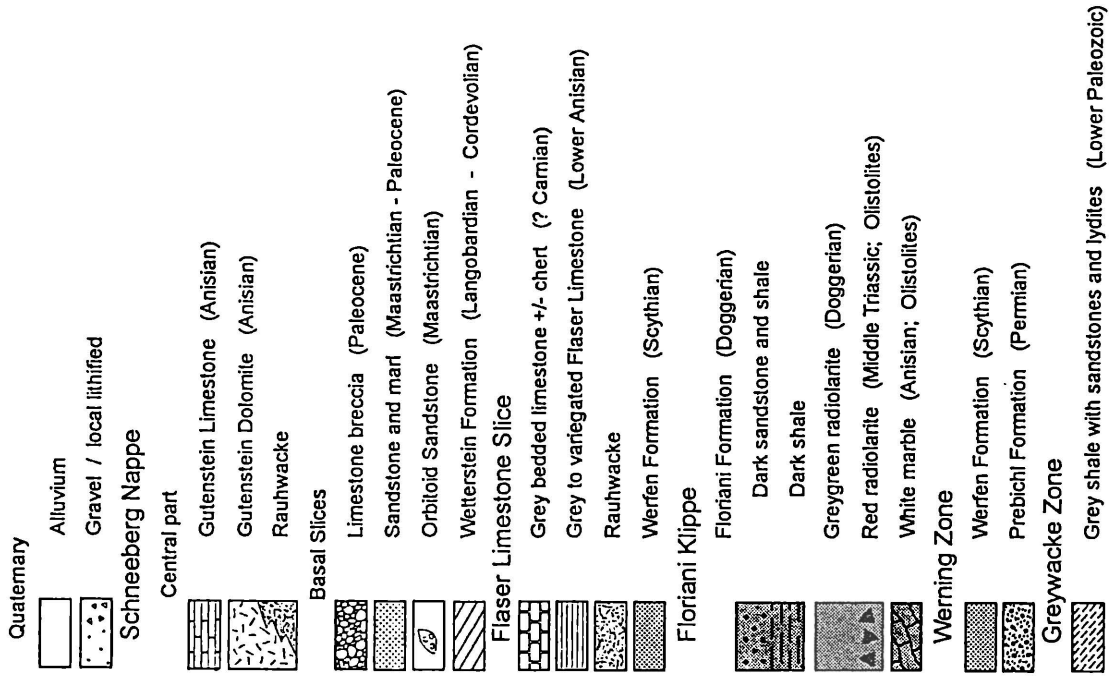
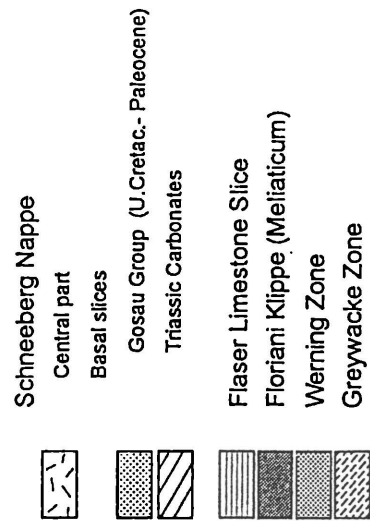
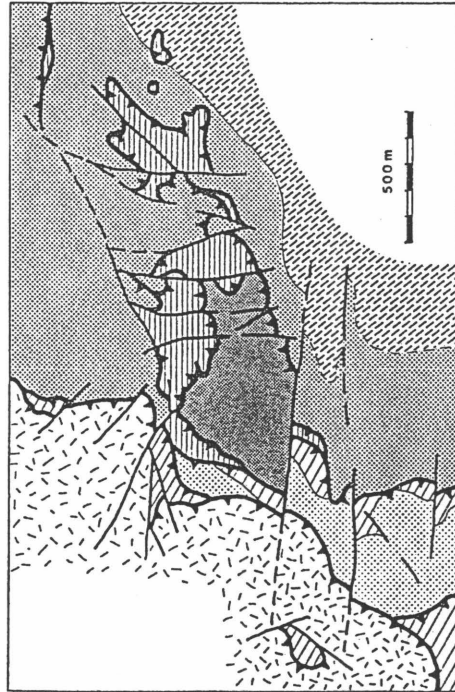
One of the objects of our excursion is to show the great variety in facies within the Juvavic Nappe System, where we can find close together Ladinian sediments of shallow carbonate platforms, slope and basinal limestones of an intraplateform-basin, open marine Hallstatt Limestones and - as a greeting from the Carpathians - Ladinian red radiolarite olistolites in the Meliaticum at the tectonic Klippe of Florianikogel.



Geological mapping
 by G.W. MANDL 1984
 Updated 1985, 1986, 1991

Fig. 7: Geological map of the Florianikogel area

Tectonic sketch map



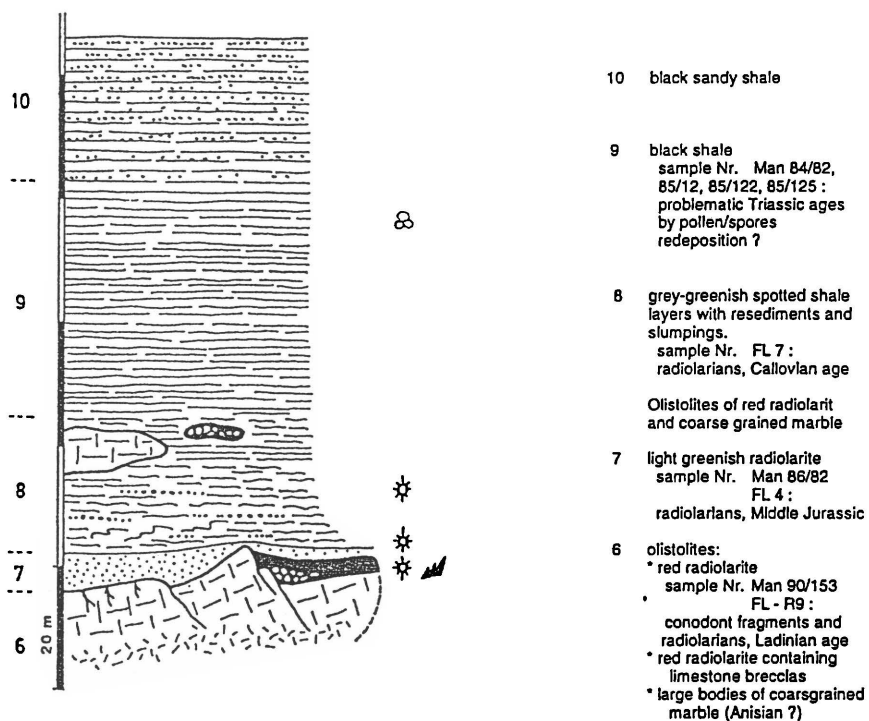
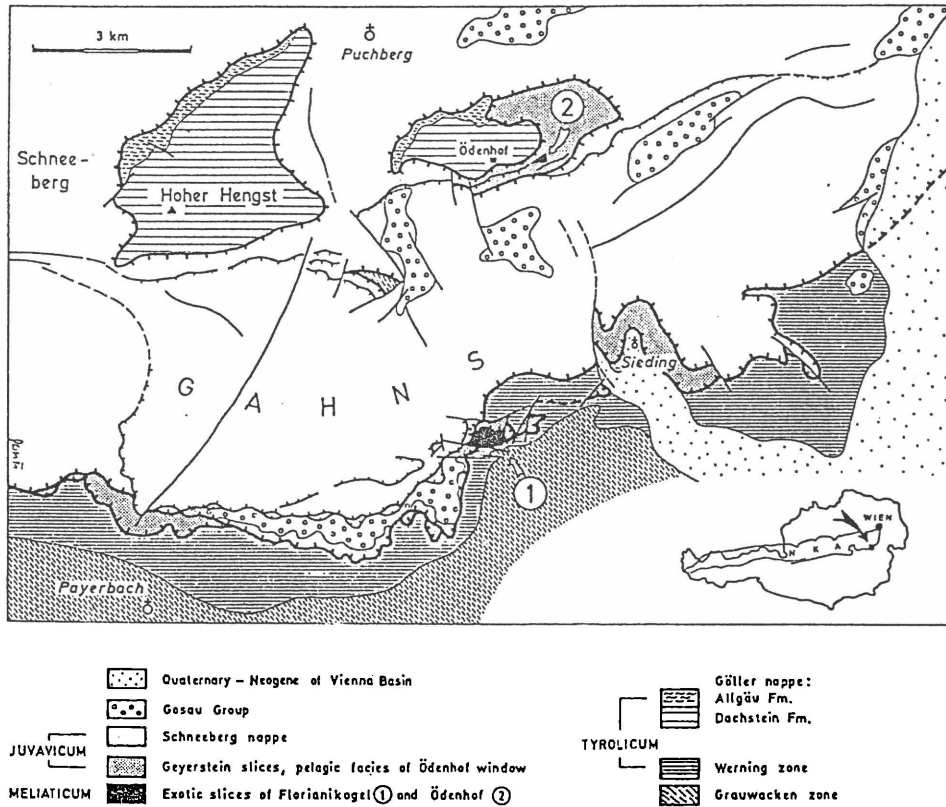


Fig. 8: Tectonic sketch map of the southeastern Schneeberg area and the Triassic to Jurassic sequence of the Meliaticum-Klippe at Florianikogel.