Stop 2: Forest road Attems (Graz Palaeozoic, Austria)

The forest road Attems is located on the southern slope of the Frauenkogel in the western vicinity of Graz (N 47°05´18´´/ E 15°22´05´´). Along the roa d the Flösserkogel, Plabutsch and Kollerkogel formations are exposed. The Plabutsch Formation, one of the most prominent Devonian units of the Graz Palaeozoic, was formalized by HUBMANN (2003). Before, it was known as "Korallenkalk" (CLAR 1874) or "Barrandei-Schichten" (PENECKE 1894).

Lithology: The uppermost part of the Flösserkogel Formation (Lower Devonian) is composed of laminated limestones which succeed dolomites, limestones and volcano-clastic sediments. The depositional environment was shallow marine to peritidal. Above, the Gaisberg Bed of the Plabutsch Formation is exposed and separated by a fault from the unit below. The Plabutsch Formation is divided into five distinctive biofacies and measures up to 80 meters in thickness. The Gaisberg Bed consists of marls alternating with thin limestone beds at its base. It reaches approximately 8 to 10 meters in thickness. This unit is well known for its chonetid brachiopod fauna. Additionally trilobites (*Maladaia* sp.), ostracods, crinoids, conodonts, placoderm plates and teeth of other fish are found within the lower part. In the uppermost part of the Gaisberg Bed tabulate corals start to settle and stabilize the sediment, which suddenly changes from orange marls and limestones to greyish blue limestone beds. The first few meters of these limestones yield a stromatoporoid-coral dominated faunal association which later changes to a coral-brachiopod biofacies. This community includes *Favosites*, *Thamnophyllum*, *Thamnopora*, *Zelophyllia* and other corals. Somewhere near the middle part of the unit this community is replaced by a biofacies which is dominated by calcareous algae (e.g. *Pseudopalaeoporella*, *Pseudolitanaia*) and thamnoporids. The upper part of the Plabutsch Formation produced abundant thick valved brachiopods which are assigned to *Zdimir* cf. *hercynicus*. Together with "*Striatopora*" and *Thamnopora* it constitutes the brachiopod-coral biofacies. Above this fossil community early diagenetically altered dolomites of the Kollerkogel Formation are developed. A generalized lithological section including the facies interpretation is provided by HUBMANN (2003).

Biostratigraphy: Within the entire sequence along forest road Attems, conodonts are sparsley distributed. Mainly icriodontids were found which suggest an Emsian – Eifelian age for the lower part of the Plabutsch Fm. According to HUBMANN & MESSNER (2005) the age of this unit remains problematic because distinctive age-constraining faunas are rare but the general faunal association possibly indicates uppermost Emsian to lowermost Givetian age.

References:

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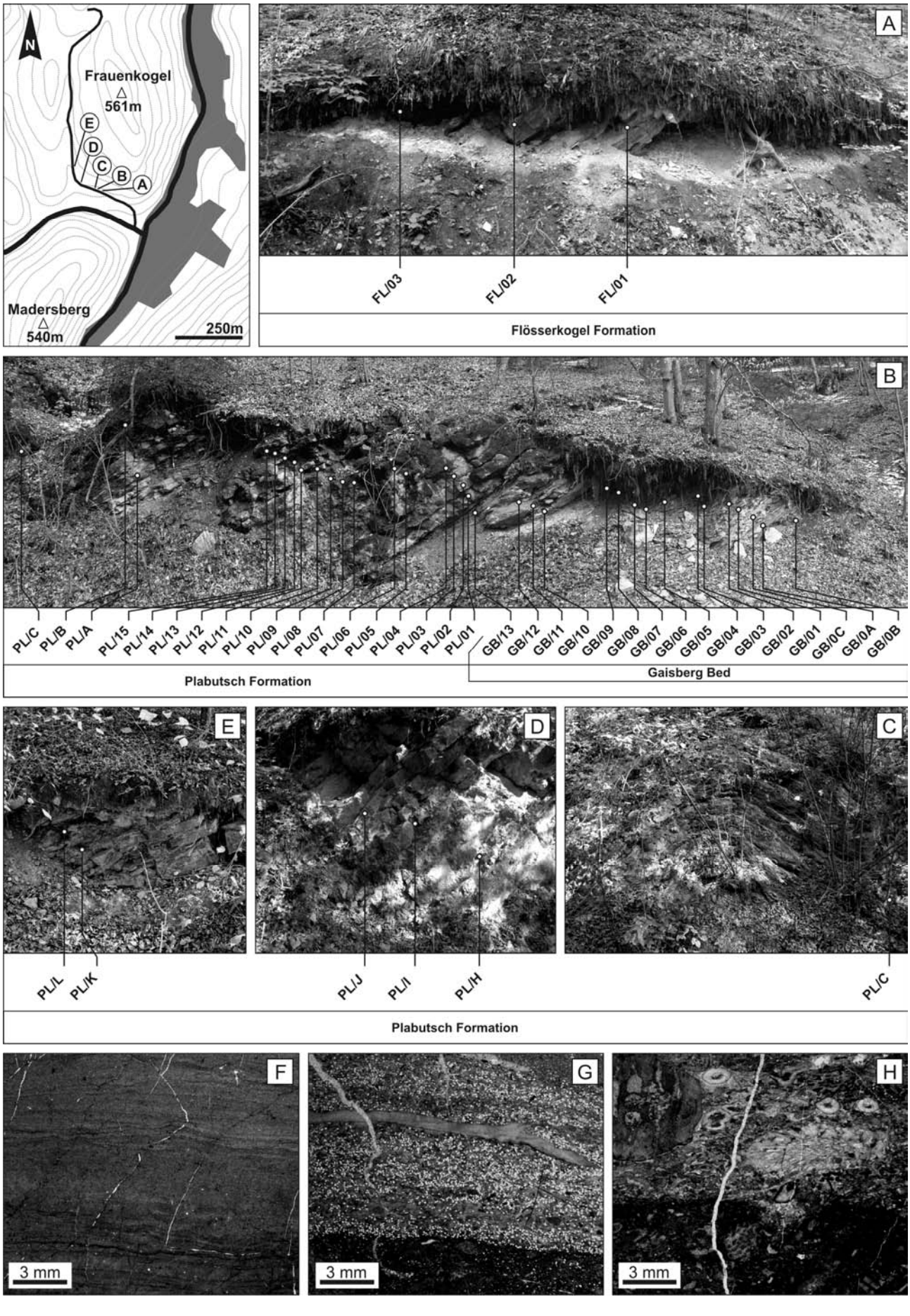
On the map (A-E) indicate the sampled intervals along forest road Attems; A. upper part of the Flösserkogel Formation; B. lower part of the Plabutsch Formation including the Gaisberg Bed; C-E. continuity of the Plabutsch Formation yielding calcareous algae and corals; F. laminated limestone (Flösserkogel Fm, thin section); G. marl and siltstone with chonetid shell layers (Gaisberg Bed of the Plabutsch Fm, thin section); H. bioclastic limestone yielding calcareous algae, corals and crinoids (Plabutsch Fm, thin section).


N
Frauenkogel
561m
E
D
C
B
A
Madersberg
540m
250m
A
FL/03
FL/02
FL/01
Flösserkogel Formation
B
PL/C PL/B PL/A PL/15 PL/14 PL/13 PL/12 PL/11 PL/10 PL/09 PL/08 PL/07 PL/06 PL/05 PL/04 PL/03 PL/02 PL/01 GB/13 GB/12 GB/11 GB/10 GB/09 GB/08 GB/07 GB/06 GB/05 GB/04 GB/03 GB/02 GB/01 GB/0C GB/0A GB/0B
Plabutsch Formation
Gaisberg Bed
E
D
C
PL/L
PL/K
PL/J
PL/I
PL/H
PL/C
Plabutsch Formation
F
G
H
3 mm
3 mm
3 mm