

3.2. Stop 2 – Forest road Attems

Topic: Fossiliferous shallow marine succession; type locality of the Plabutsch Formation; type locality of the udoteacean taxon *Pseudolitanaia graecensis*.

Locality: Forest road “Attems” at the southern slope of Frauenkogel, 47°05'18"N/15°22'05"E.

Lithostratigraphy: Plabutsch Formation (type section).

Biostratigraphy: –

Chronostratigraphic age: Eifelian; locally the sequence may range from upper Emsian to lower Givetian.

Description: Along the road variegated dolostones of the Flösserkogel Formation, marly shales and marly limestones (Gaisbergsattel Member) and dark grey marly bioclastic limestones of the Plabutsch Formation are exposed.

The outcrop along the road starts with whitish sandy dolostones of the Flösserkogel Fm. (Emsian) which passes into laminated dolomitic limestones (tidal flat deposits) in the uppermost part of the formation.

Separated by a fault brownish to yellow marly shales with moulds of chonetid brachiopods and very rare trilobites (*Maladaia* sp.) on bedding planes follow. At the base of this succession the shale is intercalated by marly limestone-beds less than 10 cm in thickness. The yellow to reddish-brown limestones are densely packed brachiopod or Eridostraca shell accumulations. Some brachiopod shells were used by aulopodid tabulates (*Aulostegites* sp.) as substrate for anchorage. Partly the ostracods (unidentifiable smooth valved individuals) and eridostracs (*Eridoconcha papillosa* and *Cryptophyllus* sp.) are silicified in contrast to other fossil remains. The succession described reaches up to 8 to 10 metres in thickness and is assigned to the Gaisberg Bed of the Plabutsch Fm. (HUBMANN, 2003). The uppermost part of the Gaisberg Bed is characterised by the settlement of mound shaped favositid tabulates (*Favosites styriacus*) with diameters of colonies up to 80 cm. The occurrence of corals coincides with a rapid lithological change from orange marls and marly limestones to greyish blue limestone beds.

The first few metres of these limestones are dominated by a stromatoporoid-coral faunal association which passes into a coral-brachiopod biofacies. This community includes *Favosites*, *Thamnophyllum*, *Thamnopora*, *Zelophyllia* and other corals. Approximately at the middle part of the unit this community is replaced by a biofacies which is dominated by calcareous green algae (e.g., *Pseudopalaeoporella*, *Pseudolitanaia*; HUBMANN, 1990) and thamnoporids.

In the upper part of the Plabutsch Fm. thick valved brachiopods which are assigned to *Zdimir* cf. *hercynicus* occur. Together with „*Striatopora*” and *Thamnopora* they compose the brachiopod-coral biofacies (Fig. 9).

Within the entire sequence along forest road Attems, conodonts are sparsely distributed. Mainly icriodontids were found which suggest an Emsian–Eifelian age for the lower part of the Plabutsch Fm. (SUTTNER & BERKYOVA, 2009). Despite a very rich fauna (Fig. 10) the age of this formation remains problematic, because distinctive age-constraining fossils are rare (HUBMANN & MESSNER, 2005). Generally the faunal association indicates an uppermost Emsian to lowermost Givetian age.

References: EBNER & HUBMANN (2012), HUBMANN (1993, 2003), HUBMANN et al. (2003), HUBMANN & MESSNER (2005).

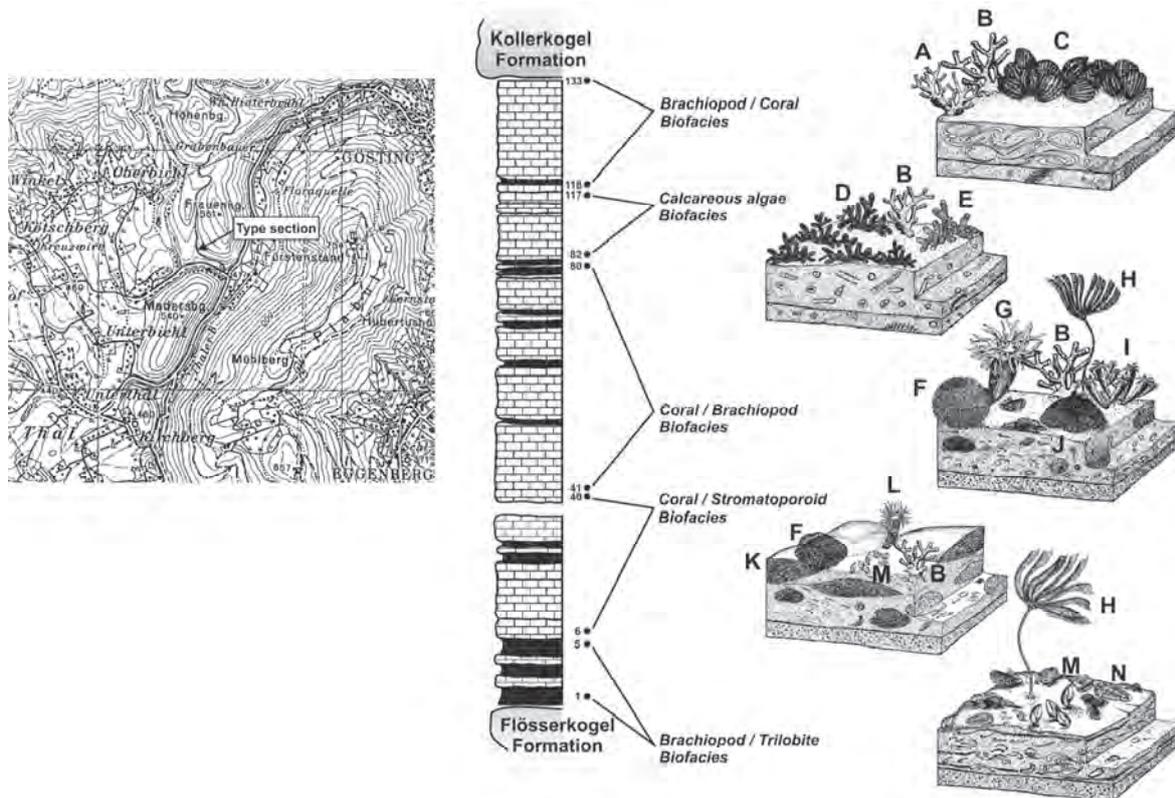


Fig. 9. Forest road Attems. Section of the Plabutsch Fm. subdivided into 5 biofacial sections: a: Siliciclastic Brachiopod-Trilobite-Biofacies ("Chonetenschiefer" = Gaisberg Bed) with: *Chonetes* sp., *Maladaia* sp., and crinoids; b: Coral-Stromatoporoid-Biofacies with: *Actinostroma* sp., *Thamnophyllum stachei*, *Thamnophyllum murchisoni*, *Favosites styriacus*, *Thamnopora* sp., *Striatopora* sp., *Pachycanalicula barrandei*, *Heliolites* cf. *penecke*i, Crinoids; c: Coral-Brachiopod-Biofacies with *Thamnophyllum stachei*, *Thamnophyllum murchisoni*, *Thamnopora reticulata*?, *Thamnopora* sp., *Striatopora* (?) *suessi*, *Favosites* sp., *Chonetes* sp., "Spiriferids", Crinoids; d: Algae-Biofacies with *Pseudopalaeoporella lummatonensis*, *Pseudolitanaia graecensis*; e: Brachiopod-Coral-Biofacies with: *Zdimir* cf. *hercynicus*, *Thamnopora* cf. *reticulata*, *Striatopora* (?) *suessi* (modified from HUBMANN, 2003).

3.3. Stop 3 – Quarry Trolp/Forstkogel

Topic: Devonian–Carboniferous boundary; type locality of Lower Sanzenkogel Formation; type locality of the conodont taxon *Polygnathus styriacus*.

Locality: Abandoned quarry "Trolp", 47°04'7"N/15°19'18"E.

Lithostratigraphy: Steinberg Formation and Lower Sanzenkogel Formation (type section).

Biostratigraphy: *Bispathodus costatus* Zone to the *Gnathodus typicus* Zone.

Chronostratigraphic age: Famennian/Tournaisian boundary.

Description: The abandoned quarry exhibits an overturned stratigraphic sequence of the upper parts of the Steinberg Formation (Frasnian–Famennian) and the Lower Sanzenkogel Fm.; it is the type locality of the Famennian conodont taxon *Polygnathus styriacus*.

In the eastern face of the quarry an overturned section from the latest Devonian *Bispathodus costatus* Zone to the *Gnathodus typicus* Zone is exposed. This section includes the site which was discussed as a favourite for the international Devonian–Carboniferous boundary stratotype (SANDBERG et al., 1983; ZIEGLER & SANDBERG, 1984), the type section of the 220 cm Tournaisian Lower Sanzenkogel Fm. and a 20 cm thick horizon with shale, lydite and