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## Geotope 37: Collendiaul 1 – The Suture of two Orogens



Red point: Location of the geotope; green tracks: hiking trails; ©BEV: Federal Office for Calibration and Measurement, 2005.

### Access:

Either from the village of Nöbling along the Nöbling Creek to Zollner Alm or by car along the forest road from Weidenburg via “Eggilealm” to the fossil locality south of Zollner Alm.

## Description of the Geotope

The geotope displays one of the key areas of the Carnic Alps for understanding its geological history. It is a good example for an unconformity with an old sedimentary sequence which is unconformably overlain by a younger sequence. Between both rocks a distinct angle is developed separating the two rock types. In geological terms, the older sequence was inclined during the Variscan Orogeny in the Carboniferous (360 to 290 m.y. BP), the younger one (together with the old one) during the Alpine Orogeny starting in the Cretaceous Period some 90 million years ago.

The older rock sequence, originally being horizontally deposited, is composed of cherts and radiolarites (=siliceous rocks containing hard parts of radiolarians). They were compressed, folded, inclined and finally uplifted from the sea. However, this stage did not last for a long time and renewed subsidence started soon after the emergence. It gave rise to a new association of marine sedimentary rocks. Due to deformation caused by the Alpine Orogeny this sedimentary cycle was also inclined. At this locality, however, only some remnants of this early sedimentation are preserved, the majority of the basal rock sequence of the Alpine Cycle has already been eroded.

For geologists, the different inclination of both rock types is often referred to as an “angular unconformity”.



Contact between older strata of Devonian age (right) and overlying shales of the Upper Carboniferous (upper left). Between the two rock types a distinct angle is developed.