

The Lithostratotypus of Hierlatz Limestone (Alpine Liassic) – Preliminary Report

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The classical locality of Hierlatz Limestone is situated on Mt. Hierlatz/Feuerkogel on Dachstein Plateau in the Northern Calcareous Alps. Prevailing NW/SE-striking neptunian dykes are filled by up to several generations of predominantly red Liassic limestones comprising a variety of lithologies and fauna. The width of the fissure fillings can range from a few centimetres up to a few meters. Some of the fissures cut vertically for more than 100 meters deep into Norian/Rhaetian lagoonal Dachstein Limestone.

The Hierlatz Limestone is famous for an extremely rich fauna dominated by crinoids and brachiopods. Some fissure fillings are also rich in cephalopods, gastropods and bivalves. The multiple successive opening of the fissures is mirrored by several generations of sediment infillings. The lithologies comprise red and white crinoid/brachiopod-limestones – the white variety yields the main part of the ammonite assemblage! – also mudstones with gastropods and/or bivalves, „zebra-limestone“ („Stromatactis“-limestone) and a lithology resembling the Adnet Scheck with rounded lithoclasts up to 3 mm in diameter. The microfacies comprises mud- to packstones with various biota – including besides the afore mentioned macrofauna – calcite-replaced sponge spicules, fissure-encrusting sponges, foraminifera, ostracods and peloids. Bioturbation is very common.

Among the foraminifera arenaceous taxa are predominant (up to 90%), followed by Lagenids, Miliolids and very rare Involutinids. Crinoids may occur in rock-forming frequency. Brachiopods constitute also a dominating element. Also the ammonite assemblage is quite rich in taxa, less in specimen, comprising so far 27 taxa. The afore mentioned red and white crinoid/brachiopod-sparites can be dated stratigraphically by brachiopods and ammonites as Upper Sinemurian. However, red biomicritic limestones yielded a brachiopod assemblage of Pliensbachian age. The ammonite taxon *Gemmellaroceras abnorme* (HAUER, 1853) points to Lotharingian/Carixian and *Phicodoceras taylori* (SOWERBY, 1826) is known only from the Lower Carixian. Indications for Hettangian infillings into the neptunian dykes of classical Hierlatz Limestone region are missing so far!

The bivalve fauna of Hierlatz Limestone shows moderate diversity and is dominated by epibyssate and shallow burrowing suspension feeders, while cemented forms are much less frequent. The gastropod-assemblage consists of 18 taxa indicating varying biotopes. The abundance and diversity of Trochoidean species suggests lower infralittoral biotope. However, *Pleurotomaria* and *Pyrgotrochus* probably lived below the base of storm influence. Only sporadic findings of typical bathyal forms, as *Discohelix* and *Eucyclomphalus*, occur.