

The status of the specimen identified by LOCKLEY (2000) as the ichnolotype of *Bueckeburgichnus* is unclear, as it is no ichnosyntype and there is no published evidence that it is even an ichnotopotypoid,

Among the remaining material, one ichnosyntype (BALLERSTEDT, 1905:fig. 7) is currently relocated (on exhibit at the Gymnasium Adolfinum Bückeberg), and all others are considered ichnotopotypoids.

The correct identification of the type status of the preserved material provides crucial information for the proper reassessment of “*Bueckeburgichnus*” in the future.

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The “Hasenstein”: a Givetian reef complex (Kollerkogel Formation, Graz Palaeozoic)

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The Graz Palaeozoic (GP) extends over about 1250 km² and is isolated from other low metamorphic (from anchizonal to greenschist facies) Palaeozoic occurrences in the Alpine region.

The internal arrangement of the GP shows a subdivision into a basal, an intermediate and an upper nappe group based on lithological similarities, the tectonic position as well as the metamorphic superimposition of successions. This Mid-Cretaceous thrust complex is sealed by Late Cretaceous “Gosau” sediments.

The Upper Nappe System (“Rannach-Nappe”; upper Silurian to Upper Carboniferous) of the GP is characterised by upper Silurian volcanites and marly limestones, Lower to Middle Devonian volcanoclastic rocks, Lower to Middle Devonian siliciclastics and fossil-rich carbonates of near-shore environment followed by the pelagic sequences of late Givetian to Bashkirian age with shallow marine sediments at the top.

In some aspects the Rannach Nappe must be considered to be ‘exotic’ in its development when compared with other coeval alpine regions. Continuous sedimentation through the Tournaisian to Bashkirian time interval, as well as the lack of Variscan tectonic activities and the missing Permo-Mesozoic cover complicate the integra-

tion of the Rannach Facies with other Paleozoic remnants of the Eastern Alps. More likely similarities with the Hungarian Szendrő and Uppony Mountains and the Dinaridic Jadar Block Paleozoic are transparent.

During the Devonian the depositional environment within the Rannach Nappe of the GP changed from a peritidal setting (Pragian to Emsian) with predominant monotonous light grey late diagenetic dolostones, volcanoclastics and pure quartz sandstones, to subtidal (Eifelian) fossiliferous dark marly bioclastic limestones with coral-stromatoporoid-carpet. This phase is terminated by a repetition of tidal flat deposits obviously caused by an eustatic sea level fall. During the Givetian renewed transgression resulted in sequences with sharp (bio)facial contrasts between patch-reefs and monotonous mudstones (Kollerkogel Fm.). During the uppermost Givetian to lower Frasnian the sedimentation of shallow platform carbonates was replaced by micritic cephalopod limestones.

The mentioned Givetian transgression is obviously indicated by litho-facial changes from rauhwacke (cellular dolomite) to micritic limestones. Due to the lack of age-diagnostic fossils – the coral fauna points only to a Givetian age, and rare conodont findings refer only to *varcus* zone but do not permit further age restriction.

Especially the “Hasenstein” section at a steep slope of the Rannach Hill some 20 km north of Graz exhibits spatiotemporal ecological successions with certain community replacements. The latter comprise a basally developed ‘reef pioneer settlement’ dominated by densely packed stachyodes and auloporids in a black bituminous limestone matrix (*Stachyodes-Aulopora*-community). This well-bedded sequence passes into dark-grey fossil-rich limestones built up by thickets of small branching stromatoporoids (*Amphipora-Stachyodes*-community). This succession is followed by grey bioclastic limestones (*Thamnopora-Amphipora-Actinostroma*-community). A thin horizon (approximately 30–50 cm) with small colonies of the phaceloid rugosan *Thamnophyllum* and subordinate solitary *Mesophyllum* (*Thamnophyllum-Mesophyllum*-community) terminates the ‘pioneer sequence’, which is overlain by approx. 35 m thick, white and slightly dolomitized massive limestones. The latter contain accumulations of various reef-building organisms (stromatoporoids, rugose and tabulate corals).

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