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Relicts of the oldest reefs built by tubicolous fossils of Austria

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Relicts of the oldest reefs (Fig. 1A) formed by tubicolous fossils in Austria are found in southern Burgenland (N 47°09'01'', E 16°21'10''). According to succeeding limestone beds which yield distinctive early Devonian microfossils (SUTTNER 2009) an age of 415 Million years or older is inferred. Implications on whether the spatial geometry of the ancient build-ups once conformed to biostroms or bioherms are deduced from late Devonian *in situ* findings of Arizona (BEUS 1980). BEUS described small bioherms (extensions of individual mounds: 125 x 45 cm) built up by small, loosely coiled tubes which he assigned to *Serpula helicalis* BEUS (1980).

Recent discussions on the taxonomy of that kind of tubicolous fossils suggest that they might belong to the Middle Palaeozoic species *Microconchus* (= *Serpula*) *advena* (SALTER, 1863) which is included in the order Microconchida WEEDON (1991).

Although the majority of tubes from southern Burgenland are identical in shape to those of Arizona they reveal a different taphonomic history. In field they are recognized as white dots in grey, planar limestone beds (5 to 45 cm in thickness), which are intercalated by thin layers of brownish-grey siltstone.

Detailed studies of tubes exposed on weathered rock surfaces and in thin sections (Fig. 1B, C) show that specimens can reach a length of approximately 10 mm and a diameter of about 0.7 mm by including 4 whorls. Commonly the tubes are densely packed and sometimes they are attached to each other. Sporadically they occur oriented in the same direction which might suggest *in situ* conditions, but due to the evidence of brachiopods which are encrusted by more densely coiled tubes and presence of unoriented clasts of accumulated tubes in the limestone matrix, it became obvious that these deposits were periodically induced by storms.

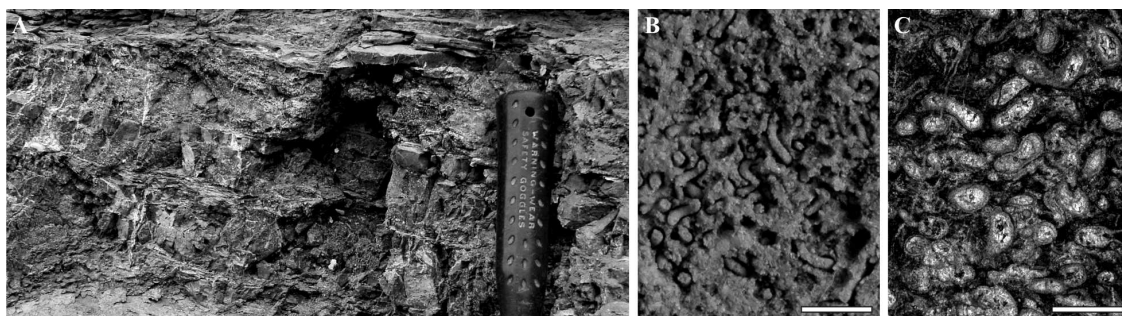


Fig. 1A: beds of accumulated tubes alternating with layers of siltstone. 1B: helical tubes on weathered rock surface (bar: 5 mm). 1C: thin section through tube-bearing rock-sample (bar: 2 mm).

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