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REVIEW OF PALAEOZOIC CORALS IN AUSTRIA: STATE OF KNOWLEDGE AFTER 150 YEARS OF RESEARCH HISTORY

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In Austria the distribution of moderately metamorphic Palaeozoic successions is irregular. However two major regions of Palaeozoic developments may be distinguished, that are separated by the Periadriatic Line, the most prominent alpine fault system: the Upper Austroalpine Variscan sequences (i.e. the Greywacke Zone of Tyrol, Salzburg, Styria and Lower Austria, the Nötsch Carboniferous, the Gurktal Nappe, the Graz Palaeozoic and some isolated outcrops in South Styria and Burgenland) and the Southern Alpine sequences (i.e. the Carnic Alps and the Karawanken Alps).

Occurrences of the „*Austroalpine Coral Fauna*" (ACF) and the „*Southalpine Coral Fauna*" (SCF) are restricted to certain locations within these regions. Since all Alpine Palaeozoic units were affected by the Variscan or Alpine orogenies, - or even by both – major sections of the successions suffered deformation and alteration (tectonic fracturing, dolomitisation, recrystallisation, etc.) thereby destroying the fossil content. The recent distribution of corals obviously does not reflect the original biofacial pattern of dispersion. Especially in the Greywacke Zone and the Gurktal Nappe System corals are rare.

Within Austria's territory Lower Palaeozoic corals are frequent in the Carnic Alps and in the Graz Palaeozoic. Corals of Upper Palaeozoic age are restricted to occurrences in the eastern Greywacke Zone (Lower Carboniferous), Nötsch (Lower Carboniferous), Carnic Alps and Karawanken Mountains (Upper Carboniferous and Lower Permian).

A review of more than 200 articles, that taxonomically deal with or cite Palaeozoic corals in Austria (including coral sites near the border in Italy and Slovenia), lists 220 rugose and 113 tabulate taxa known (or even cited in the literature) from this region. Amongst these the following 10 genera were erected on the basis of Austrian specimens: *Actinopora*, *Amandophyllum*, *Carinthiaphyllum*, *Carniaphyllum*, *Geyerophyllum*, *Lonsdaloides*, *Pachycanalicula*, *Thamnophyllum*, *Torusphyllum*, *Zeliaphylum*.

A data base of Palaeozoic corals from Austria (Flügel & Hubmann 1994, Hubmann 1995, Hubmann 2002) registers 125 taxa (81 Rugosa, 33 Tabulates and 11 Heliolitids) on species level and 16 taxa on subspecies level (12 Rugosa, 4 Tabulates) which were described for the first time.

This data base is, however, limited by the need of modern revisional work for some locations, the loss of certain typoids during World War II (e.g. the Charlesworth collection), etc.. Nevertheless, the data base allows an insight into the diversity of Palaeozoic corals of the Alpine region. A synoptic view of this diversity shows a remarkable trend in both the numbers of genera and species with time.

Starting with the first occurrences of corals in the Lower Silurian up to the Middle Devonian, an increasing number of genera and species is recorded, followed by a conspicuous diversity drop in the Upper Devonian, and a renewed increase during the Lower Carboniferous to the Lower Permian.

REFERENCES

Flügel, H.W. & Hubmann, B. (1994). Catalogus Fossilium Austriae, Anthozoa palaeozoica: Rugosa. -- Österr. Akad. Wiss., IVc/1a: 141 pp., 3 figs., 3 tabs.; Wien.

Hubmann, B. (1995). Catalogus Fossilium Austriae, Anthozoa palaeozoica: Tabulata (inklusive Chaetetida und Heliolitida). -- Österreichische Akademie der Wissenschaften, IVc/1b: 111 pp., 4 figs.; Wien.

Hubmann, B. (2002): Palaeozoic corals in Austria: state of knowledge after 150 years of research.- Coral Res. Bull., **7**, 73-86, 3 figs., Dresden.