

URLICHS, M. (1972): Ostracoden aus den Kössener Schichten und ihre Abhängigkeit von der Ökologie.- Mitt. Ges. Geol. Bergbaustud. Österr., **21**: 661-710, Innsbruck.

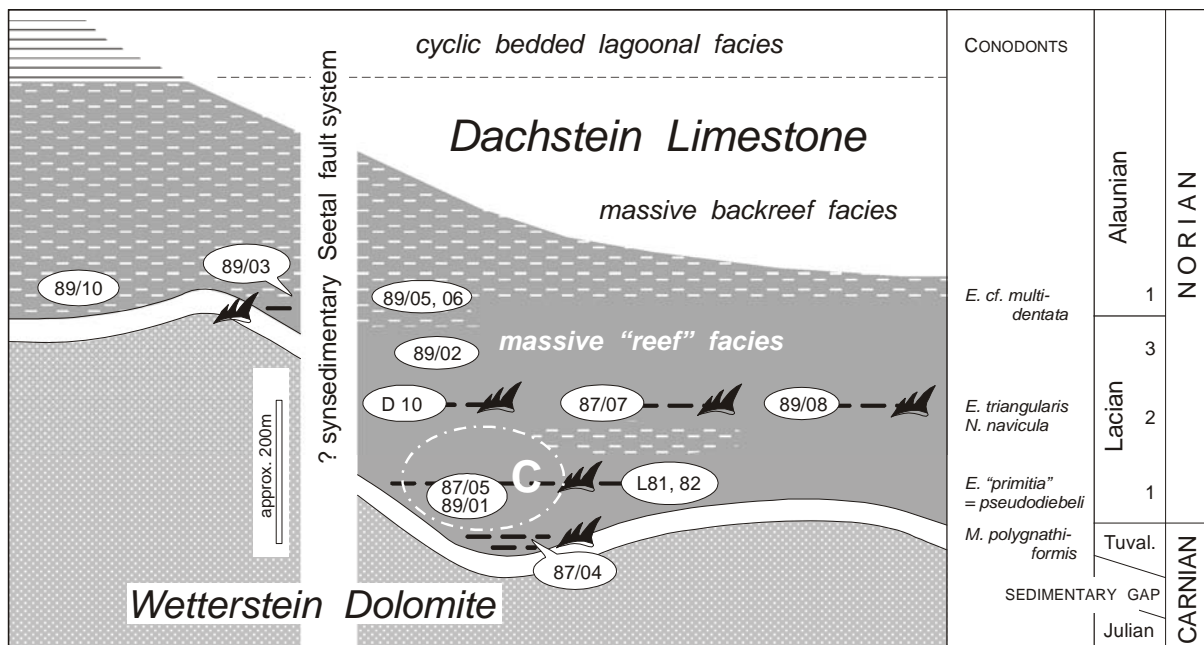
## EARLY NORIAN SCLERACTINIAN CORALS OF THE DACHSTEIN LIMESTONE OF FEISTERSCHARTE, DACHSTEIN PLATEAU (NORTHERN CALCAREOUS ALPS, AUSTRIA)

Ewa RONIEWICZ, Gerhard W. MANDL, Oskar EBELI & Harald LOBITZER

Ewa RONIEWICZ, Institute f. Palaeobiology, Polish Academy of Sciences, Twarda 51/55, Warszawa, PL-00-818.  
[eron@twarda.pan.pl](mailto:eron@twarda.pan.pl)

This refers to the first report concerning Early Norian coral fauna from the Northern Calcareous Alps. The coral-bearing limestones outcrop in the vicinity of the Feisterscharte, in the southern Dachsteinplateau. The rocks represent the initial growth stage of the Norian to Rhaetian Dachstein carbonate platform.

The sedimentary environment of the Northern Calcareous Alps is dominated by extended carbonate platforms in Middle and Late Triassic times. During an Early Carnian sea level drop the Wetterstein platform emerged and has been exposed to remarkable erosion, creating a relief of several 10th of meters.



Tab.1: Stratigraphic scheme of the Feisterscharten area. Encircled area „C“ marks the stratigraphic position of coral samples.

In the latest Tuvalian a distinct transgressive pulse led to widespread pelagic conditions, covering the drowning platform. The persisting seafloor relief caused a complex pattern of

local reef patches, separated by depressions, where massive, often micritic limestones have been deposited. They exhibit a mixture of components from the platform interior (ooids, oncoids, porostromate algae and dasycladaceans), of reef debris, crinoids and pelagic biogenes (ammonoids, halobiids and „filaments“, radiolarians and conodonts).

This initial stage of Dachstein platform growth has been terminated by rapid progradation of lagoonal limestones, the reefs became concentrated at the southern platform margin. The open platform situation changed into a rimmed platform configuration, characteristic for the Dachstein facies during Middle Norian to Rhaetian and exposed e.g. at Gosaukamm and Grimming.

Coral genera at Feisterscharte/Dachstein		Localities					Stratigraphic Age			
		Dolomites	Taurus	Julian Alps	Gosaukamm	Pamirs	Carnian	Early Norian	Late Norian	Rhaetian
<b>I. Pachythechal group</b>										
1. <i>Pachydendron</i>	1	-	+	+	-	+	-	+	+	-
2. <i>Pachysolenia</i>	1	-	+	-	-	+	-	+	-	-
<b>II. Minitrabecular group</b>										
3. <i>Volzeia</i>	1	+	-	+	?	+	+	-	-	-
4. <i>Retiophyllia</i>	3	-	+	+	+	+	+	+	+	+
5. <i>Cuifia</i>	1	-	-	-	+	+	-	+	+	+
6. <i>Margarophyllia</i>	1	+	-	+	-	-	+	-	-	-
7. <i>Margarosmia</i>	3	+	+	+	+	-	+	+	-	+
8. <i>Thamnogrammarosmia</i>	1	-	-	-	-	+	-	+	-	-
9. <i>Craspedophyllia</i>	1	+	-	+	-	+	+	-	-	-
10. <i>Procycolithes</i>	1	-	-	+	+	-	-	-	-	+
11. <i>Astraeomorpha</i>	1	+	-	+	+	+	+	+	+	+
<b>III. Thick-trabecular group</b>										
12. <i>Tropiphyllum</i>	1	-	+	-	-	-	-	+	-	-
13. <i>Thamnasteriamorpha</i>	4	+	-	-	-	+	+	-	+	+
14. <i>Conophyllia</i>	1	+	-	+	-	+	+	-	-	-

Tab. 2: In the Tethyan ocean realm, Early Norian coral finds are rare, in contrast to the Late Norian. The table shows an overview in comparison to the fauna of Feisterscharte.

The exposures at Feisterscharte show one of the most diversified taxonomically Early Norian coral assemblages known so far. In the assemblage, Carnian genera are prevailing in number, and Early Norian index species, *Pachysolenia cylindrica* and *Pachydendron microthallos*, are frequent. The Early Norian age is proofed by conodonts.

The estimated number of coral taxa is 26, the majority having been identified to the generic level (Table 2) and some to species level. Despite recrystallization, the skeletons show

enough traces of the original microstructure to be classified into three microstructural groups from the four groups known in the Triassic:

- I. Pachythechal coral group (e.g. *Pachythechaliina* ELIÁSOVÀ, 1975),
- II. Minitrabecular corals (*Caryophylliina* VAUGHAN & WELLS, 1943)
- III. Thick-trabeculare corals (a group, containing families from the *Archaeocoeniina* ALLOITEAU, 1952 and *Microsoleniina* MORYCOWA & RONIEWICZ, 1994 - earlier *Fungiina* VERRILL, 1865),
- IV. Fascicular or non-trabecular corals (*Stylophyllina* BEAUVAIS, 1981) are missing in the examined Early Norian fauna, but flourishing in the marly facies of the Rhaetian (RONIEWICZ 1989).

This brief review shows that the coral assemblage from the southern Dachsteinplateau belongs taxonomically to the most diversified finds in the western Tethys. It equals that from the Taurid Mountains, differing from it in ecological type. On Dachsteinplateau, as in the whole Alpine region and on Hydra Island, phaceloid and solitary growth forms prevail, while massiv colonies (cerioid, thamnasterioid) are of a minor significance.

Financial support was given by Committee for Scientific Research, Poland (KBN), grant 6PO4D 037 14 to Ewa RONIEWICZ.

### References

- RONIEWICZ, E. (1989): Triassic scleractinian corals of the Zlambach beds, Northern Calcareous Alps. – Denkschr. Österr. Akad. Wiss., math.-naturw. Kl., **126**, 152 pp., 43 pls., Wien.
- RONIEWICZ, E., MANDL G.W., EBELI, O. & LOBITZER, H. (2007): Early Norian Scleractinian Corals of the Dachstein Limestone of Feisterscharte, Southern Dachstein Plateau (Northern Calcareous Alps, Austria). – Jahrb. Geol. B.-Anst., **147/3+4**, 577-594, 2 Abb., 5 Taf., 1 Tab., Wien.

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Berichte der Geologischen Bundesanstalt](#)

Jahr/Year: 2008

Band/Volume: [76](#)

Autor(en)/Author(s): Roniewicz Ewa, Mandl Gerhard W., Ebli Oskar, Lobitzer Harald

Artikel/Article: [Early Norian Scleractinian Corals of the Dachstein Limestone of Feisterscharte, Dachstein Plateau \(Northern Calcareous Alps, Austria\) 38-40](#)