Bericht 1998 über biostratigraphische Untersuchungen an Foraminiferenfaunen auf Blatt 57 Neulengbach

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The samples analysed in this report were collected by Dr. Z. STRÁNÍK during the year 1998 in the area between Klausenleopoldsdorf, Untergrödl, Schöpfl and Hirschenstein on the map sheet ÖK 57 Neulengbach. All works were done within the framework of the geological mapping of the Wienerwald flysch organised by the Geologische Bundesanstalt Wien.

The rock samples (mostly claystones to clayey shales) came from the sedimentary formations of the Laab nappe. After destruction using hydraulic press and boiling with washing soda, they had to be finally mechanically disintegrated at the sieve using rubber stopper due to strong lithification. Predominantly agglutinated foraminifera obtained from this processing are often fragmentary, what causes difficulties in determining some taxa. Anyway, the silicified agglutinated tests are surprisingly resistant to mechanical destruction.

Biostatigraphic interpretation is based on known stratigraphical ranges of agglutinated foraminifera and zones of GEROCH & NOVAK (1984) and BUBIK (1995). Planktonic foraminifera were stratigraphically evaluated using the zonal charts of CARON (1995), BLOW (1979) and BERGGREN & NORIS (1997).

The biofacies study was focussed on red and variegated sediments, following biofacies sensu BUBIK (1996). Two biofacies and its mixtures were identified within the studied samples from the Laab nappe:

– *Rhabdammina-Rzehakina* biofacies.
  Characteristic biofacies of hemipelagic intercalations in flyschsediments deposited in turbidite fans below the CCD (mostly in the area of continental rise).
– *Recurvoides-Paratrochamminoides* biofacies
  Interpreted as the biofacies of an abyssal plain with fine detrital input (influence of distal clay-silty turbidites).

The *Rhabdammina-Rzehakina* biofacies was in fact also situated probably mostly in abyssal paleodepths. The *Recurvoides-Paratrochamminoides* biofacies nevertheless differs by its extreme distality in terms of turbidite sedimentology. Oligotrophy and decreased detritus influx connected with distality strongly influenced the benthic biota.

Relatively frequent assemblages with mixed characters of both biofacies can be interpreted as redeposition of a more proximal and shallower *Rhabdamminia-Rzehakina* fauna by gravity flows. Primary biofacies transition with features of both cannot be excluded either.

Local agglutinated foraminifera zones used in this report:

1) *Uvigerinammina jankoi* Zone (sensu GEROCH & NOVAK, 1984), respectively *U.* ex. gr. *jankoi* Zone (BUBIK, 1995): Turonian–Early Campanian.
2) *Rzehakina epigona* Zone (BUBIK, 1995, MS): Campanian–Paleocene.
3) *Reophax nodulosus* Zone (sensu BUBIK, 1995): Early Eocene.

Results

Quarzitserie (Flysch Gault)

Two samples taken from this formation (St11/98, St152/98) contain a very poor fauna of agglutinated foraminifera without Lower Cretaceous marker species.

Assignment to biofacies is impossible considering a statistically inconclusive number of specimens. Nevertheless, the presence of *Nothia* sp. may indicate the *Rhabdammina-Rzehakina* biofacies.

Kaumberg-Formation

The lithology is relatively monotonous with predominant red-brown noncalcareous claystones (shales). All determinable samples from the Kaumberg Formation were assigned to the *Uvigerinammina jankoi* Zone (*U.* ex gr. *jankoi*-Zone respectively) proving an age within the Turonian–Early Campanian interval.

Benthic agglutinated assemblages often show mixed features of both *Rhabdammina-Rzehakina* and *Recurvoides-Paratrochamminoides* biofacies. This is evident from a co-occurrence of frequent tubular astrorhizids (*Rhabdammina* and *Nothia*) together with abundant "recurvoids" and few typical elements of abyssal assemblages (*Buzasina pacifica, Haplophragmoides herbichi, Praecystammina globigeriniformis*) – samples St41A/98, St77/98, St79/98, St80/98, St81/98, St84/98. Rarely the typical abyssal *Recurvoides-Paratrochamminoides* biofacies occurs (samples St15/98 and St82/98). A typical *Rhabdammina-Rzehakina* biofacies was observed in one sample (St75/98).

Planktonic foraminifera (?*Globotruncana linneiana*) were found in sample St140/98, probably giving evidences of a redeposition.

Hois Subformation

Four samples taken from this member provided a poor agglutinated assemblage with frequent tubular astrorhizids (*Rhabdammina, Nothia*) significant for the *Rhabdammina-Rzehakina* biofacies. Only the sample St106/98 contains a more abundant and stratigraphically as well as biofacially conclusive assemblage. The *Rzehakina epigona* Zone proves the age within the Campanian–Paleocene interval.

Agsbach Subformation

Ten samples provided a poor agglutinated fauna of the *Rhabdammina-Rzehakina* biofacies with frequent *Nothia, Psammosphaera, Glomospira, Paratrochamminoides, Recuvoides*, etc. Only sample St118/98 contained stratigraphically valuable taxa allowing assignment to the Lower Eocene *Reophax nodulosus* Zone.

A turbidite calcareous claystone of the interval contained rarely corroded and strongly recrystallized calcareous foraminifera. Planktonic foraminifera of two different stratigraphic levels were found:

1) Biochron P.1: Early Paleocene (St91/98)
2) Biochron P.4–P.7: Late Paleocene–Early Eocene (St20A/98)

At least the Early Paleocene taxa in sample St91/98 are reworked from older strata as suggests the presence of *"Arenobulimina" gerochi* reported till now from the Eocene.