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Triassic Foraminifera from the Faqir Marl Bed of the Sina Formation (Aghdarband Group, NE-Iran)

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With 1 Plate

NE-Iran
Aghdarband
Sina Formation
Middle Triassic
Foraminifera

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Zusammenfassung

Die Ammonitenneubearbeitung verlangt eine Rückdatierung der Foraminiferenfauna von OBERHAUSER (1960) vom Cordevol ins Langobard. Foraminiferen in Gesamtgehäuse-Erhaltung sind aus der Mitteltrias nur wenig bekannt. Sie zeigen den Entwicklungsstand zweikammeriger, sandschaliger Ammodiscidae sowie mehrkammeriger, kalkschaliger Nodosinellidae und Nodosariidae früh im Mesozoikum.

Abstract

The revision of Ammonites causes a dating back of the Foraminiferal fauna of OBERHAUSER (1960) from the Cordevolian to the Langobardian. There is only few information on Middle Triassic Foraminifers by isolated specimens. They contribute to the knowledge of the state of evolution of bilocular Ammodiscidae and multilocular uniserial calcareous Nodosinellidae and Nodosariidae early in Mesozoic time.

1. Introduction

In 1960 (Jb. Geol. B.-A., Sb. 5) the present author (R. OBERHAUSER) published a foraminiferal faunula from the "Fossil Horizon" 2 (Faqir Marl Bed) of Langobardian 3 age according to L. KRISTYN & F. TATZREITER (this vol.). 24 shells from 11 species and one subspecies from the Ammodiscidae and Nodosariidae have been figured, 5 being new for science. Some very badly preserved Rotaliidae had not been figured, just so specimens from the nodosariid genera *Lenticulina* and *Marginulina*, which had been demonstrated from other Triassic localities in Austria and Italy in the same paper from

The sediment, from which that faunula was washed out, was from inside of a big crinoidal calyx. Samples, taken from other localities of the Faqir Marl Bed, so far did neither bring foraminiferal shells from the same quality nor specimens of *Lunucammia aghdarbandi* (OBERHAUSER) or *Fronicularia ruttneri* OBERHAUSER or *Ammonitella persica* OBERHAUSER up to now. May be that inside of a crinoidal calyx there was a special environmental quality, or the fossil conservation there was comparatively better?

Both together, the material of the publication of 1960 and that of later collecting activities by A. RUTTNER in the Faqir Marl Bed yielded the following foraminifera:

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2. List of Fossils

- Ammodiscidae: *Ammodiscus* cf. *infimus* (STRICKLAND)
Ammovertella persica OBERHAUSER
- Spirillinidae: *Permodiscus* ex gr. *eomesozoicus* OBERHAUSER
 Spirillinidae div. sp. (very flat)
- Nodosinellidae: *Lunucammina aghdarbandi* (OBERHAUSER)
- Nodosariidae: *Lenticulina münsteri* (ROEMER)
Lenticulina polygonata FRANKE
Lenticulina aff. *varians* (BORNEMANN)
Darbyella kollmanni OBERHAUSER
Margulina aff. *vetusta* (ORB.)
Dentalina ex gr. *subsiliqua*
Dentalina div. sp. (smooth)
Lingulina iranica OBERHAUSER
Lingulina iranica sieberi OBERHAUSER
Lingulina aff. *major* (BORNEMANN)
Lingulina aff. *klebelsbergi* OBERHAUSER
Frondicularia ruttneri OBERHAUSER
Frondicularia ex gr. *tenera* BORNEMANN
- Rotaliidae: *Duostomina* ex gr. *rotundata* KRISTAN (very flat)

3. Conclusions

It is important to emphasize that in restudying the ammonites L. KRISTYN & F. TATZREITER (this vol.) had been able to exclude an Upper Triassic Cordevolian to Julian provenance for the Faqir Marl Bed and to fix the age into Middle Triassic Langobardian 3. Therefore,

these foraminifers had been the oldest ones demonstrated in my publication in 1960. From there conspicuous differences between this faunula from north-eastern Iran and from Central Europe are not only caused by the big distances inside the Tethys, but also and dominating by the difference in geological age!

An important feature of this Langobardian 3 faunula is the persistence of a paleozoic type foraminifer of the Nodosinellidae with *Lunucammina aghdarbandi* (OBERHAUSER) which I put in 1960 to *Lingulina*, because in that time *Lunucammina* SPANDEL 1898, (see LOEBLICH, A.R. & TAPPAN, H., 1964, p. C325) was thought to be biserial. In dissolving the shell by HCl I proved an uniserial arrangement without any doubt (see R. OBERHAUSER, 1960, T. 6, Fig. 24, which is reprinted as Plate 1 here).

I do not agree with SELLIER DE CIVRIEUX & T.F.J. DESSAUVAGIE (1965) in grouping it together with *Frondicularia* ex gr. *tenera* (BORNEMANN) and creating the new genus *Geinitzinita*, with the latter for genotype. The two species are too different for the same genus!

If *Lunucammina* is connecting to the paleozoic stock with its median long depression, so few Nodosariidae with longitudinal ribs (*Frondicularia tenera*, *F. ruttneri*) demonstrate a feature, which may be more common in Upper Triassic and later time? But SELLIER DE CIVRIEUX & DESSAUVAGIE (1965, p. 73) show similar ornamentation as early as in the Upper Permian of Turkey.

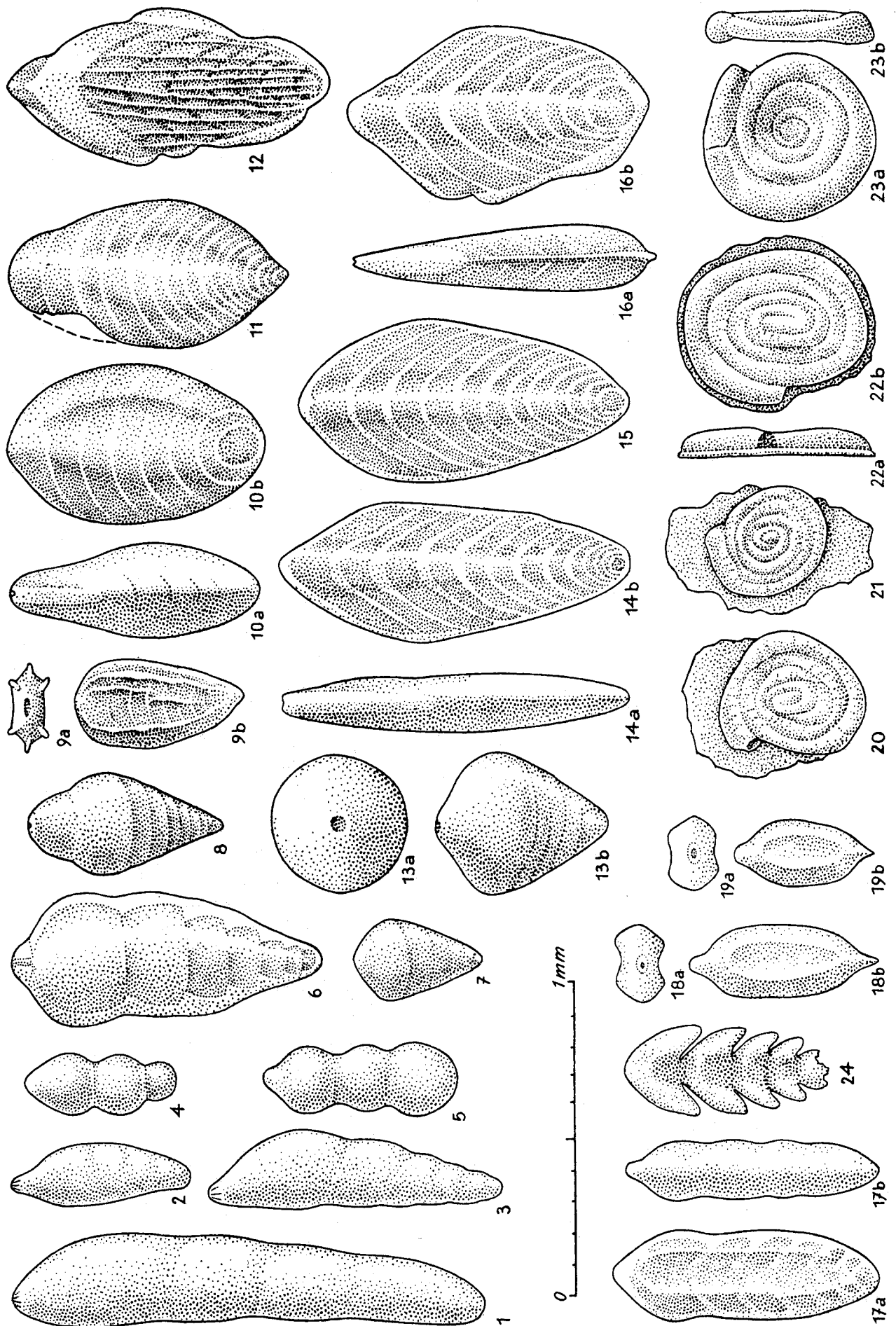
With regard to *Lenticulina* and *Marginulina*, indistinct irregularities in symmetry are more common in the Triassic than later, but the use of the generic name *Darbyella* may only be correct, if this asymmetry is stabilized.

Unfortunately Rotaliidae are very rare and badly preserved. *Globigerina*-like forms are not present.

Plate 1

Foraminifera from "Fossil Horizon 2" (Faqir Marl Bed), Langobardian 3.
 Reprint from R. OBERHAUSER 1960, Tafel 6.

- Figs. 1,2,3: *Dentalina* ex. gr. *subsiliqua* FRANKE.
 Figs. 4,5: *Nodosaria primitiva* KÜBLER u. ZWINGLI.
 Figs. 6,7,8,13: *Pseudoglandulina obconica* (REUSS).
 (Fig. 6 shined through).
 Fig. 9: *Frondicularia* ex gr. *tenera* BORNEMANN.
 Figs. 10,11: *Lingulina* aff. *major* (BORNEMANN).
 Fig. 12: *Frondicularia ruttneri* OBERHAUSER.
 Fig. 14: *Lingulina iranica* OBERHAUSER.
 Figs. 15,16: *Lingulina iranica sieberi* OBERHAUSER.
 Figs. 17,18,19: *Lunucammina aghdarbandi* (OBERHAUSER).
 (Fig. 17a shined through).
 Figs. 20,21,22: *Ammovertella persica* OBERHAUSER.
 Fig. 23: *Ammodiscus* cf. *infimus* (STRICKLAND).
 Fig. 24: *Lunucammina aghdarbandi* (OBERHAUSER).
 (Core, shell dissolved by HCl).



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