Piallina tethydis gen. et sp.nov. (Foraminiferida) from the Triassic (Carnian) of the Kocaeli Peninsula, Turkey

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ABSTRACT

A new genus, *Piallina* Rettori & Zaninetti (type-species *Piallina tethydis* Rettori & Zaninetti sp.nov.), is recorded from the Upper Triassic (Carnian) of the Kocaeli Peninsula (Turkey). The new Family, the Piallinidae is also introduced. *J. Micropalaeontol.* **12** (2): 170-174, December 1993.

INTRODUCTION

During a revision of foraminiferal material from the Kocaeli Peninsula (Gebze area, Turkey) (Fig. 1), deposited by Zeki Dager in the Department of Geology and Palaeontology, University of Geneva, a new genus, *Piallina* (type-species: *P. tethydis* Rettori & Zaninetti sp.nov.), has been discovered; it is formally described herein. Dager (1978a, b) had studied and partially illustrated the foraminifera, which cover several Triassic stratigraphic sequences in the Kocaeli Peninsula.

The new genus has been recorded in a thin section from Carnian limestones of the Tepeköy A sequence, Tepe Member, Tepeköy Formation (Dager, 1978b).

The lithostratigraphic succession of the Triassic Tepeköy A sequence is composed of (from the bottom to top):

- light grey thick bedded limestones and dolomites (Latest Scythian-Early Anisian);
- light grey thin bedded nodular limestone, containing a rich assemblage of ammonites and conodonts (Anisian);
- nodular reddish fossiliferous (ammonites, daonellas) limestone of "Ammonitico rosso" facies (Late Anisian-Early Ladinian);
- green-grey marls with clayey limestone interbedded (Carnian, based on the occurrence of *Halobia*);
- brownish siliciclastic sandstones intercalated with marls and limestones.

Piallina tethydis gen. et sp.nov. occurs in the clayey limestone beds intercalated within marls containing *Halobia (H. bithynica)*; the sequence is referred by several authors to the Carnian (Assereto, 1972, 1974; Özdemir *et al.*, 1973; Nicora & Premoli Silva, 1976; Nicora, 1977; Dager, 1977, 1978a, b), to the Carnian excluding the Early part (Zaninetti & Dager, 1978) or to the Upper Carnian (Yurttas-Özdemir, 1971, 1972, 1973; Gedik, 1975).

SYSTEMATIC DESCRIPTION

Superfamily **Verneuilinacea** Cushman, 1911
Family **Piallinidae** Rettori & Zaninetti fam.nov.
Genus ***Piallina*** Rettori & Zaninetti gen.nov.

Type-species *Piallina tethydis* Rettori & Zaninetti gen. et sp.nov.

Derivation of name. The new genus is named in honour of Professor Giampaolo Pialli, University of Perugia, for his knowledge of the Tethyan geology and for his constant encouragement and interest in our research.

Description. Test free, elongate, rounded in section. Consisting of a short early stage in the form of a low trochoid (or streptospiral?) coil; second stage triserial, short, followed by a trochospiral stage, slightly contorted, with an indefinite number of chambers per whorl (probably not more than five) which reduces to three, possibly two, chambers per whorl in the final stage. Undivided chambers subangular in shape with distinct rounded angles and indistinct sutures. Wall agglutinated, simple, noncanaliculate, with smooth surface. Aperture rounded, interiomarginal, characterized by an extension of wall within the chamber lumen in direction of preceding chamber.

Stratigraphical/Geographical distribution. Upper Triassic (Carnian, Upper Carnian?) of Hungary (Transdanubian Central Range) and Turkey (Kocaeli Peninsula); Carnian? of China (Yushu Region of Qinghai).

Piallina tethydis Rettori & Zaninetti gen. et sp.nov.
(Pl. 1, figs. 1-12, 13?)

?1987 *Gaudryinella clavuliniformis* Trifonova; Oravecz-Scheffer: 99, pl. 33, fig. 11.
1987 *Gaudryinella* cf. *kotlensis* Trifonova; Oravecz-Scheffer: pl. 43, fig. 10.
1990 *Valvulina*? sp.; He & Wang, *in* He: 70, pl. 2, figs. 15, 16, 20.

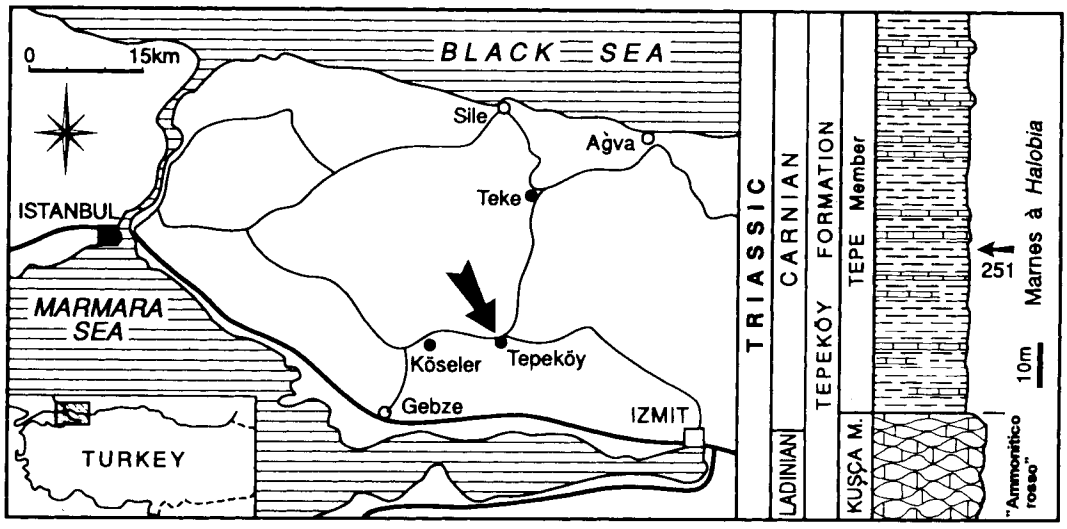

Fig. 1. Sketch map of the Kocaeli Peninsula and Triassic stratigraphic sequence of the Tepeköy A section with the position of the sample 251 (after Dager, 1978b, modified).

Holotype. Axial section, illustrated in pl.1, fig. 1; from thin section 251 (see Fig. 1).

Paratypes. Axial, equatorial and tangential sections, illustrated in Pl. 1, figs. 2-12, ?13.

Material. Sections in many planes from thin section 251, deposited at the Museum d'Histoire Naturelle in Geneva.

Type-locality. Section of Tepeköy A (Dager 1978b), north of village of Tepeköy, east of cemetery, Kocaeli Peninsula (Turkey).

Type-level. Green-grey marls with *Halobia (H. bithynica); Piallina tethydis* gen. et sp.nov. occurs in limestone beds intercalated within the marls (Fig. 1).

Description. Currently monotypic; description, therefore, as per genus.

Dimensions. Length of the test: 0.450 mm, maximum diameter: 0.150 mm.

Stratigraphical/geographical distribution. See under genus, above.

Association. *P. tethydis* is associated with *Turriglomina carnica* (Dager), *Turriglomina* cf. *T. magna* (Urosevic), *Gsollbergella spiroloculiformis* (Oravecz-Scheffer), *Ophthalmidium* spp., *"Endothyra"* ex group *"E." obturata* Brönnimann & Zaninetti, *Trochammina*? sp., Duostominidae, Nodosariidae, encrusting foraminifera, etc.

Remarks on the Piallinidae Rettori & Zaninetti, n.fam.

The description of the new family Piallinidae Rettori & Zaninetti corresponds to that given for the presently unique genus *Piallina*. It differs from all the other families included by Loeblich & Tappan (1987) in the Superfamily Verneuilinacea Cushman, in the type of coiling and in the chamber arrangement and also in the peculiar structure of the aperture.

The attribution to the Verneuilinacea is justified by the fact that the Family Tritaxiidae Plotnikova also presents a complex apertural structure. The Tritaxiidae, however, differs from the Piallinidae in the possession of an apertural tube, not observed in *Piallina*, and in having either a triserial chamber arrangement throughout or a triserial and biserial arrangement.

ACKNOWLEDGEMENTS

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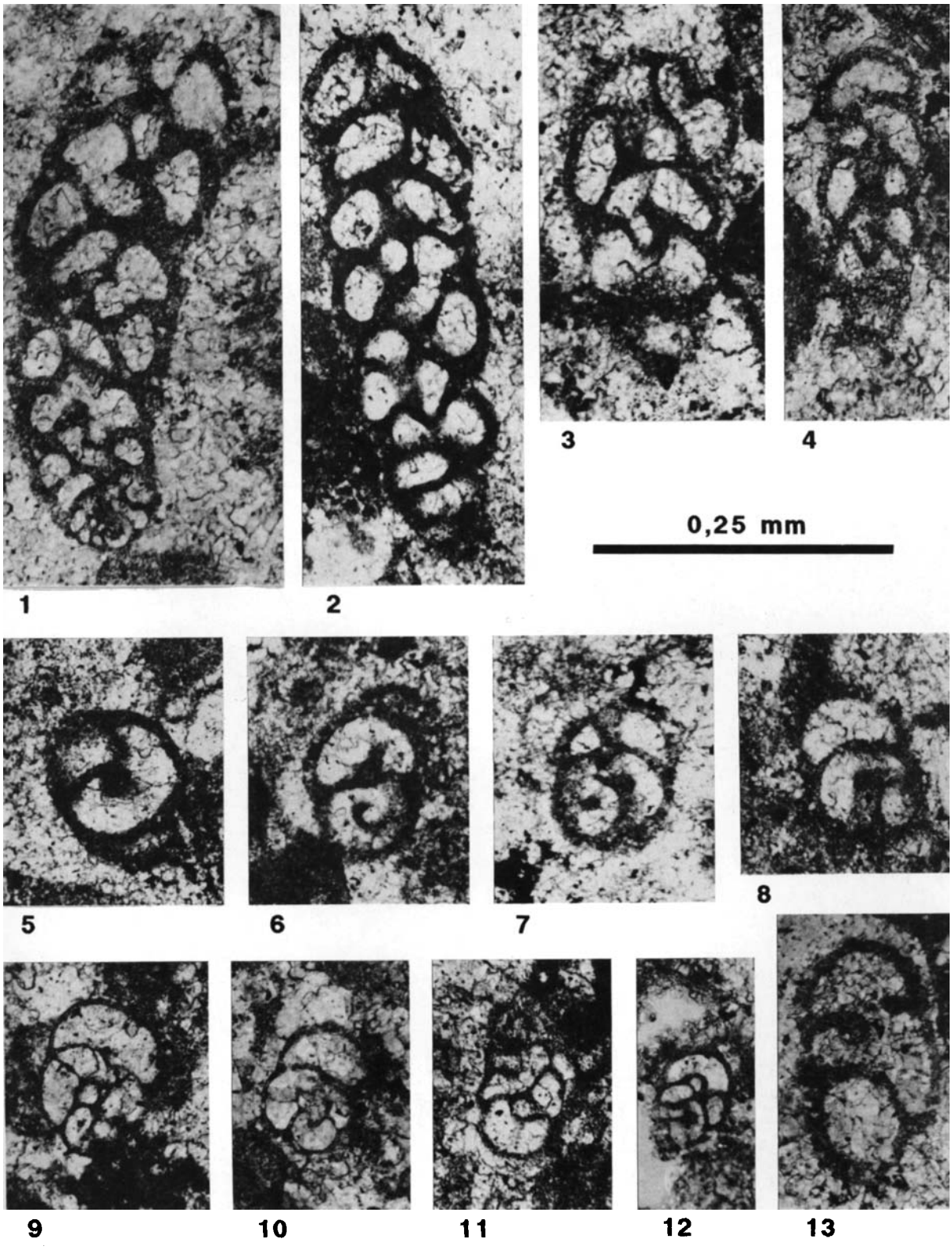
Explanation of Plate 1

Figs.1-12, ?13. *Piallina tethydis* Rettori & Zaninetti gen. et sp.nov. Fig. 1. Holotype, thin section 251. **Figs. 2-12, ?13.** Paratypes, thin section 251. Several cross sections with different orientation.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