

ORTHOTRINACRIA, N. GEN., (PROTISTA : FORAMINIFERIDA)  
FROM UPPER TRIASSIC (NORIAN) REEFS OF SICILY

by

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## ABSTRACT

The new genus *Orthotrinacria* ZANINETTI, SENOWBARI-DARYAN, CIARAPICA and CIRILLI, with *Galeanella expansa* ZANINETTI, ALTINER, DAGER and DUCRET, 1982, as type-species from Upper Triassic (Norian) reefal limestones of the Southern Tethys, is defined, and the new species *Orthotrinacria gracilis* ZANINETTI, SENOWBARI-DARYAN, CIARAPICA and CIRILLI is described from the Norian reefs of Sicily. The new subfamily Orthotrinacriinae is introduced.

## I. INTRODUCTION

ZANINETTI, ALTINER, DAGER and DUCRET described in 1982 from Upper Triassic (Norian) reefal limestones of the Western Taurus (Turkey) the milioliporid *Galeanella expansa*.

This characteristic species has recently also been found in reefal limestones of the same age from NW Sicily. Well preserved specimens of *Galeanella expansa* have been obtained in thin sections and their morphological analysis has shown that this milioliporid represents a new genus different from *Galeanella* KRISTAN-TOLLMANN, for which the name *Orthotrinacria*, n. gen., is here proposed, with *Galeanella expansa* as type-species.

The genus *Orthotrinacria*, n. gen., has a wide geographic distribution within the Upper Triassic Southern Tethys. It has been reported from the Western Taurids (Turkey) (ZANINETTI, ALTINER, DAGER and DUCRET, 1982), from the Inner Dinarids (Yugoslavia) (ZANINETTI, CIARAPICA, CIRILLI and CADET, in press) and from Sicily.

The type-species *Orthotrinacria expansa* (ZANINETTI, ALTINER, DAGER and DUCRET, 1982) has been found in all these localities. A second species *Orthotrinacria gracilis*, n. sp., has so far only been found in Sicily.

## II. SYSTEMATIC PALEONTOLOGY

Foraminiferida EICHWALD, 1830  
Miliolina DELAGE and HEROUARD, 1896  
Miliolacea EHRENBERG, 1839  
Milioliporidae BRÖNNIMANN and ZANINETTI in  
BRÖNNIMANN, ZANINETTI, BOZORGNIA, DASHTI  
and MOSHTAGHIAN, 1971  
Orthotrinacriinae ZANINETTI, SENOWBARI-DARYAN, CIARAPICA and CIRILLI, n. subfam.  
Type-genus : *Orthotrinacria*, n. gen.

Definition : Same as genus.

Genus *Orthotrinacria* ZANINETTI, SENOWBARI-DARYAN, CIARAPICA and CIRILLI, n. gen.  
Type-species : *Galeanella expansa* ZANINETTI, ALTINER, DAGER and DUCRET, 1982.

**Name :**

Derived from *Trinacria*, the ancient name of Sicily.

**Definition :**

Test free, ophthalmidioid, compressed in axial direction; outline in side view ovate to elliptic. Early stage planispiral, possibly irregular, involute, late stage slightly uncoiled and evolute; globular proloculus followed by chambers of at least half a coil in length, with inflated base and long tubular distal portion as in *Ophthalmidium*. Wall calcareous, porcelaneous, imperforate (?) in early stage; final chamber with thickened wall showing lines and rounded structures (perforations ?) as in *Galeanella*. Aperture single, terminal, with everted rim.

**III. DESCRIPTION OF THE NEW SPECIES*****Orthotrinacria*, n. gen.*****Orthotrinacria gracilis*, n. gen., n. sp.**

Fig. 2 (8, 9);

Holotype, Fig. 2 (8) (also figured in SENOWBARI-DARYAN, SCHÄFER and ABATE, 1982, pl. 24, fig. 7).

1982. *Ophthalmidium* ? sp. SENOWBARI-DARYAN, SCHÄFER and ABATE, pl. 24, fig. 6.

1982. *Ophthalmidium* cf. *O. carinatum* (LEISCHNER). SENOWBARI-DARYAN, SCHÄFER and ABATE, pl. 24, fig. 7 (holotype of *Orthotrinacria gracilis*, n. gen., n. sp.).

**Holotype :**

The specimen in axial section here illustrated by Pl. 1, fig. 8 and by SENOWBARI-DARYAN, SCHÄFER and ABATE, 1982, pl. 24, fig. 7.

It is from sample SENOWBARI-DARYAN F/18.

**Type-locality :**

Cozzo di Lupo near Palermo; NW Sicily (SENOWBARI-DARYAN, 1983, fig. 4).

**Type-level :**

Upper Triassic, Norian.

**Geographic distribution and paleoecology :**

*Orthotrinacria gracilis*, n. gen., n. sp., is only known from the Triassic reefs of NW Sicily.

**Association :**

The new species is associated with *Ophthalmidium* spp., *Ophthalmidium maximum* ZANINETTI, ALTINER, DAGER and DUCRET, 1982 (?), and with *Foliotortus spinosus* PILLER and SENOWBARI-DARYAN, 1980.

**Morphological description :**

The flattened and somehow lenticular test of *Orthotrinacria gracilis*, n. gen., n. sp., consists of a globular proloculus and of long tubular chambers, similar in shape to the chambers of *Ophthalmidium*. It is planispirally coiled and involute in the early stage, slightly uncoiling and evolute in the late stage. The final chamber extends gradually into a tubular elongated neck. The periphery is keeled.

The thick wall is calcareous, porcelaneous and imperforate (?) in the early stage; in the last chamber, it shows slightly sinuous transverse lines, similar to those observed in sections of the last chamber of *Orthotrinacria expansa* [Fig. 1; Fig. 2 (1-7)]. These lines are here interpreted as homologous with the not yet clearly understood structures of the recrystallized wall of *Galeanella*.

The single aperture is terminal and shows a flattened rim.

**Dimensions of the test (in microns) :**

Diameter of the spiral stage : 330.

Length of the collar of the last chamber : 330.

Total length of the axial section : 660.

Maximum thickness : 80.

**Remarks :**

The test of *Orthotrinacria gracilis*, n. gen., n. sp.,

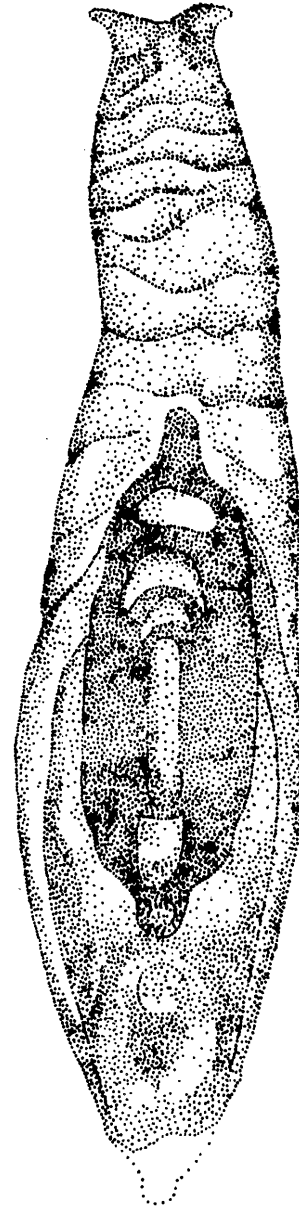
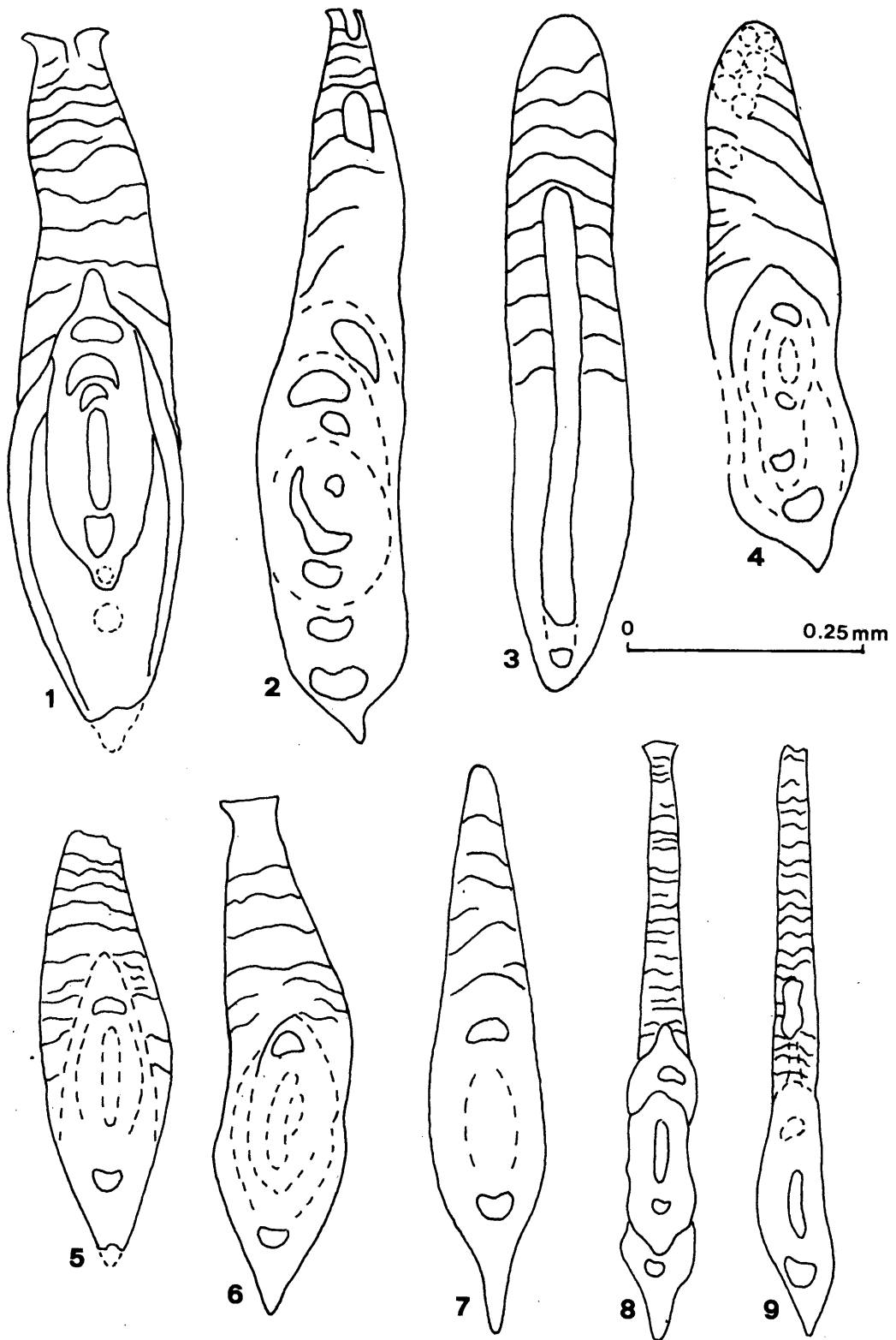


Fig. 1 : Axial outline of a specimen from the type-species of *Orthotrinacria*, n. gen., *Orthotrinacria expansa* (ZANINETTI, ALTINER, DAGER and DUCRET, 1982); sample SENOWBARI-DARYAN P 319, Giardinello, NW Sicily; Norian; 200 x.

Fig. 2 : (1-7) - *Orthotrinacria expansa* (ZANINETTI, ALTINER, DAGER and DUCRET, 1982), type-species of *Orthotrinacria*, n. gen., (3) - tangential section showing the long tubular upper part of the last chamber and the thickened, well structured wall; (4) - specimen showing the lines and rounded structures of the thick wall of the last chamber, as they can be observed in *Galeanella*; (6) - specimen with a very similar outline to the paratype of "*Galeanella*" *expansa*, shown by ZANINETTI, ALTINER, DAGER and DUCRET, 1982, pl. 5, fig. 1. (8, 9) - *Orthotrinacria gracilis*, n. gen., n. sp. 8, holotype. All specimens from Upper Triassic (Norian) reefs of Sicily, samples SENOWBARI-DARYAN : 1, P 319; 2, F 15; 3, Si 14; 4, P 311; 5, Si 223; 6, P. 314; 7, P 70; 8, F 18; 9, P 83.



is similar to the test of a very flat and keeled *Ophthalmidium*; the species can be distinguished from *Orthotrinacria expansa*, the type-species of *Orthotrinacria*, n. gen., by its very flat test and the evolute enrollment which already appears in the spiral portion of the test.

**Remark on the microfauna associated with *Orthotrinacria expansa* :**

- a) In Sicily, *Orthotrinacria expansa* occurs with the Foraminifera :
- Galeanella lucana* MICONNET, CIARAPICA and ZANINETTI, 1983
  - Galeanella variabilis* ZANINETTI, ALTINER, DAGER and DUCRET, 1982
  - Siphonofera pilleri* SENOWBARI-DARYAN, 1983
  - Spiriamphorella districta* BORZA and SAMUEL, 1977
  - Altinerina meridionalis* ZANINETTI, CIARAPICA, DECROUEZ and MICONNET, 1984
  - ? *Hydrania dulloi* SENOWBARI-DARYAN, 1983
  - Ophthalmidium* spp.
  - Paraophthalmidium* spp.
  - Neoendothyra* ? sp.
  - Reophax* ex gr. *tauricus* ZANINETTI, ALTINER, DAGER and DUCRET, 1982
  - and the *Incertae sedis* : *Microtubus communis* FLUGEL, 1964, *Foliotortus spinosus* PILLER and SENOWBARI-DARYAN, 1980, *Paraolisaccus endococcus* SENOWBARI-DARYAN and SCHÄFER, 1980, "*Koivaella permensis*" CHUVASHOV, 1974.
- b) In the Dinarids, the species has been found associated with a very similar group of species, with *Galeanella*, *Spiriamphorella*, *Altinerina*, *Ophthalmidium*, *Paraophthalmidium*, *Neoendothyra*?, *Foliotortus*, *Paraolisaccus*, and also with "*Sigmoilina*" *schaeferae* ZANINETTI, ALTINER, DAGER and DUCRET, 1982, *Kaeveria fluegeli* (ZANINETTI, ALTINER, DAGER and DUCRET, 1982), *Miliolechina stellata* ZANINETTI, CIARAPICA, CIRILLI and CADET, (in press), *Hirsutospirella pilosa* ZANINETTI, CIARAPICA, CIRILLI and CADET (in press) and the *Incertae sedis* *Actinotubella gusici* SENOWBARI-DARYAN, 1984, and *Tubiphytes* sp.
- c) In the Taurus Mountains, it has been mentioned with *Kaeveria fluegeli*, "*Sigmoilina*" *schaeferae*, *Reophax tauricus*, *Paraophthalmidium carpathicum* SAMUEL and BORZA, 1981, *Ophthalmidium* spp., *Galeanella* ? *minuta* ZANINETTI, ALTINER, DAGER and DUCRET, 1982 (possibly *Galeanella variabilis*) *Miliolidae*? *Endothyridae*? *Trochamminidae*? *Nodosariidae*, etc.

#### IV. CONCLUSIONS

The genus *Orthotrinacria*, n. gen., occurring in localities of Sicily, Yugoslavia and Turkey, is considered through its association with *Altinerina*, *Miliolechina*, *Hirsutospirella*, *Foliotortus*, etc., to be characteristic of the reefal facies of the african-arabic margin of the Upper Triassic southern Tethys ("dominio sudappenninico-dinarico e taurico" of PASSERI and ZANINETTI, in preparation).

The type-species of *Orthotrinacria*, n. gen., *Orthotrinacria expansa* (ZANINETTI, ALTINER, DAGER and DUCRET, 1982), is known from the Upper Triassic (Norian) reefs of Sicily, the Inner Dinarids and the Western Taurus. The new species *Orthotrinacria gracilis* n. gen., n. sp., is known so far only from the Norian reefs of Sicily.

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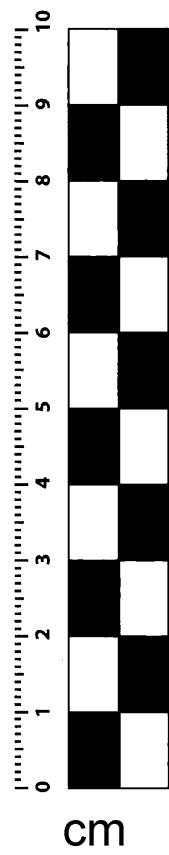
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