

Schizogony in *Dizerina anatolica* Meriç

Engin Meriç

Istanbul Üniversitesi, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, 34840, Avcılar, İstanbul, Turkey

ABSTRACT: Finding of the microspheric individual of *Dizerina anatolica* Meriç containing 6 macrospheric embryos clearly indicates the presence of the schizogonic type reproduction in the Lepidorbitoididae. Location of the haploid macrospheric embryos within the test indicates the generation of these embryos in the rotaloid perieembryonic part, and later, their movements toward the periphery of the test.

INTRODUCTION

The genus *Dizerina* was found, for the first time, in the vicinity of Koyulhisar (Sivas, Turkey; Meriç 1978). In the examined thin-sections, one oblique-equatorial section of a rare microspheric individual was observed to have 6 macrospheric embryos. Two of those are located in the peripheral region of the test and four of them are located in the rotaloidally coiled perieembryonic spiral. This situation, in other words, the schizogonic reproduction of the genus *Dizerina*, is observed for the first time.

This individual, which was fossilized during the schizogony type reproduction, is one of the rarest samples of its kind. Presence of the schizogonic reproduction in benthic foraminifera has been noted by Cassan and Sigal (1961), Meriç (1966, 1970, 1973, 1976), Neumann and Poisson (1970) and Neumann (1972).

As has been noted, the multinucleate microspheric individual produces the macrospheric embryos by means of dividing the cytoplasm (Grasse 1953). These macrospheric embryos move toward the periphery of the test by the dissolution of the chamber walls. Later, these walls are repaired.

DESCRIPTION

The individual of the *Dizerina* under consideration is a microspheric form. The diameter of this individual is 1.20mm in the oblique equatorial section. The rotaloidally-coiled perieembryonic spiral forms roughly half of the test, as similarly seen in the macrospherical forms, and has a diameter of 800µm.

Four of the macrospherical embryos are located in the perieembryonic spiral and two are seen embedded into the lateral chambers (pl. 1, figs. 1, 2). In this section, it is observed that these are either protoconch or deuteroconch implying that these embryos are positioned differently.

The width, height and the wall-thickness measurements are given in table 1.

Some of the macrospheric embryos are located on the chamber walls of the perieembryonic spiral, whereas the others are seen among the lateral chambers. This situation clearly indicates the enzyme activities secreted from the macrospheric embryos as similarly discussed in other cases of the schizogonic reproduction of the Orbitoid foraminifera (Meriç 1966, 1970). By this activity, the chamber walls are dissolved and the macrospheric embryos move toward the periphery of the test. After the passage, the dissolved wall parts are repaired by CaCO₃.

TABLE 1

Measurements of the macrospheric embryos observed within the microspheric individual of *Dizerina anatolica* Meriç fossilized during the schizogony.

Macrospheric embryos	Width (µm)	Height(µm)	Wall thickness(µm)
1	80	64	16
2	64	48	16
3	64	48	16
4	64	48	16
5	80	64	16
6	64	48	16

CONCLUSION

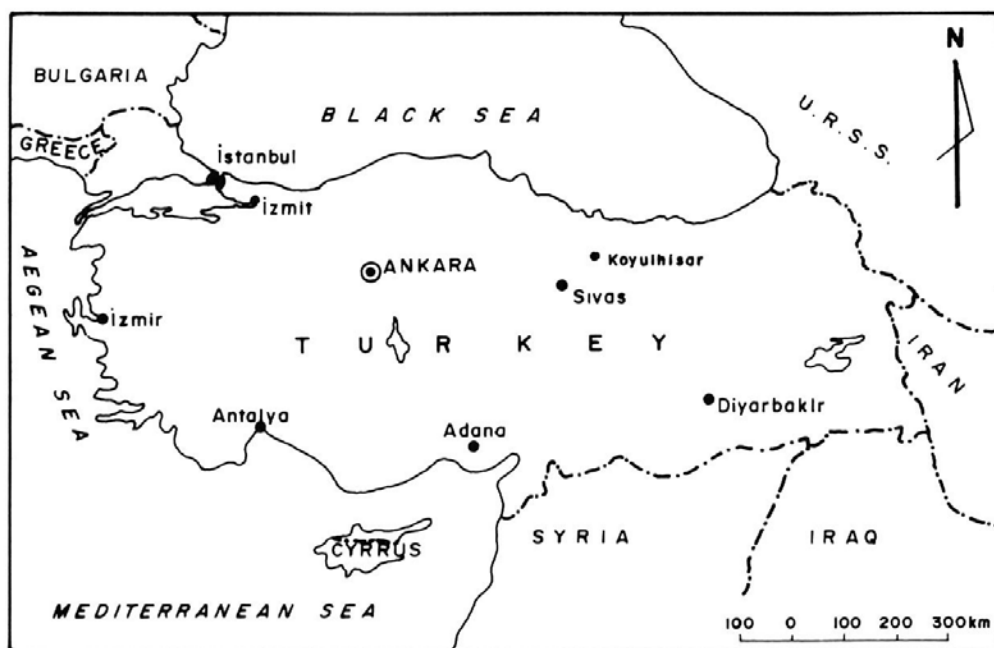
This case of schizogonic reproduction in genus *Dizerina* is new evidence of the presence of the schizogonic reproduction stage of the Orbitoid foraminifera as described by various authors (Cassan and Sigal 1961; Meriç 1966, 1970, 1973, 1976; Neumann and Poisson 1970; Neumann 1972).

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Manuscript received August 15, 1991

Manuscript accepted December 3, 1991



TEXT FIGURE 1
Index map of Turkey showing the location of the Koyulhisar area.



1



2

Plate 1
Dizerina anatolica Meriç

1 Oblique equatorial section of microspheric individual, containing 6 macrospheric embryos, $\times 56$.

2 Enlarged view of the macrospheric and microspheric embryos, $\times 105$.