

RESEARCH ARTICLE

BULIMINELLOIDES: A NEW ROTALIID BENTHIC FORAMINIFERAL GENUS

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ABSTRACT

This study describes a new Eocene Rotaliid genus *Buliminelloides* from Alano section, NE Italy. It is characterized by an elongate subcylindrical triserial perforate calcareous test, chambers regularly triserial throughout, while the final chambers may loosely arrange, surface finely ornamented with wrinkles, which the last-formed chambers often mainly smooth, aperture rounded up the face from the base of the last chamber. The foraminiferal new genus indicates an open marine environment which represents middle bathyal depth (600–1000 m). The new genus *Buliminelloides* differs mainly from the other Buliminid genera by wrinkled rugose ornamented surface than smooth test.

KEYWORDS

Benthic foraminifera, Rotaliid, *Buliminelloides*, Eocene, Italy, Europe

1. INTRODUCTION

The present study is mainly devoted to the systematic description of the new Eocene genus *Buliminelloides* from Alano section, NE Italy (Figure 1).

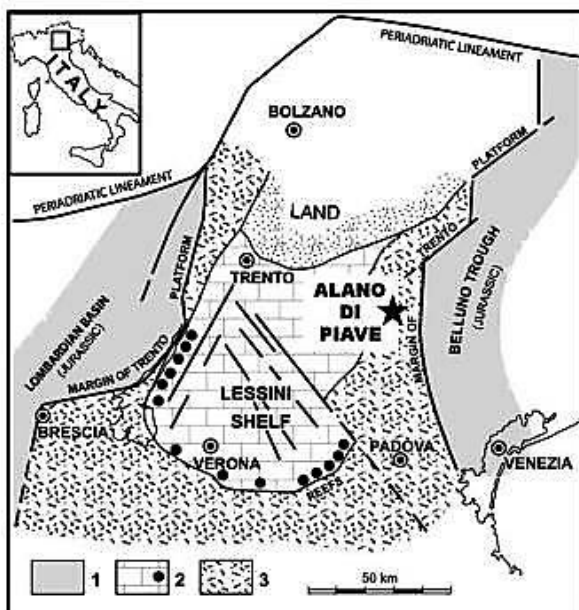


Figure 1: Main paleogeographic elements of the Southern Alps during the Paleogene and location of Alano section (star), 1) deep-water mudstones of the Jurassic basins; 2) Paleogene lagoon and shelf edge reefs; 3) Palaeogene pelagic claystones and marlstones (Galazzo et al., 2013).

The present study aims at throwing light on modern paleontological consideration of the Eocene genus *Buliminelloides* from the Alano section (NE Italy), and to study the holotypes of the described other six genera

related to Suborder Rotaliina Delage and Hérouard (1896): *Bulimina* (d'Orbigny, 1826), *Globobulimina* (Cushman, 1927), *Praeglobobulimina* (Hofker, 1951), *Protoglobobulimina* (Hofker, 1951), *Buliminella* (Cushman, 1911), *Buliminellita* (Cushman and Stainforth, 1947), and *Buliminelloides* Anan, n. gen. (Table 1).

2. FAUNAL DISCUSSION

The *Buliminelloides* Anan n. gen. is compared with other six related Buliminid genera which has a diagnostic character of its an elongate subcylindrical triserial perforate calcareous test, with surface finely ornamented with wrinkles. The new genus *Buliminelloides* differs from other genera of the Families Buliminidae and Buliminellidae by wrinkled rugose ornamented surface than smooth test. It has been necessary to give new name to the specimen after comparison with the types and holotypes of the known genera, which are applies in this study.

3. TAXONOMY

The taxonomic classification of Loeblich and Tappan (1988) of the new genus *Buliminelloides* as well as the other recorded six genera of the Rotaliid benthic foraminifera is followed in this study (Loeblich and Tappan, 1988). The illustrated Buliminid holotypes have been shown in Plate (1).

Order Foraminiferida Eichwald, 1830

Suborder Rotaliina Delage and Hérouard, 1896

Superfamily Buliminacea Jones, 1875

Family Buliminidae Jones, 1875

Genus *Bulimina* (d'Orbigny, 1826), Plate 1, figure 1.

Genus *Globobulimina* (Cushman, 1927), Plate 1, figure 2.

Genus *Praeglobobulimina* (Hofker, 1951) Plate 1, figure 3.

Genus *Protoglobobulimina* (Hofker, 1951) Plate 1, figure 4.

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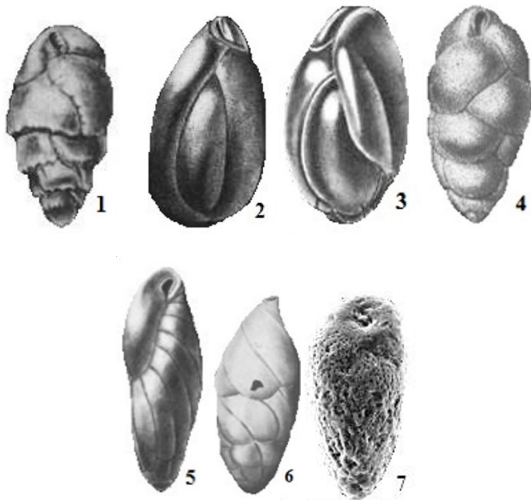
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Family Buliminellidae (Hofker, 1951)

Genus *Buliminella* (Cushman, 1911) Plate 1, figure 5.

Genus *Buliminellita* (Cushman and Stainforth), 1947 Plate 1, figure 6.

Plate 1



Genus *Buliminelloides* Anan, n. gen. Plate 1, figure 7.

Type species: *Bulimina* cf. *semicostata* of (Galazzo et al. 2013), p. 28, plate 1, figure 14.

Buliminelloides italica Anan, n. gen., n. sp.

Holotype: Plate 1, figure 7.

Etymology: after the Republic of Italy.

Stratigraphic level: Middle Eocene of Alano di Piave section, North Italy, 19.30 m (Galazzo et al., 2013) (Figure 2).

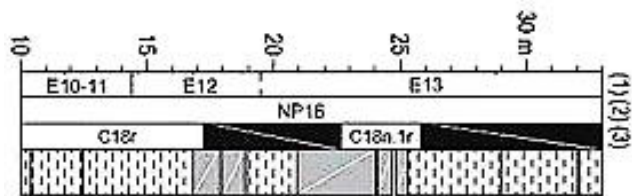


Figure 2: Biostratigraphy (Agnini et al., 2011) following: (1) planktonic foraminiferal zones of Berggren and Pearson (2005), (2) calcareous nannofossil zones of (Martini, 1971), Polarity/Chron (3) after (Agnini et al., 2011). The hatched bands indicate intervals of marked carbonate dissolution (Galazzo et al., 2013).

Diagnosis: The *Buliminelloides italica* Anan n. gen., n. sp. has an elongate subcylindrical triserial perforate calcareous test, with surface finely ornamented with wrinkles.

Remarks: The new genus and its holotype species differs from other genera of the Families Buliminidae and Buliminellidae by wrinkled rugose

ornamented surface than smooth test.

4. PALEOENVIRONMENT

According to a study in 2013, the benthic foraminiferal assemblages at the Alano di Piave section are strongly dominated by calcareous forms throughout the studied interval (~85–98% of the assemblage) (Galazzo et al., 2013). The preservation of benthic foraminifera varies from good, in the lower and upper part of the section, to moderate. According to researchers in 2011, the lower-middle portion of the Alano section, including the studied interval, was deposited at middle bathyal depth (600–1000 m) (Agnini et al., 2011).

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