# *PONCEAMMINA VANCOUVERINGI*, N. GEN., N. SP., (PONCEAMMINIDAE, FORAMINIFERIDA) FROM THE EARLY MIOCENE OF PUERTO RICO

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## ABSTRACT

The new agglutinated foraminiferid genus *Ponceammina* (type species: *P. vancouveringi*) is characterized by an asymmetrical planispiral to low trochospiral test, which may exhibit unequally inflated uncoiling chambers with a terminal slit-like aperture. The new taxon has been retrieved from southwestern Puerto Rico upper bathyal, Early Miocene strata.

## INTRODUCTION

Elucidation of the agglutinated foraminifera, especially the planispiral to low trochospiral forms has been, and still can be, problematic and confusing. This is true even when dealing with well preserved Modern representatives (e.g., Brönnimann and Whittaker, 1988). With pre-Modern forms the problem is compounded by preservation considerations. Loeblich and Tappan (1987) resolved many of the complexities associated with these taxa in their compilation on the Foraminiferida. However, while this compilation was in press, other workers were already identifying, analyzing, and circumscribing yet additional new taxa that were published post the Loeblich and Tappan (1987) volumes. This is evident with the establishment of new agglutinated genera ranging from *Abyssotherma* Brönnimann, Van Dover and Whittaker, 1989, to *Zavodovskina* Brönnimann and Whittaker, 1988, to mention just two.

George A. Seiglie (1926-1988), prior to his death, had compiled data on a number of new taxa, and written preliminary manuscripts on their character and occurrence. Baker and Haman believe it would be a fitting tribute to George to finalize his data and manuscripts and present them to the scientific audience in order that all may benefit from his incisive insights. This article represents the first of these studies.

*Ponceammina vancouveringi* n. gen., n. sp., possesses a distinctive test, which distinguishes it from other agglutinated taxa. These distinctive morpho-characters justify the establishment of the new genus. In addition, the morpho-characters that circumscribe the new genus also serve for the establishment of a new family, the Ponceamminidae, within the Lituolacea de Blainville, 1827. The new taxon was retrieved from samples collected by G. A. Seiglie and M.T. Moussa, while at the University of Mayaqüez. The samples were taken from the "Angola" Limestone of Early Miocene age, *Paragloborotalia kugleri* Zone, west of Ponce, southwestern Puerto Rico. The samples were designated Moussa Stations L-349 and L-381. The illustrated holotype and 15 paratypes were all retrieved from Moussa Station L-381 (Text-figure 1).

## SYSTEMATICS

### PONCEAMMINIDAE Seiglie, n. family

*Description:* Early chambers in evolute asymmetric planispiral to low trochospiral coil, generally followed by uniserial chambers; aperture slitlike, terminal; wall composed of adventitious material, mostly skeletal fragments, agglutinated with calcareous cement.

*Remarks:* The asymmetric evolute planispiral test with calcareous cement differentiates this family from other families within the Lituolacea.

*Type genus: Ponceammina* Seiglie, n. gen.

### PONCEAMMINA Seiglie, n. genus

*Description:* Test free, large, elongate; chambers arranged in an asymmetric, evolute planispire or very low trochospire, generally followed by one or more uncoiled rectilinear chambers, which are unequally inflated; aperture slitlike, terminal and peripheral in spiral forms and terminal in uncoiled forms; wall thick, composed of adventitious, mostly skeletal, material, with calcareous cement.

*Remarks:* The nature of the cementing medium and asymmetrical planispiral coil-

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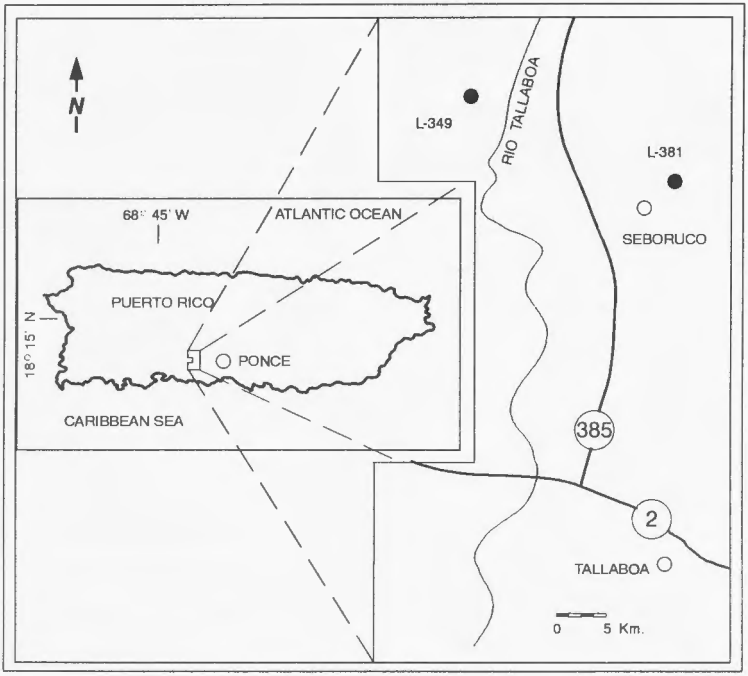


Text-figure 1. Location of sample localities L-349 and L381, northwest of Ponce, Puerto Rico.

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PLATE 1

PONCEAMMINA VANCOUVERINGI Seiglie, n. gen., n. sp.

Figure 1. Serial axial sections of paratype 1 from periphery to umbilical area to illustrate sub-planispiral to low trochospiral coiling mode.

Figure 2. Serial axial sections of umbilical area of paratype 2 to illustrate trochospiral type of coiling.

Figure 3. Longitudinal section of paratype 14.

Figure 4. Holotype; 4a, 4c, side views of respective inflated and non-inflated sides; 4b, edge view.

All specimens from type locality (Moussa Station L-381) southwestern Puerto Rico. Magnifications indicated by bar scale.

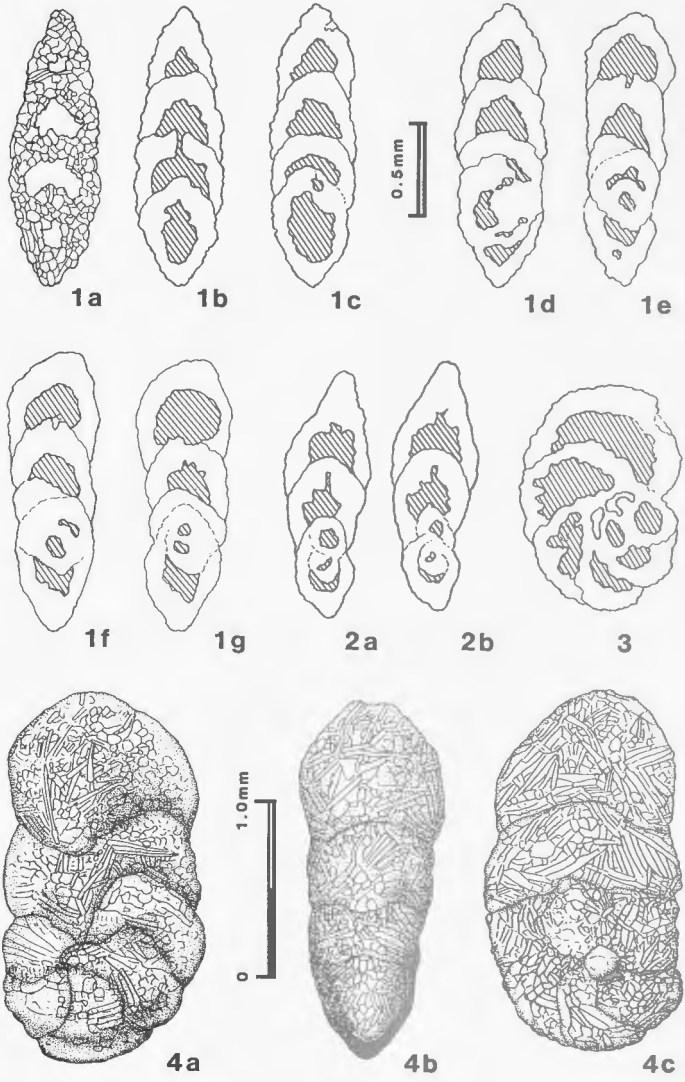


PLATE 1

ing mode differentiate this genus from others in the superfamily.

*Type species: Ponceammina vancouveringi* Seiglie, n. sp.

*Stratigraphic level:* Early Miocene, *Paragloborotalia kugleri* Zone.

*Etymology:* Generic name derived from Ponce, a city located in southern Puerto Rico, type locality of taxon, and from the Greek *ammos* (sand), and the Latin diminutive-*ina*.

PONCEAMMINA VANCOUVERINGI
Seiglie, n. sp.
Plate 1, figures 1a - 4c

*Description:* Test free, large, elongate, initial chambers arranged in asymmetrical evolute planispire to low trochospire, consisting of two whorls with four to five chambers per whorl; adult forms with one to four uncoiled rectilinear chambers, each unequally inflated, with subtriangular to subquadrate outline in transverse view, inflated portion extending onto the umbilical side of the spire; aperture a peripheral slit on the ultimate spiral chamber, situated along or oblique to the spire periphery, or a terminal slit in the ultimate uncoiled chamber; wall thick, composed of coarse skeletal fragments, mostly sponge spicules and coccoliths, with occasional sand grains, agglutinated with calcareous cement.

*Dimensions:* 1.5 to 4.6 mm length in adult specimens.

*Remarks:* This species is distinguished from other forms in the superfamily on coiling mode, nature of wall cementation and wall composition. The form occurs in association with *Planulina renzi* Cushman and Stainforth, *P. subtenuissima* (Nuttall), *Almaena zigzag* (Galloway and Heminway), *Uvigerina mexicana* Nuttall, *Osangularia mexicana* (Cole), *Cibicidoides mexicanus* (Nuttall), *Clavulinoides* cf. *marielinus* Cushman and Bermúdez, *Textulariella jarvisi* (Cushman and Todd) *Tritaxilina suturata* Bermúdez, *Rectuvigerina stonei* (Bermúdez), and others. This assemblage indicates an upper bathyal paleoenvironment, based on the data presented by Morkhoven *et al.*, (1986). The specific diversity of the planktic foraminifers supports this conclusion. Planktic representatives include *Globigerinoides primordius* Banner and Blow, *Globoquadrina venezuelana* (Hedberg), *G. tripartita* (Koch), *Globigerina ciperoensis* Bolli, *G. binaiensis* Koch, *Paragloborotalia kugleri* (Bolli), *P. siakensis* (LeRoy) and *P. mayeri* (Cushman and Ellisor). It is worth noting here that this microfaunal assemblage is reminiscent of the microfauna documented from the lower Sombrerito Formation of the Dominican Republic by Bermúdez, 1949.

*Stratigraphic level:* Early Miocene, *Paragloborotalia kugleri* Zone.

*Etymology:* The specific name is given in honor of Dr. John van Couvering of the American Museum of Natural History, New York.

## ACKNOWLEDGMENTS

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