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ACCEPTED 18 FEBRUARY 1988
Fusulinid Biostratigraphy, Inc., provided $200.00 in support of this article.

J. Paleont., 62(4), 1988, pp. 529-531

0022-3360/88/0062-0529$03.00

GLOBULOSPINELLA, A NEW UNILOCULAR FORAMINIFERAL GENUS, AND DESIGNATION OF A NEOTYPE FOR *PALLIOLATELLA AVITA* PATTERSON AND RICHARDSON

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ABSTRACT- *Globulospinella*, a new foraminiferal genus of the Lageninae, differs from other genera of the subfamily by having a surface sculpture consisting of numerous elongate processes on a globular test. *Globulospinella porcuspina* n. sp., the type species, is described. A neotype for *Palliolatella avita* Patterson and Richardson, the type species of *Palliolatella* Patterson and Richardson, is designated.

INTRODUCTION

UNILOCULAR FORAMINIFERA have long been largely ignored by most foraminiferal researchers due to their generally high diversity and low abundances in most samples. However, three recent major taxonomic revisions (Jones, 1984; Patterson and Richardson, 1987; Patterson and Richardson, 1988) of the long-ranging group will greatly aid taxonomists and stratigraphers to better understand and utilize the family in biostratigraphic and paleoecological studies. Patterson and Richardson (1987; Patterson and Richardson, 1988) largely based their revisions on wall structure, porosity, test shape, apertural configuration, carinal development, and surface sculpture. While examining Miocene samples from DSDP Site 357 (Leg 39), specimens of a new unilocular species were observed which, utilizing the above criteria, are not referable to any previously described genus.

The holotype of *Palliolatella avita* Patterson and Richardson, 1987, the type species of *Palliolatella* Patterson and Richardson, 1987, was lost enroute to the U.S. National Museum. A neotype is herein designated from amongst the paratypes.

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MATERIALS AND METHODS

Specimens of *Globulospinella* described in this paper were from DSDP Site 357 (Leg 39) on the Rio Grande Rise, southwest Atlantic Ocean, lat. 30°00.25'S, long. 35°33.59'W. The core level was core 6, section 5, 72-88 cm (Miocene). Illustrations were made with an ISI Super-111A scanning electron microscope and Polaroid NP 55 film.

The holotype, neotype, and figured paratype are deposited in the U.S. National Museum of Natural History, Washington, D.C.

SYSTEMATIC PALEONTOLOGY

Suprageneric classification follows that of Patterson and Richardson (1987).

Family LAGEN1DAE Reuss, 1862
Subfamily LAGENINAE Reuss, 1862
Genus GLOBUWSPlNELLA n.gen.

Type species. - *Globulospinella porcuspina* n. sp.

Diagnosis. -A genus of Lageninae with test surface sculpture consisting of elongate processes.

Description. - Test free, unilocular, elongate to globular, circular in cross section; wall calcareous, hyaline to translucent,

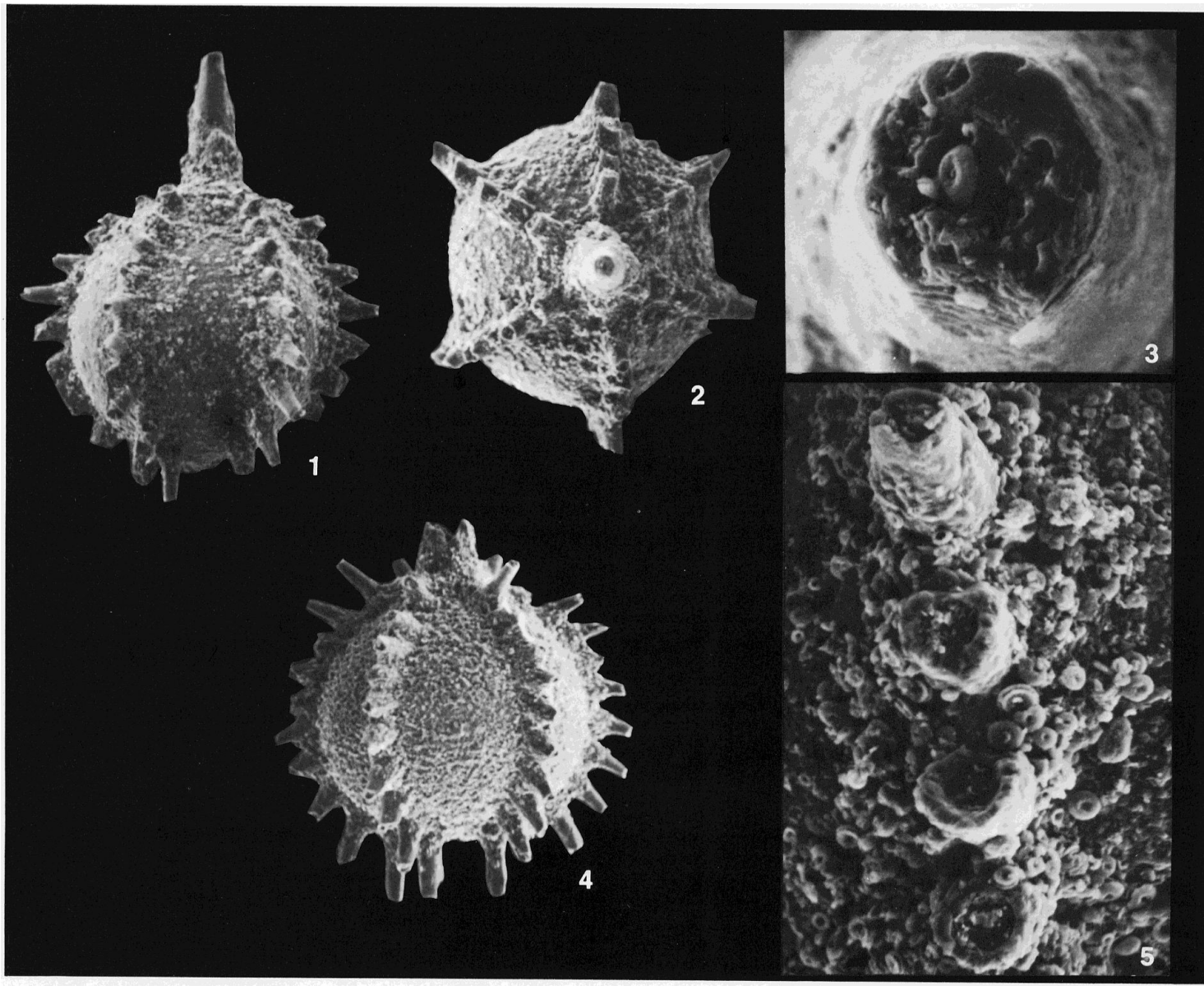

FIGURE 1-1-5, *Globulospinella porcuspina* n. sp., 357-6-5, 72-88 cm, Miocene. 1, side view of holotype (USNM 408768) showing elongate neck, x 120; 2, apertural view showing circular section and six rows of longitudinal tubules, x 150; 3, enlargement of circular aperture, x 1,600; 4, side view of paratype (USNM 408769) showing rows of elongate tubules, x 125; 5, enlargement of hollow tubules, x 1,000.

finely perforate; elongate, hollow or solid, processes on the outer test wall may be longitudinally aligned in rows, or randomly dispersed; aperture terminal, circular or radiate.

Range. -Paleocene to Recent (based on a literature search).

Etymology.-From the Latin, *globus,* ball, globulus, diminutive, bead; *spina.* thorn, *-ella,* diminutive, with reference to the characteristic processes of the genus.

Remarks. -*Globulospinella* differs from *Lagena* Walker and Jacob, 1798, which has a surface sculpture of longitudinal costae, and from *Pygmaeoseistron* Patterson and Richardson (1988), which is characterized by a smooth to hispid surface, in having a surface sculpture of elongate processes. *Cushmanina* R. W. Jones, 1984, differs from the present genus in having punctae within longitudinal costae, and *Lagnea* Popescu, 1983, differs by its compressed cross section.

GLOBULOSPINELLA PORCUSPINA n.sp.

Figure 1

Diagnosis. - A subglobular species of *Globulospinella* with six longitudinal rows of projecting hollow tubules.

Description. - Test free, unilocular, subglobular; wall calcareous, translucent, smooth, finely perforate; six longitudinal rows of 9-12 evenly spaced, hollow, elongate processes extending from the bottom to the base of the narrow, elongate neck; aperture terminal, small, and round.

Etymology. - From the Latin, *porcus,* hog, and *spina,* thorn;

porcupine, with reference to the longitudinal rows of projecting tubular processes.

Species dimensions.-Maximum length, 600 µm; maximum width, 475 µm.

Material. - Two specimens.

Types and occurrence.-Holotype (USNM 408768) and figured paratype (USNM 408769) from core 6, section 5, 72-88 cm, Miocene. Rare in a single Miocene sample.

Remarks.-Globulospinella porcuspina is most similar to *Lagena crowley* Martin, 1943, differing in the fewer longitudinal rows of processes, and the lack of papillae on the neck in the present species. *Lagena clavulus* Heron-Allen and Earland, 1922, differs from the present species in having the entire surface of the test covered with bolt-like projections rather than these being arranged in six longitudinal rows, and *Lagena vikensis* Hessland, 1943, differs from *Globulospina porcuspina* in possessing a greater number afrows of processes, with randomly dispersed processes between.

Subfamily ELLIPSOLAGENINAE Silvestri, 1923

Genus PALLIOLATELLA Patterson and Richardson, 1987

PALLIOLATELLA AVITA Patterson and Richardson, 1987

Palliolatella avita PATTERSON AND RICHARDSON ,1987 p. 219, Pl. 2, figs. 4-7, Pl. 5, figs. 3,4.

Remarks. The holotype of *Palliolatella avita,* the type species of *Pallialatella,* was lost enroute to the U.S. National Museum. A neotypc (USNM 410834) is herein designated from amongst the unfigured paratypes (USNM 383354) from the Bergstrom Formation, Taylor Group, Cretaceous, on the right (east) bank of Onion Creek, at Moore and Berry's Crossing, just downstream from the iron bridge of Burleson Road, southeast of Austin, Travis County, Texas.

ACKNOWLEDGMENTS

This research was supported by a NSERC Postgraduate Scholarship. The Department of Earth and Space Sciences, University of California, Los Angeles, and Geological Society of America Research Grant 3640-86 provided funds for the purchase of Polaroid film. Samples from the Deep Sea Drilling Project were supplied through the assistance of the National Science Foundation. NSF Grant EAR-8306170 to A. R. Loeblich, Jr., and H. Tappan provided support and use of the scanning electron microscope. Acknowledgment is made to the Donors of the Petroleum Research Fund, administered by the American Chemical Society, for the partial support of this research under PRF 16479-4C2. I also would like to thank A. R. Loeblich, Jr., and H. Tappan, for critically reviewing the manuscript.

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ACCEPTED 5 JANUARY 1988