AMMOPEMPHIX LACUSTRIS N.SP. (FORAMINIFERIDA) FROM LAC DES ALLEMANDS, LOUISIANA

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ABSTRACT

Ammopemphix lacustris, n.sp., is recorded from Lac des Allemands, a fresh to brackish water lake located on the upper deltaic plain of the Mississippi Delta. The new species is compared to, and differentiated from, other species assigned to this genus. The relationship of this genus to a homeomorphic Paleozoic genus is discussed.

The occurrence of the genus *Ammopemphix* Loeblich, 1952, has been documented from cold waters in both the northern and southern hemispheres (Loeblich and Tappan, 1964). In the southern hemisphere Wiesner (1931) recorded *A. quadrupla* (as *Urnula quadrupla)* from 66°00'S, 89°31'W in the Weddell Sea at a water depth of 385 meters, and Earland (1934, p. 67) documented the same species as "a few specimens on a stone from 152 meters at St. WS 482," Antarctica. In the northern hemisphere Cushman (1933) noted *A. arctica* from a water depth of seven fathoms off northeast Greenland. Consequently, to date, published records indicate that the genus may be regarded as a cold water marine form, which lives at water depths in excess of 12 meters.

The purpose of this article is to document the presence of the genus in a fresh to brackish water lacustrine subenvironment in Louisiana, indicating that the genus has a more cosmopolitan distribution than previously believed. This ecologic differential, plus the difference in test wall composition of this species compared to other described *Ammopemphix* species, justifies the establishment of a new species.

SYSTEMATIC DESCRIPTION

Order
FORAMINIFERIDA Eichwald, 1830
Suborder TEXTULARINA
Delage and Herouard, 1896
Superfamily
ASTRORHIZACEA Brady, 1881
Family HEMISPHAERAMMINIDAE
Loeblich and Tappan, 1961
Subfamily HEMISPHAERAMMININAE
Loeblich and Tappan, 1961
Genus *AMMOPEMPHIX* Loeblich, 1952

AMMOPEMPHIX LACUSTRIS sp. nov.
Text figs. 1-3

Description: Test free, formerly attached, multilocular, sub-ovate in outline with lobulate periphery, plano-convex in side view; composed of four agglomerated equisized, subglobular, closely adpressed chambers, arranged in a symmetrical pattern; dorsal side convex, vertical side flat to very slightly concave, junction between dorsal and ventral sides angular, dorsal sutures depressed, distinct, ventral sutures indistinct, flush; aperture a single circular to irregular opening, at dorsal summit of each chamber, raised slightly above chamber surface: test wall rough, predominantly composed of randomly arranged siliceous spicules with minor fine-grained arenaceous material; ventral surface with thin, easily ruptured, translucent membrane.

Test dimensions: Maximum diameter 580 μm; Height 200 m.

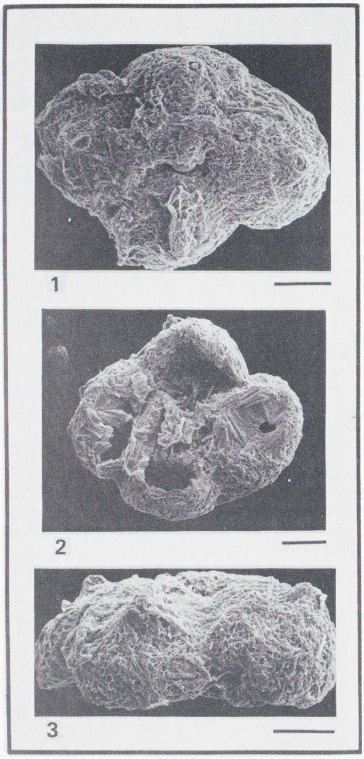
Type Locality: Lac des Allemands, Louisiana, approximately two miles south of Pointe aux Herbes and 3.5 miles due west of Baie des Deux Chenes.

Locality environmental parameters: Water depth 2.13 meters, surface water temperature 29.0°C, salinity 0.01‰; sediment - water interface temperature 27.0°C; salinity 1.34‰.

Stratigraphic level: Modern.

Associated microfauna: Centropyxis constricta (Ehrenberg), *C. ecornis* (Ehrenberg), *Difflugia capreolata* Penard, *D. mitriformis* Wallich, *D. oblonga* Ehrenberg, *D. pyriformis* Perty, *D. urceolata* Carter, *Lesquereusia modesta* Rhumbler, *Pontigulasia compressa* (Carter), *Ammotium morenoi* (Acosta), *Ammobaculites* spp.

Comparison: This species exhibits similarity in overall shape to *A. arctica* (Cushman, 1933, pl. 1, figs. 2a, 2b, *non* figs. 1a-1c) and *A. quadrupla* (Wiesner 1931, pl. 6, figs. 56-57). Conversely the material composing the test wall of these two species differs significantly from that of *A. lacustris* n.sp. The test wall of both *A. quadrupla* and *A. artica* is predominantly composed of fine-grained arenaceous material (fide Loeblich and Tappan, 1964) whereas in *A. lacustris* it is pre-



Text figures 1-3. *Ammopemphix lacustris*, n.sp., (holotype) (1) dorsal view, (2) ventral view, (3) side view; scale bar = 100 μm.

dominantly composed of siliceous spicules with only minor fine-grained arenaceous material.

Discussion: Loeblich and Tappan (1964, p. C202) categorize the genus *Ammopemphix* as having a test in which the chambers are "usually symmetrically arranged with few chambers in a single whorl, or with outer ring of chambers." The use of the term "whorl," which the same authors define *(ibid.*, p. C65) as "a single turn or volution of coiled test" suggests an organized growth mode. Haynes (1981, p. 102) refers to *Ammopemphix* as a "pseudocolony" and consequently regards this genus as a synonym of the unilocular genus *Colonammina* Moreman, 1930. We have retrieved in excess of 40 *Ammopemphix* specimens from Lac des Allemands. These specimens exhibit a variation in chamber number from one to four, with a few specimens having in excess of ten chambers. A manuscript in preparation documents the variability exhibited by this taxon. Based on our specimens we agree with the observation of Haynes (1981) and conclude that *Ammopemphix* does in fact represent a random agglomeration of single chambers. Any test symmetry or appearance of growth habit we believe to be purely fortuitous.

At present, however, we are hesitant to refer our specimens to the genus *Colonammina* Moreman because this genus has only been recorded from Paleozoic strata (Conkin and Conkin, 1982). Loeblich and Tappan (1964) and Haynes (1981) extend the range of *Colonammina* Moreman to the Recent. Apparently the reason for this range extension is their subjective inclusion of the Modern genus *Psammoscene* Rhumbler *in* Wiesner, 1931 (*Psammoscene* Thalmann, 1934) in the synonomy of *Colonammina* Moreman (*fide* Loeblich and Tappan, 1964). We are of the opinion that *Psammoscene* Thalmann, originally retrieved from Recent sediments obtained during the German Southpolar Expedition (1901-1903) is more appropriately included in the synonomy of *Ammopemphix*. We also believe that this synonomy has greater validity due to the fact that we have retrieved single chambered *Ammopemphix* forms from our Recent sediments. We see little merit in uniting a Recent genus with one from the Paleozoic, especially when occurrences of the taxon from intervening intervals have not been documented. Our approach therefore restricts *Colonammina* Moreman to the Paleozoic and unites the Recent forms under the name *Ammopemphix* Loeblich, 1952.

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ON A REDUNDANT GENERIC ASSIGNMENT OF *TEXTULARIA FLORIDANA* CUSHMAN, 1922

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Textularia floridana was first described from shallow waters off Florida (Cushman, 1922). Since that time the species has been documented from widespread areas of the world (Halicz and Reiss, 1979). Cushman's assignment of this species to the genus *Textularia* Defrance *in* de Blainville, 1824, has not been accepted by a number of students. For example, Phleger and Parker (1951) assigned their Gulf of Mexico individuals to the genus *Spiroplectammina* Cushman, 1927, and Hofker (1969) placed his Barbados specimens in the genus *Septigerina* Keijzer, 1941. This latter designation immediately extended the range of the Eocene genus *Septigerina* Keijzer, to the Modern.

Halicz and Reiss (1979) documented Red Sea Textulariidae and in this work reviewed the species *Textularia floridana* Cushman. Based on their review, they (*ibid.*) selected this species as the type for their new genus *Neoseptigerina*. The new genus was distinguished from *Septigerina* Keijzer by the character of the interseptal secondary speta (Halicz and Reiss, 1979).

Textularia floridana Cushman was also selected by Mikhalevich (1981) as type for the new genus *Fissotextularia*. The establishment of the genus *Fissotextularia* Mikhalevich is redundant as it is a junior objective synonym of *Neoseptigerina* Halicz and Reiss (1979) (ICZN. Art. 61b). Consequently, the species *Textularia floridana* Cushman should be retained in the senior synonymic genus (ICZN Art. 67e).

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