# FORAMINIFERA FROM MURRAY ISLAND, AUSTRALIA.

By Joseph A. Cushman.

Five lots of material containing foraminifera from Murray Island in the Barrier Reef region of Australia, collected by Dr. A. G. Mayer, were submitted to me by Doctor Vaughan for determination. All were from shallow water and while interesting and rich in the numbers of individuals, the foraminifera belong to comparatively few species.

A comparison with similar conditions in the West Indies is interesting. In the latter region the most common species is *Orbiculina adunca*, a species wanting in the Murray Island material, where the commonest species of any size is *Tinoporus baculatus*. The absence of the very common *Reophax scorpiurus* in the Murray Island material is also worthy of mention. Certain common East Indian and Australasian species such as *Heterostegina depressa*, *Rotalia calcar*, *Calcarina hispida*, *Polystomella craticulata*, and *Quinqueloculina parkeri* are characteristic of the material.

The material of the five lots was from two different lines run on the reef and will be referred to in the list as Nos. 1 to 5 as follows: 1, line I, 200 feet; 2, line I, 600 feet; 3, line I, 1,200 feet; 4, line I, 1,600 feet; 5, line III, 1,700 feet from shore.

Following is a list of the species determined with descriptions of three species which seem to be new.

**Textularia agglutinans** d'Orbigny. Uncommon at station 5.
**Textularia rugosa** Reuss. Frequent, stations 1, 3, 4, 5.
**Bolivina punctata** d'Orbigny. Rare at station 5.
**Clavulina angularia** d'Orbigny. Rare at station 5.
**Discorbis polystomelloides** Parker and Jones. A single specimen of this rare species was obtained in the material from station 3. The type specimen was from Australian coral reefs and it has been recorded at but a few stations in the southern Pacific in shallow water.
**Discorbis rugosa** d'Orbigny. Single specimens from stations 1 and 3.
**Cymbalopora pœyi** d'Orbigny. Frequent at stations 1, 3, and 5.
**Planorbulina larvata** Parker and Jones. Rare at station 5.
**Truncatulina pygmæa** Hantken. Rare at station 2.
**Truncatulina culter** Parker and Jones. Rare at station 5.
**Anomalina grosserugosa** Gumbel. Rare at station 3.
**Pulvinulina berthelotiana** d'Orbigny. Rare at station 1.
**Rotalia beccarii** (Linne). Few specimens at station 5.
**Rotalia calcar** d'Orbigny. Abundant in all the material.
**Polytrema mineaceum** (Linn.). Occurs as incrusting patches on most dead coral. (See plate 97, figs. 1, 1*a*.)
**Calcarina hispida** H. B. Brady. Frequent at stations 1 and 5.
**Calcarina spengleri** (Linne). Scattered specimens in all the material.
**Tinoporus baculatus** (Montfort) Carpenter. Abundant in all the material.
**Polystomella macella** (Fichtel and Moll). Frequent throughout.
**Polystomella craticulata** (Fichtel and Moll). Frequent throughout.
**Amphistegina lessonii** d'Orbigny. Common at all the stations.
**Heterostegina depressa** d'Orbigny. A few specimens at stations 3 and 5.
**Spiroloculina grata** Terquem. A few scattered specimens throughout.
**Spiroloculina grata** Terquem, var. **angulata** Cushman. A few specimens at station 1.

**Spiroloculina elegans** new species. (Plate 96, figs. 1*a*, 1*b*, 2). Test 1.5 times as long as wide, much compressed, peripheral margin broadly rounded, apertural end somewhat exserted, rounded, sutures distinctly depressed, wall ornamented with a regular pattern of elliptical depressions arranged in rows longitudinally, the depressions of each row alternating regularly with those of the adjacent rows. Length from 0.85 to 1.15 mm. This species reminds one somewhat of some of the species of the Paris Basin described by Terquem, but seems to be distinct from any of those species. It occurred in some numbers at stations 1 and 2. It is close to **S. foveolata.**

**Quinqueloculina bicarinata** d'Orbigny. A few specimens at station 3.

**Quinqueloculina bicornis** (Walker and Jacob). Rare at station 2.

**Quinqueloculina boueana** d'Orbigny. Fairly frequent at stations 1 and 2.

**Quinqueloculina parkeri** H. B. Brady. Frequent throughout.

**Quinqueloculina reticulata** d'Orbigny. Scattered specimens throughout.

**Triloculina oblonga** d'Orbigny. A few specimens at station 2.

**Triloculina circularis** d'Orbigny. Frequent at station 2.

**Triloculina tricarinata** d'Orbigny. A few specimens at station 2.

**Triloculina bertheliniana** H. B. Brady. Specimens of this very rare species occurred at stations 4 and 5.

**Triloculina terquemiana** H. B. Brady. Specimens were found at stations 2 and 3.

**Triloculina linneiana** d'Orbigny. Few specimens at stations 1 and 2.

**Triloculina striolata** new species. (Plate 96, figs. 3*a*, 3*b*, 3*c*). Test 1.5 times as long as wide; peripheral margin distinctly carinate, sutures distinct, slightly depressed; face of the chambers in front view fairly tumid, broad, apertural end but very slightly if at all exserted, the aperture broad, oval, with a rather stout, bifid tooth; surface of the test ornamented with very fine, somewhat broken, obliquely longitudinal striations. Length 1 mm. A few specimens from station 2.

**Triloculina subgranulata** new species. (Plate 96, figs. 4*a*, 4*b*, 4*c*). Test slightly longer than broad, chambers very tumid, sutures much depressed, peripheral margin broadly rounded, apertures hardly exserted aperture broadly rounded, with a simple or occasionally bifid tooth, surface very finely granular. Length 0.75 to 0.90 mm. Specimens not rare at station 2

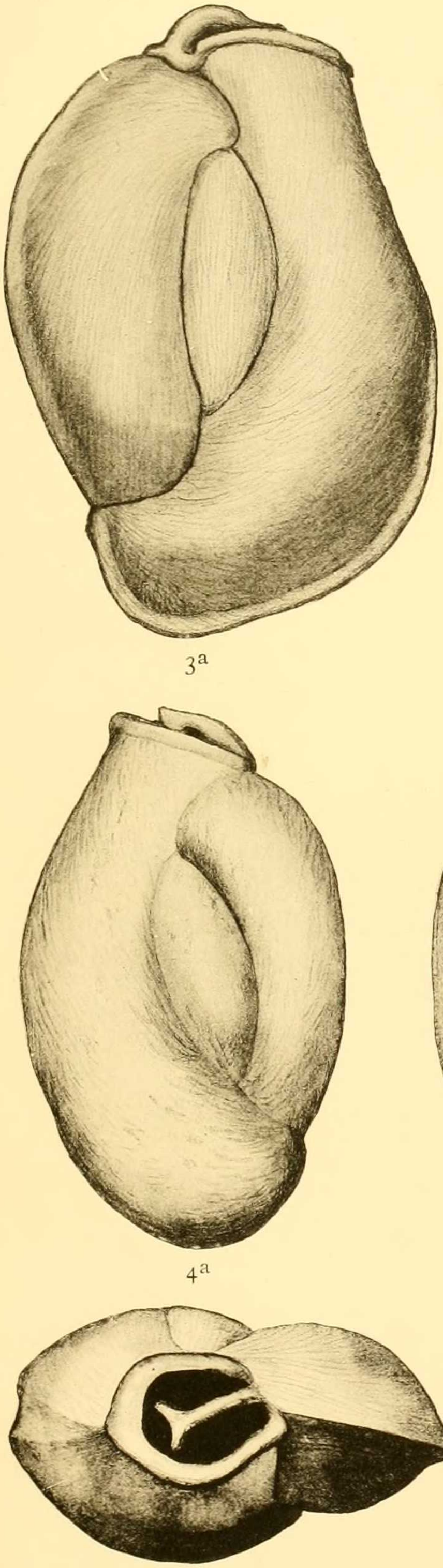
**Peneroplis pertusus** (Forskål). The typical form of the species was present at stations 1, 2, and 5.

**Peneroplis pertusus** (Forskål), var. **arietinus** (Batsch). Specimens at station 5.

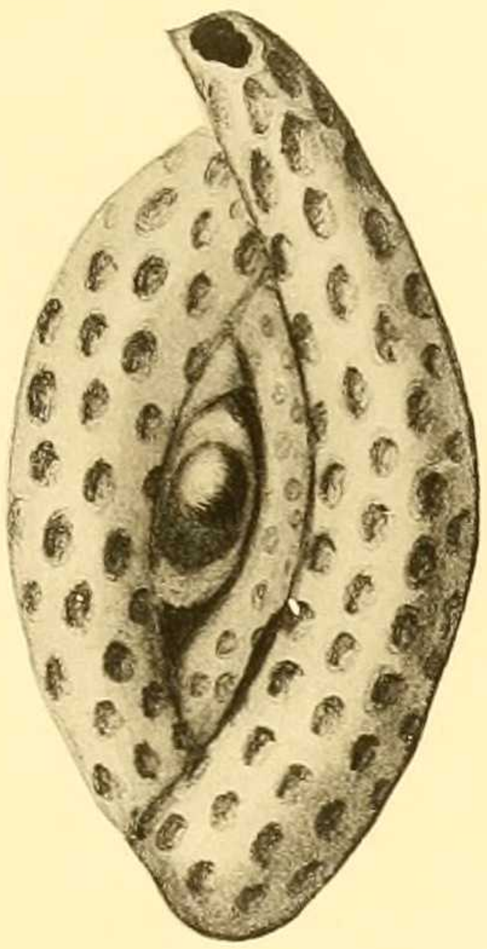
**Peneroplis pertusus** (Forskål), var. **planatus** (Fichtel and Moll). Several specimens from station 2.

**Orbitolites duplex** Carpenter. Few specimens from all the stations, some showing the wing-like secondary growth so frequent in this species. Not as common as the following.

**Orbitolites complanata** (Lamarck). Frequent at all the stations but the specimens small in size.



3a



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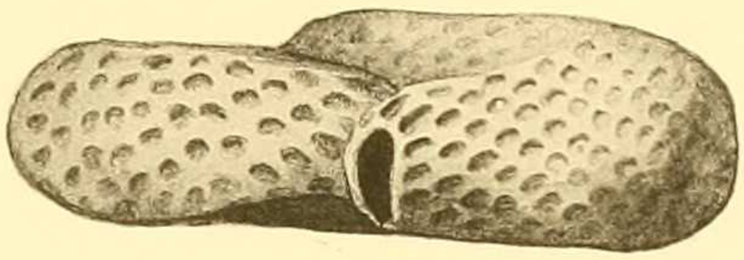

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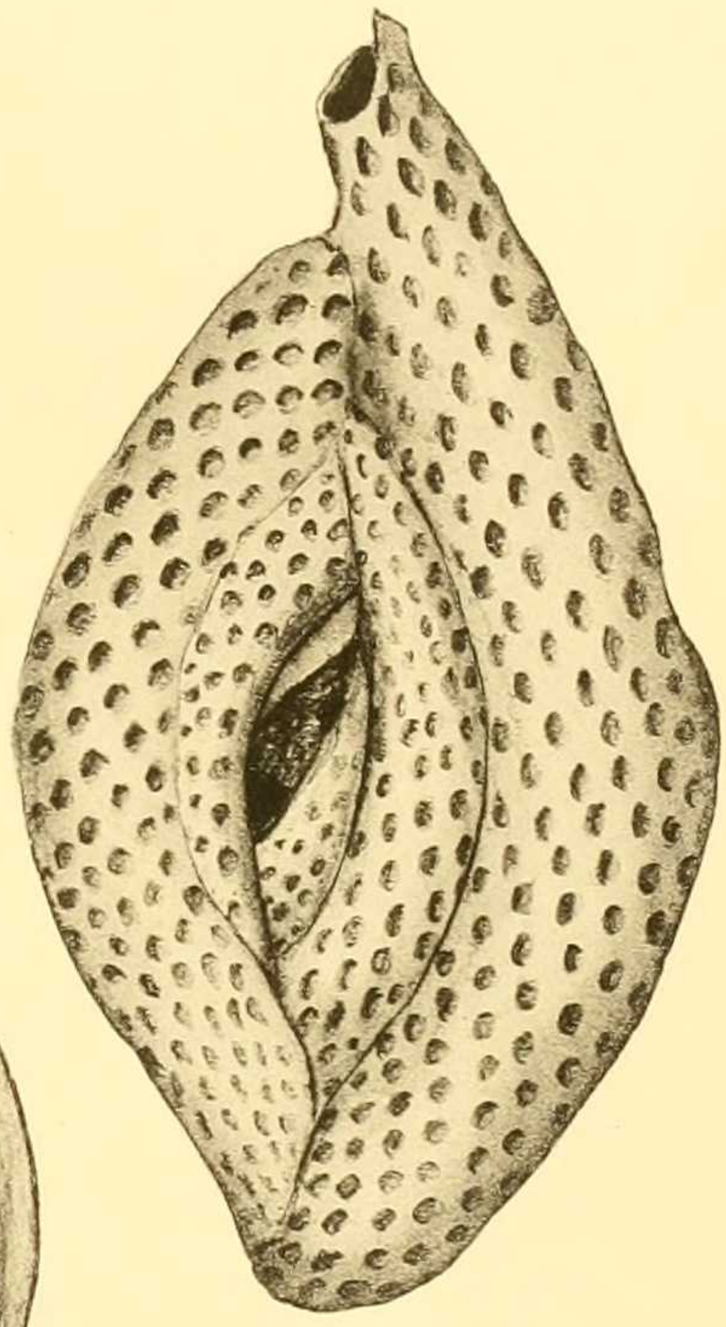
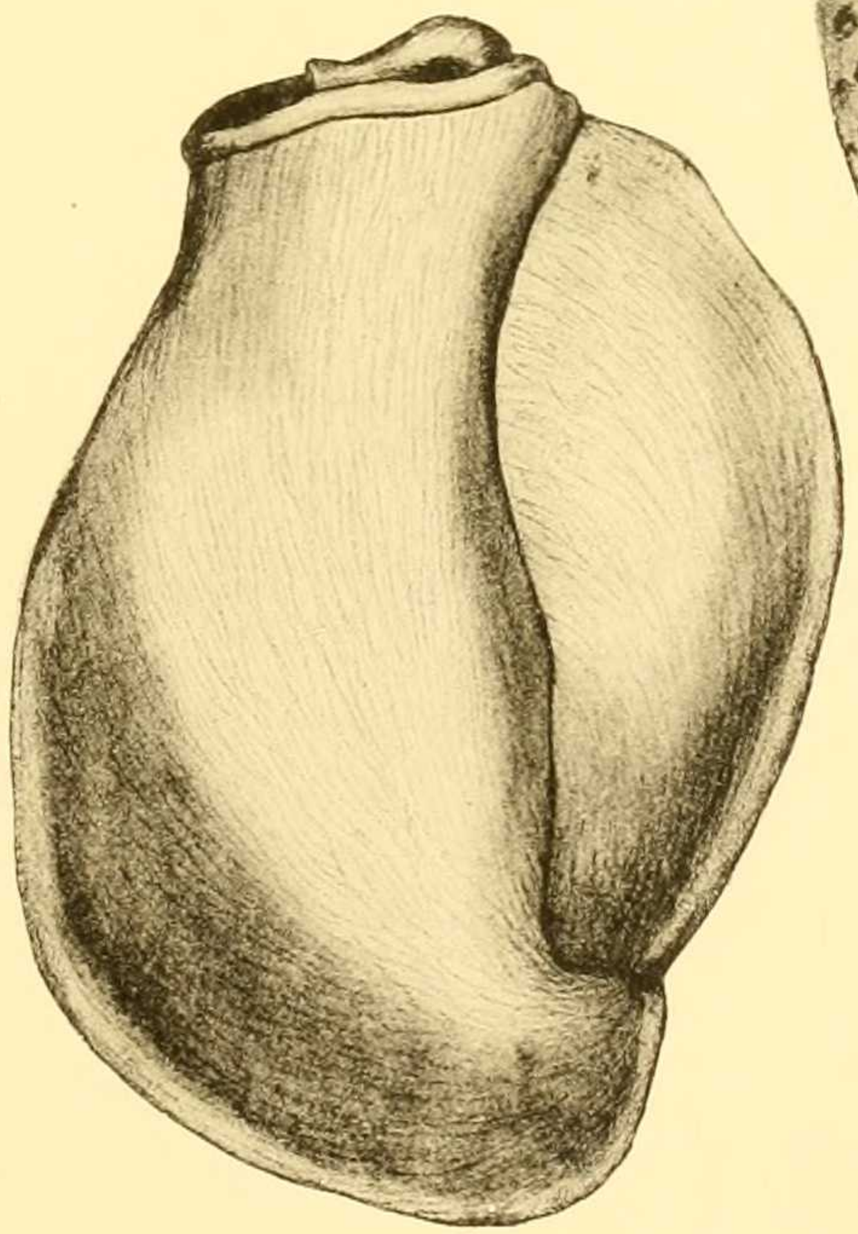


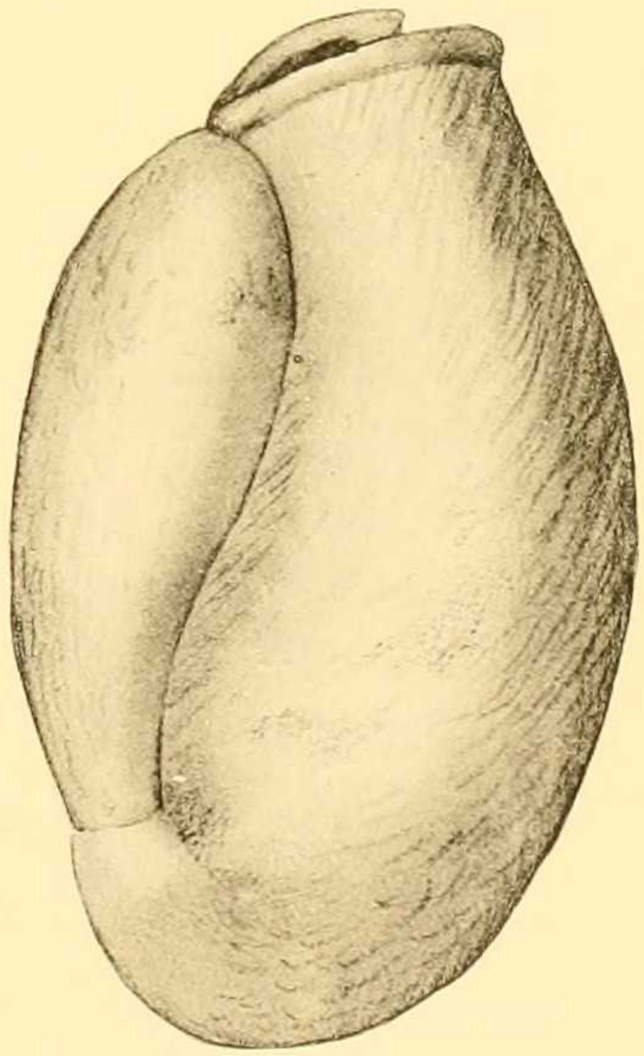
1a



4a



3b



4b



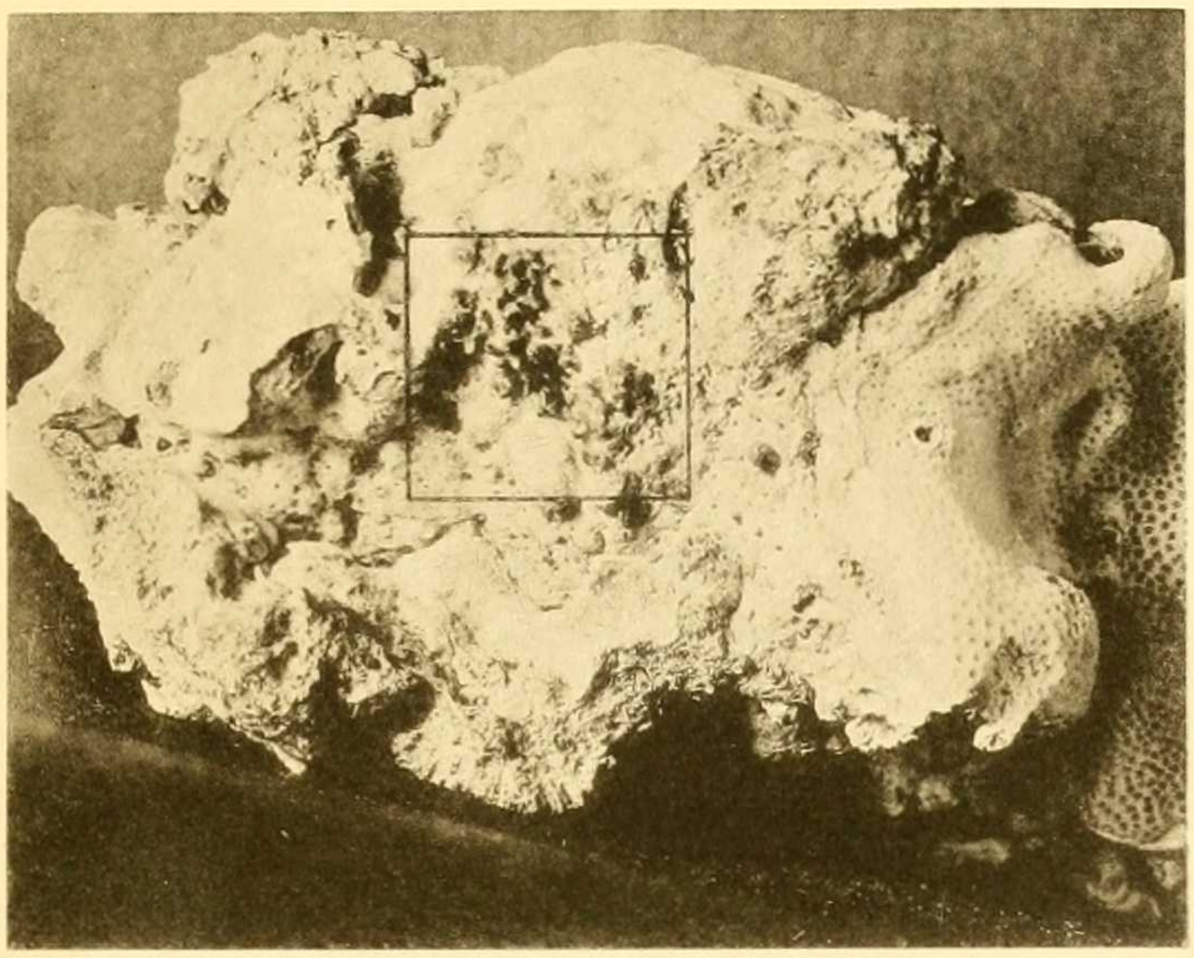
3c



4c

MURRAY ISLAND FORAMINIFERA.

FIGS. 1, 1*a*, 1*b*, 2. *Spiroloculina elegans* Cushman, new species.
FIGS. 3, 3*a*, 3*b*, 3*c*. *Triloculina striolata* Cushman, new species.
FIGS. 4, 4*a*, 4*b*, 4*c*. *Triloculina subgranulata* Cushman, new species.



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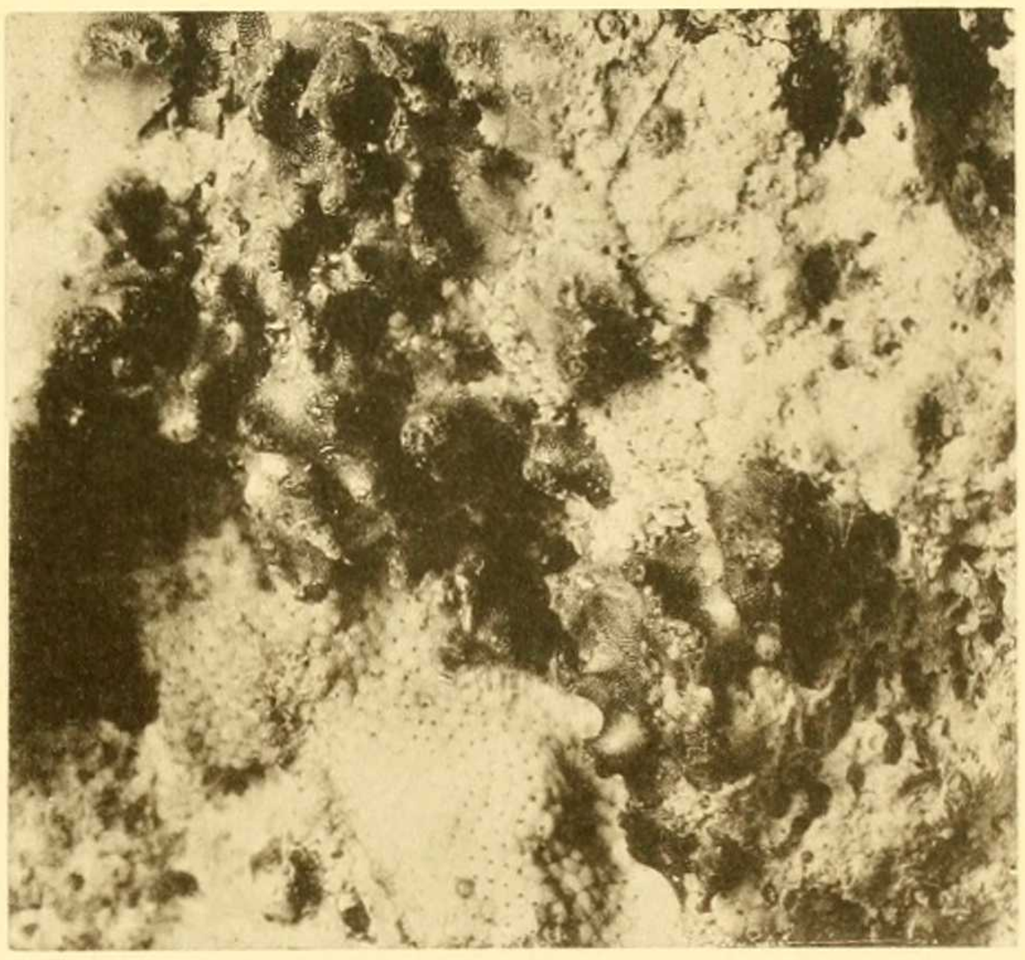
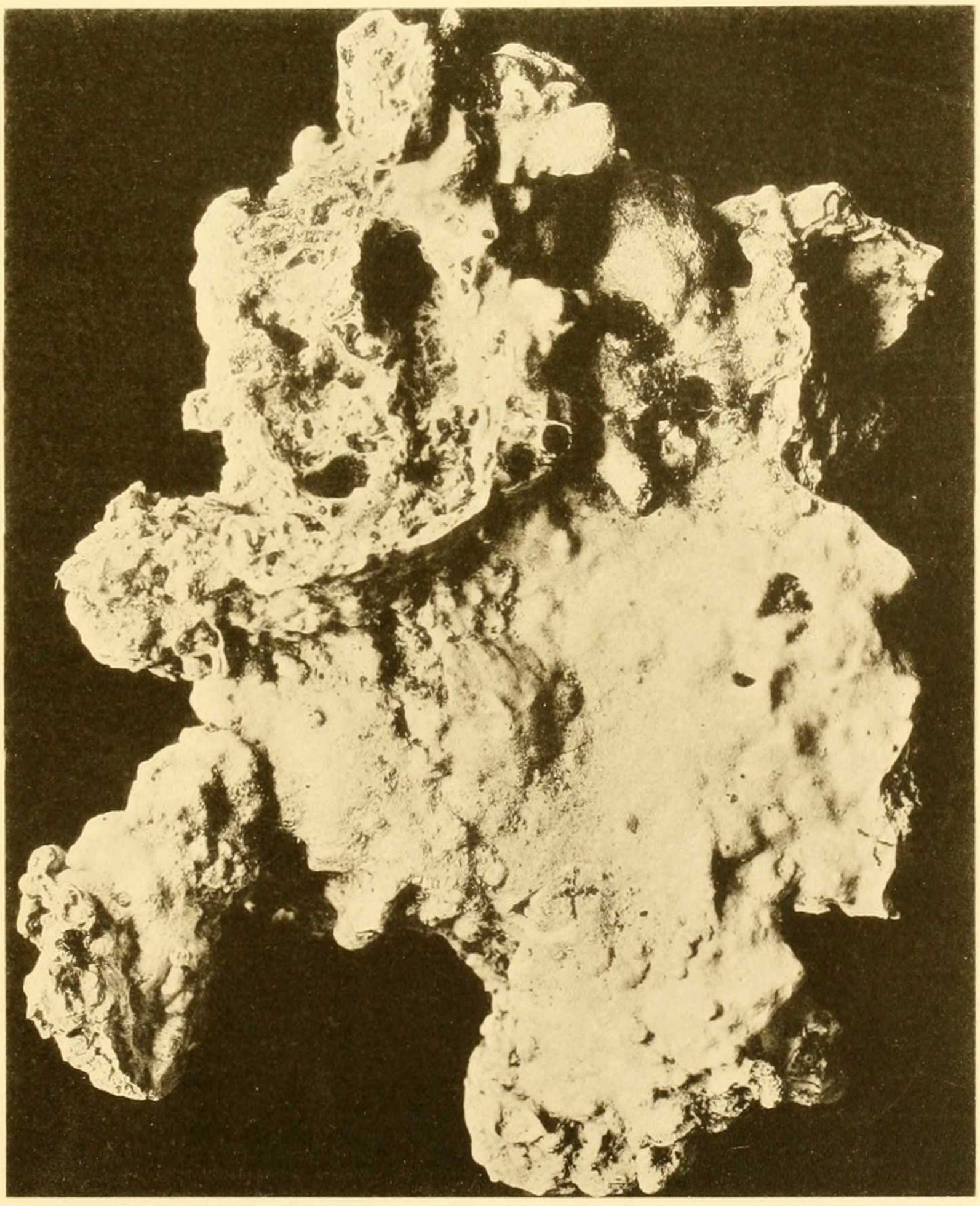


1a



2

FIGS. 1, 1*a*. *Polytrema mineaceum* (Linn.), a common incrusting species of foraminifera from Murray Island; fig. 1, natural size; fig. 1*a*, ×4. (See Dr. Cushman's article, pages 289, 290).

FIG. 2. *Goniolithon orthoblastum* (Heydrich, M. A. Howe). Photograph of specimen from Murray Island, natural size. The original specimens from New Guinea have more numerous, higher, and more stalactiform elevations. Penciled crosses indicate places from which fragments were taken for sectioning.

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In collaboration with Joseph A. Cushman, Marcus Isaac Goldman, Marshall A. Howe, and others

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By Roger C. Wells

*Physical Chemist, U. S. Geological Survey*

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