

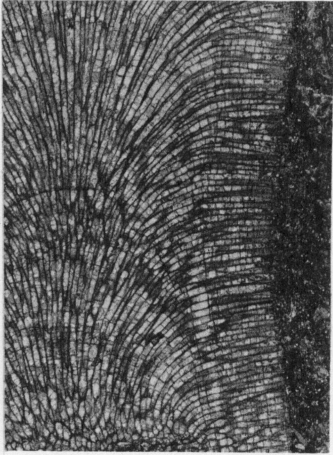
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A NEW SPECIES OF *TABULIPORA* FROM THE  
PERMIAN OF NEVADA

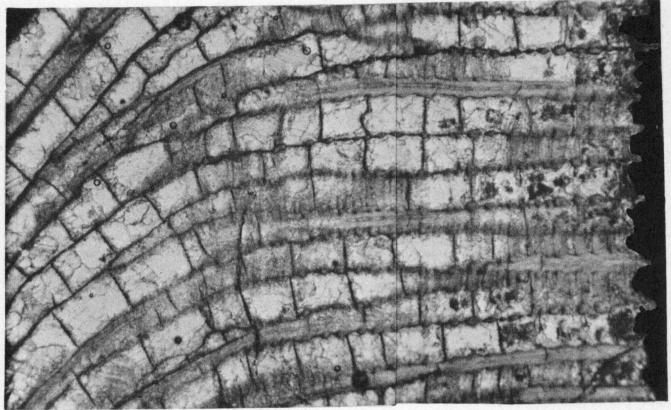
BY  
ERNEST H. GILMOUR

*Thanks to you, Dr Easton.*  
*Ernie*

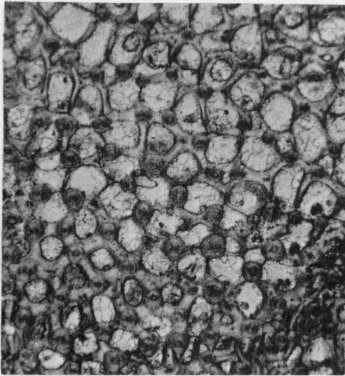
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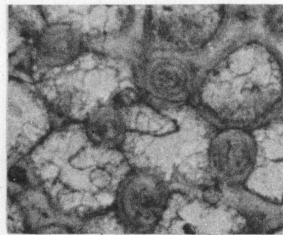
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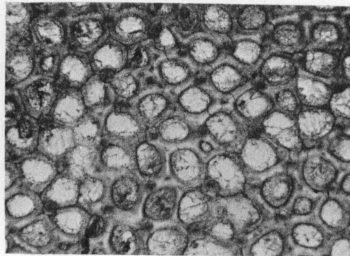
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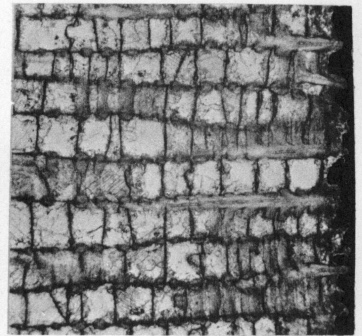
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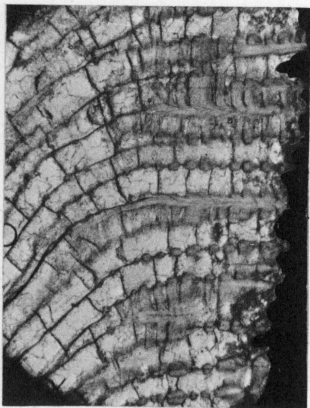
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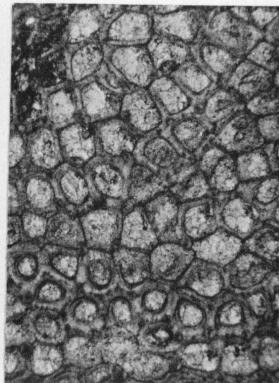
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## A NEW SPECIES OF *TABULIPORA* FROM THE PERMIAN OF NEVADA

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ABSTRACT—A new species, *Tabulipora arcturusensis*, is described from the Arcturus Formation (Permian) of Eastern Nevada.

PERMIAN strata near Ely, Nevada contain a thick zone of large tabuliporid bryozoans. These bryozoans make up most of the fauna in one of the lower limestone beds of the Arcturus Formation at Murray Summit, about 6 miles southwest of Ely, on U. S. Highway 6. Several collections were made along the strike of the beds from Murray Summit for a distance of 2200 feet on a northwest traverse in the W.  $\frac{1}{2}$  of sec. 34, T. 16 N., R. 62 E.

The Arcturus Formation overlies the "Rib Hill sandstone" conformably and consists of 2700 feet of alternating light gray limestone, buff-weathering, fine- to medium-grained sandstone, and siltstone (Langenheim and others, 1960). The base of the Arcturus Formation is located at the bottom of the thick limestone containing Easton's zone 2 corals (Easton, 1960) and above the pink and yellow sandstones of "Rib Hill sandstone."

*Tabulipora arcturusensis* occurs in great abundance throughout 45 feet of gray sandy limestone, the bottom of which is 100 feet stratigraphically above Easton's zone 2. Found in association with *T. arcturusensis* are *Omphalotrochus* sp., "*Dictyoclostus*" *ivesi*, and many spines and plates of the echinoid, *Echinocrinus* sp.

*Tabulipora* is a common genus in Permian rocks of the region and this study indicates that other species are present which the writer hopes to discuss in a future article.

Because of its distinctive size and its narrow stratigraphic zone, *Tabulipora arcturusensis* may be useful for making correlations.

Edward C. Wilson most graciously provided the writer with additional specimens from the Arcturus Formation which he collected while mapping in the Ely area during the summer of 1958. These specimens are considered herein as paratypes and have been deposited in the Museum of Paleontology University of California, Berkeley. The writer is especially indebted to Dr. William H. Easton of the University of Southern California who suggested the problem and read the manuscript.

Phylum BRYOZOA  
Order TREPOSTOMIDA  
Family STENOPORIDAE Waagen &  
Wentzel, 1886  
Genus TABULIPORA Young, 1883  
TABULIPORA ARCTURUSENSIS Gilmour,  
n. sp.  
Pl. 142, figs. 1-9

*Diagnosis.*—Zoaria ramose with large branches (9 to 32 mm. in diameter); a few centrally perforate diaphragms in the distal portion of mature zone; monilae sparse in immature zone, increasing in abundance distally; no mesopores.

*Description.*—Zoaria are large and ramose with zoarial fragments up to 32 mm. in diameter and 50 mm. in length. The average zoarial diameter is 17 to 19 mm. Secondary

### EXPLANATION OF PLATE 142

FIGS. 1-9—*Tabulipora arcturusensis* Gilmour, n. sp. 1, 2, longitudinal sections,  $\times 3$ ,  $\times 20$ ; 3, 4, 5, tangential sections showing large acanthopores and variation in wall thickness,  $\times 20$ ,  $\times 50$ ,  $\times 20$ ; 6, 7, longitudinal sections showing structure of zoecial wall,  $\times 20$ ; 8, tangential section,  $\times 20$ ; 9, longitudinal section showing large acanthopores, secondary growth, and secondarily filled diaphragms,  $\times 30$ . 1-4, Holotype (USC 5146); 5, 7, paratype (USC 5147); 6, paratype (USC 5148); 8, 9, paratype (USC 5149).

growth or overgrowth by the same species is common (pl. 142, fig. 9).

Zooecial walls in the immature region are smooth to undulating, with non-perforate diaphragms occurring one to four zooecial diameters apart. The zooecial bend is variable within the same specimen.

Zooecia in the mature region intersect the zoarial surface at right angles. Monilae become well developed upon passing from the immature zone into the mature zone. Monilae commonly become fused together forming large bulbous structures in the most distal part of the zooecia. The monilae vary in size from 0.03 to 0.20 mm.

Perforate diaphragms are usually present in the distal portion of the mature zone. Many of the diaphragms in the zoaria seem to have been secondarily altered or filled, producing several modifications which are (1) bulbous inner terminations, (2) perforations bridged by secondary fillings, and (3) precipitated calcium carbonate resulting in large bows or sags in the diaphragms. There are no perforate diaphragms in the axial region in this new species.

In tangential sections, zooecia in the mature zone have rounded to subangular shapes, but in the immature zone the zooecia have a sharp-angled polygonal shape. The size of the zooecial walls between monilae ranges from 0.01 to 0.05 mm. and the divisional line between zooecia can be either absent or prominent in the same specimen.

Acanthopores become increasingly abundant from the proximal to the distal portion of the mature zone. In most specimens this increase is from 0.6 acanthopores per zooecium in the proximal portion to 1.0 acanthopores per zooecium in the distal portion of the mature zone. The acanthopores are large, ranging from 0.5 to 3.5 mm. in length and 0.05 to 0.15 mm. in diameter, commonly occurring at the junction angles of adjoining zooecia.

The table below is based on 23 sectioned fragments from 11 zoaria.

*Remarks.*—*Tabulipora arcturusensis* is remarkably similar to *T. amsdenensis* Perry & Gutschick, 1959, from the Amsden Formation (Pennsylvanian) of southwest Montana. The former differs from *T. amsdenensis* in having fewer perforate diaphragms in the mature region and in the absence of perforate

	Min.	Max.	Ave.
Diameter of zoarium in mm.....	9.2	32	18
Width of mature zone in mm.....	3.1	8.9	6
Zooecia in 2 mm.....	7	8	7.5
Diaphragms in mature zone	11	46	23.5
Monilae in mature zone...	4	37	19.0
Average diameter of zooecia per fragment in mm..	0.15	0.24	0.20
Average diameter of monilae per fragment in mm..	0.08	0.15	0.10
Acanthopores per zooecium..	0.6	1.3	0.95

diaphragms in the immature region, in having larger acanthopores, and in having a larger average zoarial diameter.

*Tabulipora carbonaria* (Worthen, 1875) differs from *T. arcturusensis* in having fewer diaphragms, but a larger number of perforate diaphragms and smaller zoarial diameter. *T. carbonaria maculosa* (Ulrich, 1890) differs in having 6 instead of 7.5 zooecia in 2 mm.

The genus *Stenodiscus* differs from *Tabulipora* in having no perforate diaphragms. Several specimens of *T. arcturusensis* have only one or two perforate diaphragms near the zoarial surface and can easily be mistaken for the genus *Stenodiscus* when not carefully examined. Therefore, it seems possible that *T. arcturusensis* may represent an intermediate form between the two genera, *Tabulipora* and *Stenodiscus*.

*Material.*—Holotype, USC 5146. Paratypes, USC 5147–5149. Univ. of Calif., B 6227. Other specimens, USC 5150–5151. The collection contains 17 specimens.

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