

CORRECTION OF THE TYPE SPECIES OF *GLOBULINA* D'ORBIGNY

C. WYLIE POAG*
CHEVRON OIL COMPANY, NEW ORLEANS
and
HUBERT C. SKINNER*
TULANE UNIVERSITY

For more than forty years *Globulina gibba* d'Orbigny has been recognized as the type species of *Globulina* d'Orbigny, 1839. It was designated as type by Cushman in 1927. This selection, however, according to the International Code of Zoological Nomenclature (1964) is invalid. *Globulina caribaea* d'Orbigny, 1839, is the correct type species by monotypy. A brief historical review of these two taxa will demonstrate the validity of this conclusion.

In 1826, d'Orbigny first referred to globuline forms when he erected the genus *Polymorphina* with "Polymorphina (Globuline) gibba" among his new species. His term "globuline" was used informally rather than as part of a formal trinomen. The term was not Latinized until 1839 when d'Orbigny erected *Globulina* as a subgenus of *Guttulina*. A single species, *Globulina caribaea* d'Orbigny, was placed in his new taxon at that time; therefore, that species is the type by monotypy. No other nominal species or valid indication was listed.

As Cushman's type designation has remained unchallenged for several decades, it may seem desirable that the International Commission on Zoological Nomenclature should be petitioned to uphold *Globulina gibba* as the type. This procedure, however, would create undesirable taxonomic difficulties.

The original specimens of *Globulina gibba* are lost and no type level or locality was designated by d'Orbigny for this species. In designating *G. gibba* as type, Cushman cited one of d'Orbigny's models (Livr. 3, No. 63) as illustration (first published by Parker, Jones and Brady, 1865) for the species which he erroneously stated was the first species placed in the genus. This model represents only d'Orbigny's concept of the exterior form of *Polymorphina gibba* in 1826 and is useless for determining morpho-

logical details such as wall microstructure, pore density and configuration, nature of internal septa, and internal apertural features which today are considered important taxobases. Precise knowledge of the aperture is especially important in light of the discovery of several types of radiating apertures (Poag, in press) among species that otherwise fit the traditional concept of *Globulina* d'Orbigny. Though the type of *Globulina gibba* is not extant, specimens identified as this species from localities to which it was attributed by d'Orbigny exhibit a more complex type of aperture. Thus, the traditional definition of *Globulina* will be preserved by the corrected type designation rather than materially altered as would be necessary were *Globulina gibba* (d'Orbigny) retained as the valid type species.

The original specimen of *Globulina caribaea* d'Orbigny has been lost, but the type level is known. The original description and illustration indicate a pyriform, little compressed specimen with a finely hispid basal

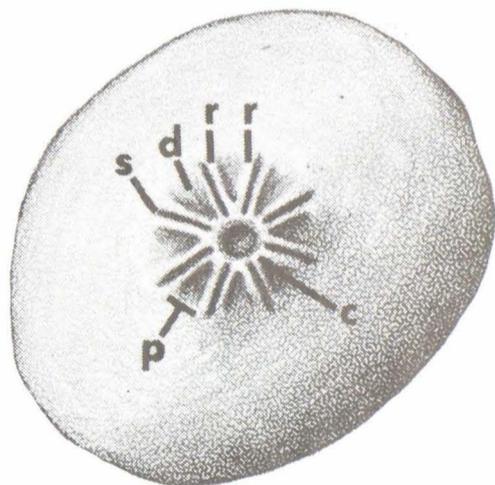


Figure 1. Diagrammatic illustration of radiate aperture of *Globulina caribaea* d'Orbigny. The radiating slits (s) alternate with radiating apertural plates (p). Each plate is centrally depressed (d). A narrow raised ridge (r) extends along each side of this depression. The ridges join distally. All the plates then coalesce distally and form a circular ring (c) through which a circular central opening extends into the final chamber lumen.

* Names listed alphabetically, no seniority implied.

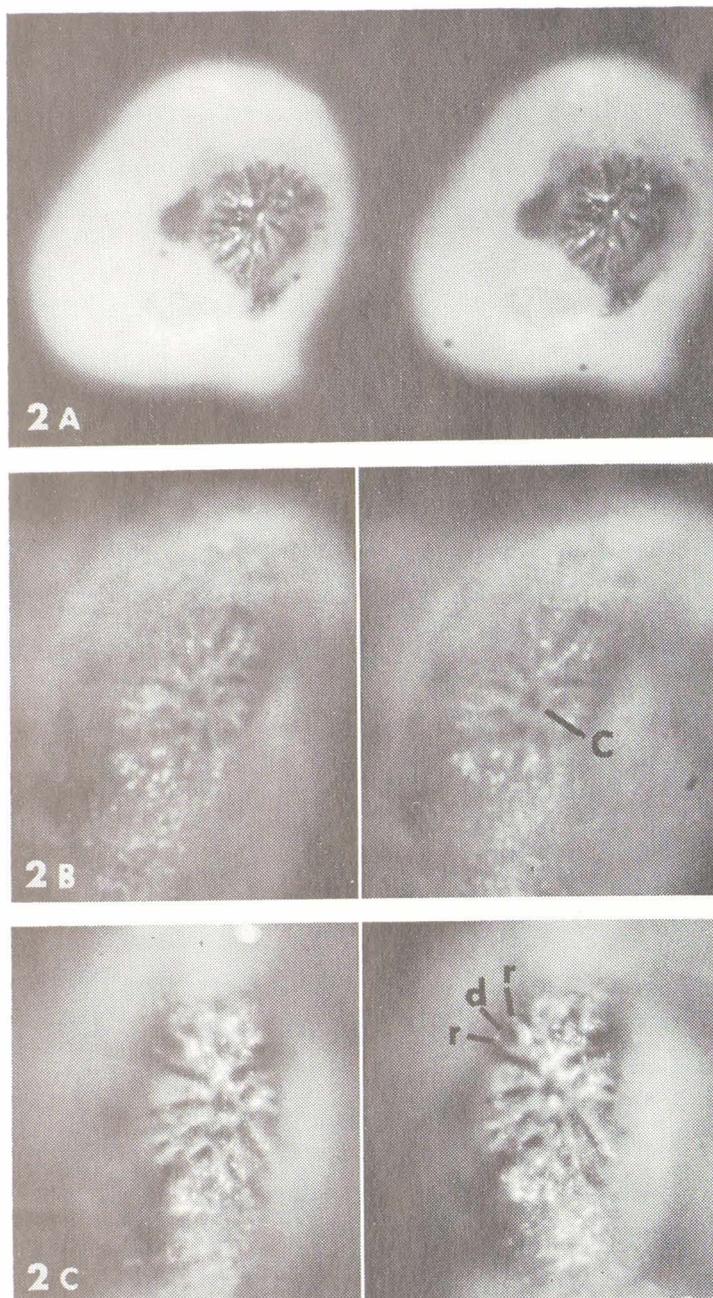


Figure 2. Specimen of *Globulina caribaea* d'Orbigny from the Florida Keys near Dry Tortugas (sample IF of Moore, 1957), TGC 12-1 (stereopairs). A. apertural view showing radiating slits between the apertural plates, $\times 100$. B. detail of distal circular ring (c) and central opening, $\times 150$. C. detail of apertural plate with central depression (d) and bordering ridges (r), $\times 167$.

portion, a smooth apertural region, and a round aperture which lacks radiating slits. Since all subsequently recorded specimens of this species from the Caribbean region reportedly have radiating apertural slits, it is assumed that d'Orbigny's type specimen was either partly broken or worn. The latter is more plausible, as the writers have observed worn specimens whose radiating slits are visible only under high magnification.

The writers have obtained *Globulina caribaea* from the Florida Keys near Dry Tortugas (sample IF of Moore, 1957; water

depth, 200 feet), an area from which Cushman (1922) and Cushman and Ozawa (1930) recorded the species, and only 100 miles northwestward of the type area for *Globulina caribaea* off the coast of Cuba. The apertural features of *Globulina* are illustrated in text figures 1 and 2 which are based on a specimen from this area. This specimen is deposited in the Tulane Geological Collections (TGC 12-1).

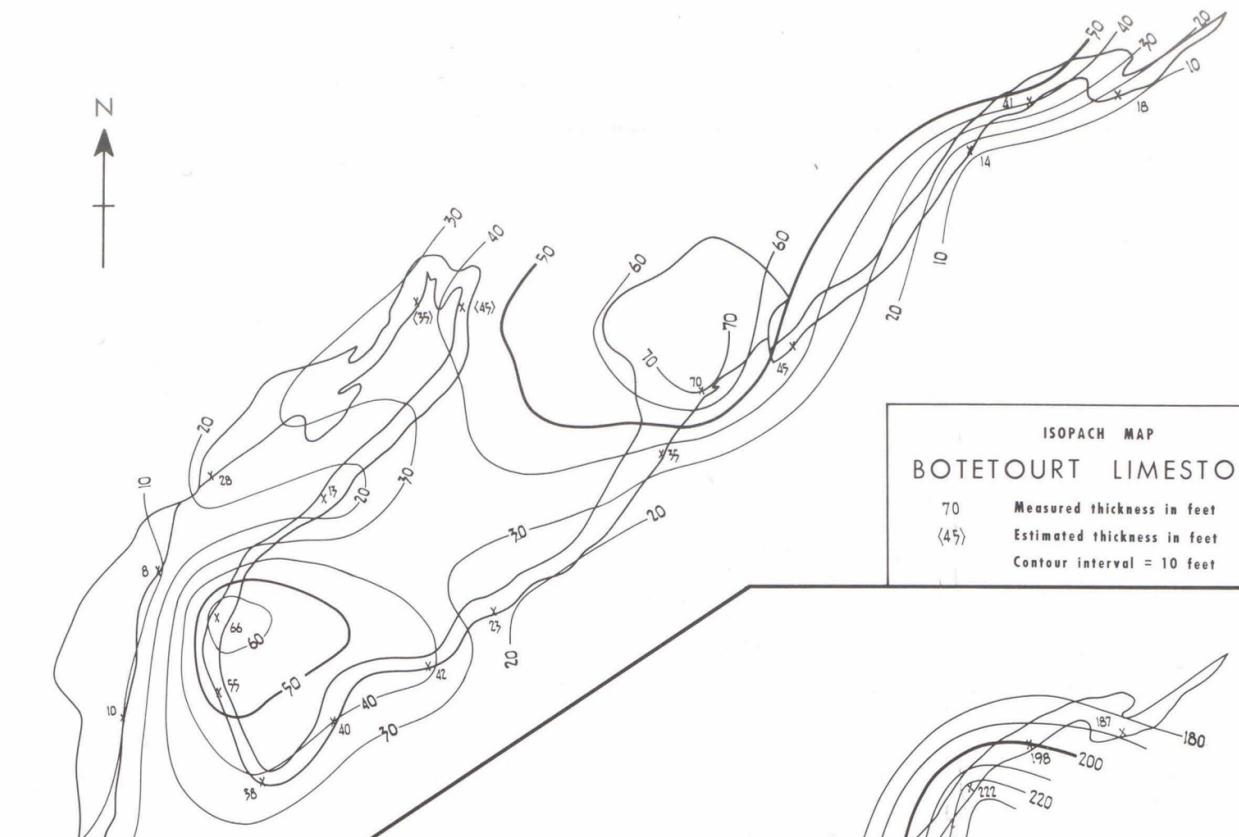
ACKNOWLEDGMENTS

The writers gratefully acknowledge the assistance of Professor Harold E. Vokes of Tulane University, who as a member of the International Commission on Zoological Nomenclature, provided expert opinion and advice. Chevron Oil Company granted permission to publish this paper.

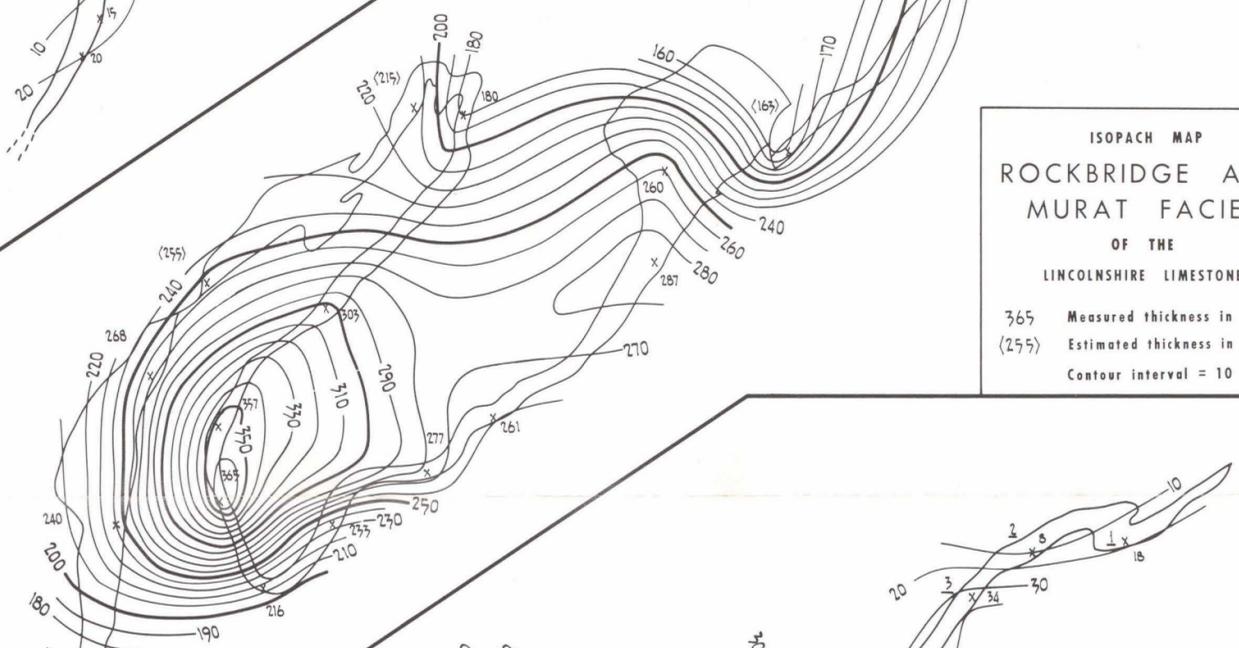
REFERENCES CITED

- CUSHMAN, JOSEPH A., 1922, Shallow-water Foraminifera of the Tortugas region: Carnegie Inst. Washington, Publ. no. 311, vol. 17, p. 1-85, pls. 1-14.
- CUSHMAN, JOSEPH A., 1927, The designation of some genotypes in the Foraminifera: Cushman Lab. Foram. Res., Contr., vol. 3, pt. 4, p. 188-190.
- CUSHMAN, JOSEPH A., and YOSHIKI OZAWA, 1930, A monograph of the foraminiferal family Polymorphinidae Recent and Fossil: U. S. Natl. Mus. Proc., vol. 77, art. 6, p. 1-185, pls. 1-40.
- MOORE, WAYNE E., 1957, Ecology of Recent Foraminifera in northern Florida Keys: Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 4, p. 727-741.
- D'ORBIGNY, ALCIDE D., 1826, Tableau méthodique de la classe des Céphalopodes: Ann. Sci. Nat., Paris, ser. 1, tome 7, p. 245-314, pls. 10-17.
- D'ORBIGNY, ALCIDE D., 1839, Foraminifères, in RAMON DE LA SAGRA, Histoire physique, politique, et naturelle de l'île de Cuba: Paris, A. Bertrand, xlviii + 224 pp., pls. 1-12.
- PARKER, W. K., T. R. JONES, and H. B. BRADY, 1865, On the nomenclature of the Foraminifera. Pt. XII. The species enumerated by d'Orbigny in the "Annales des Sciences Naturelles," vol. VII, 1826, III. The species illustrated by models: Ann. Mag. Nat. Hist., ser. 3, vol. 16, p. 15-41, pls. I-III.
- POAG, C. WYLIE, 1969 (in press), Dissolution of molluscan calcite by a new genus of attached polymorphinid Foraminiferida: Tulane Stud. Geol., vol. 7, no. 1.
- STOLL, N. R., et al., 1964, International Code of Zoological Nomenclature, adopted by the XV International Congress of Zoology: International Trust for Zoological Nomenclature. London, xx + 176 pp.

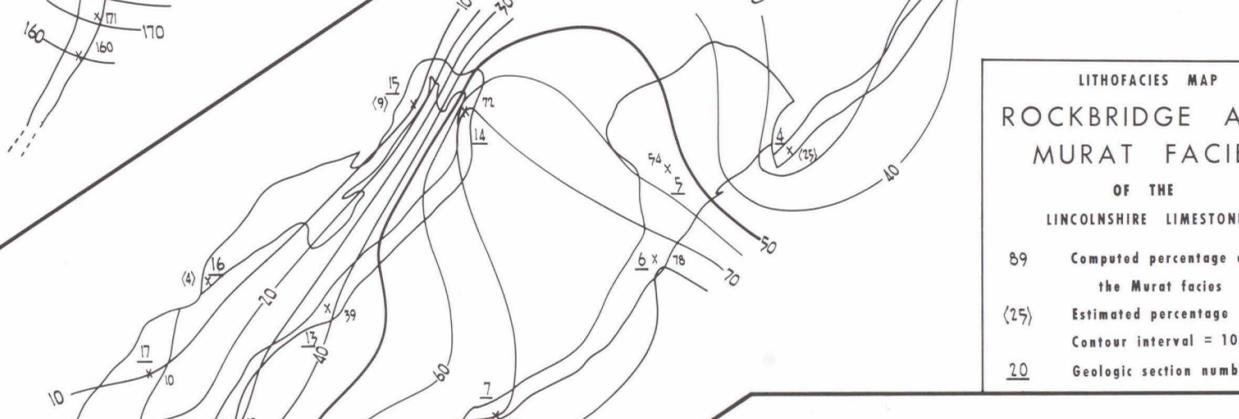
November 22, 1968



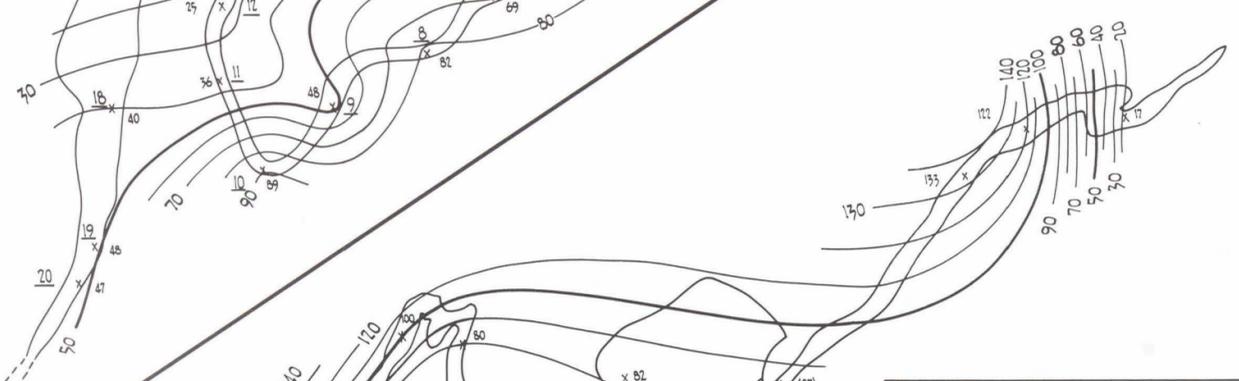
ISOPACH MAP
BOTETOURT LIMESTONE
70 Measured thickness in feet
(45) Estimated thickness in feet
Contour interval = 10 feet



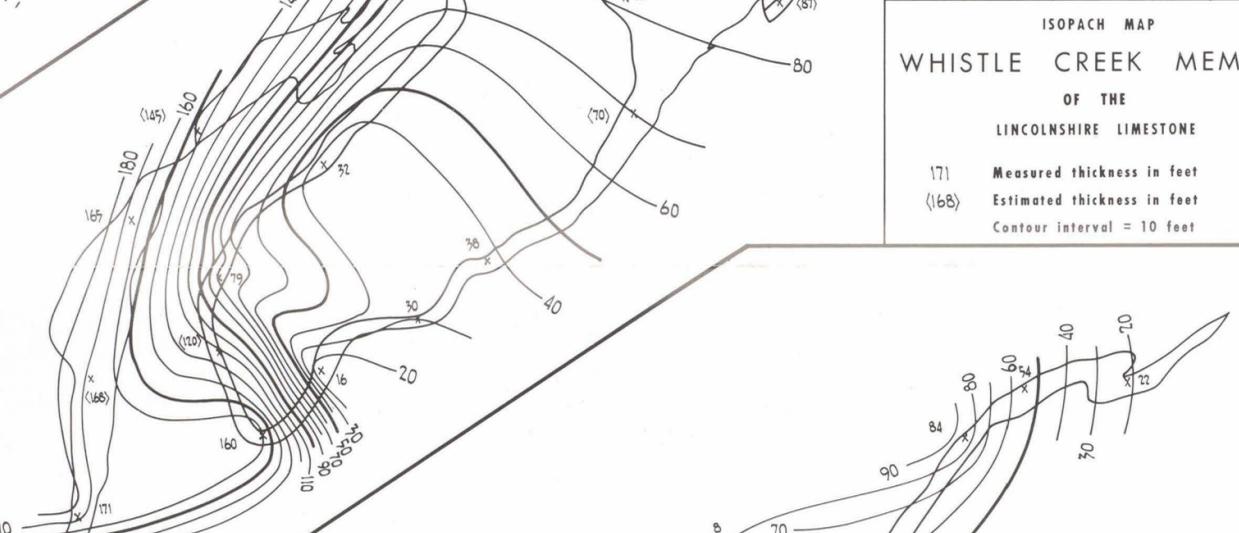
ISOPACH MAP
ROCKBRIDGE AND
MURAT FACIES
OF THE
LINCOLNSHIRE LIMESTONE
365 Measured thickness in feet
(255) Estimated thickness in feet
Contour interval = 10 feet



LITHOFACIES MAP
ROCKBRIDGE AND
MURAT FACIES
OF THE
LINCOLNSHIRE LIMESTONE
89 Computed percentage of
the Murat facies
(25) Estimated percentage
Contour interval = 10%
20 Geologic section number



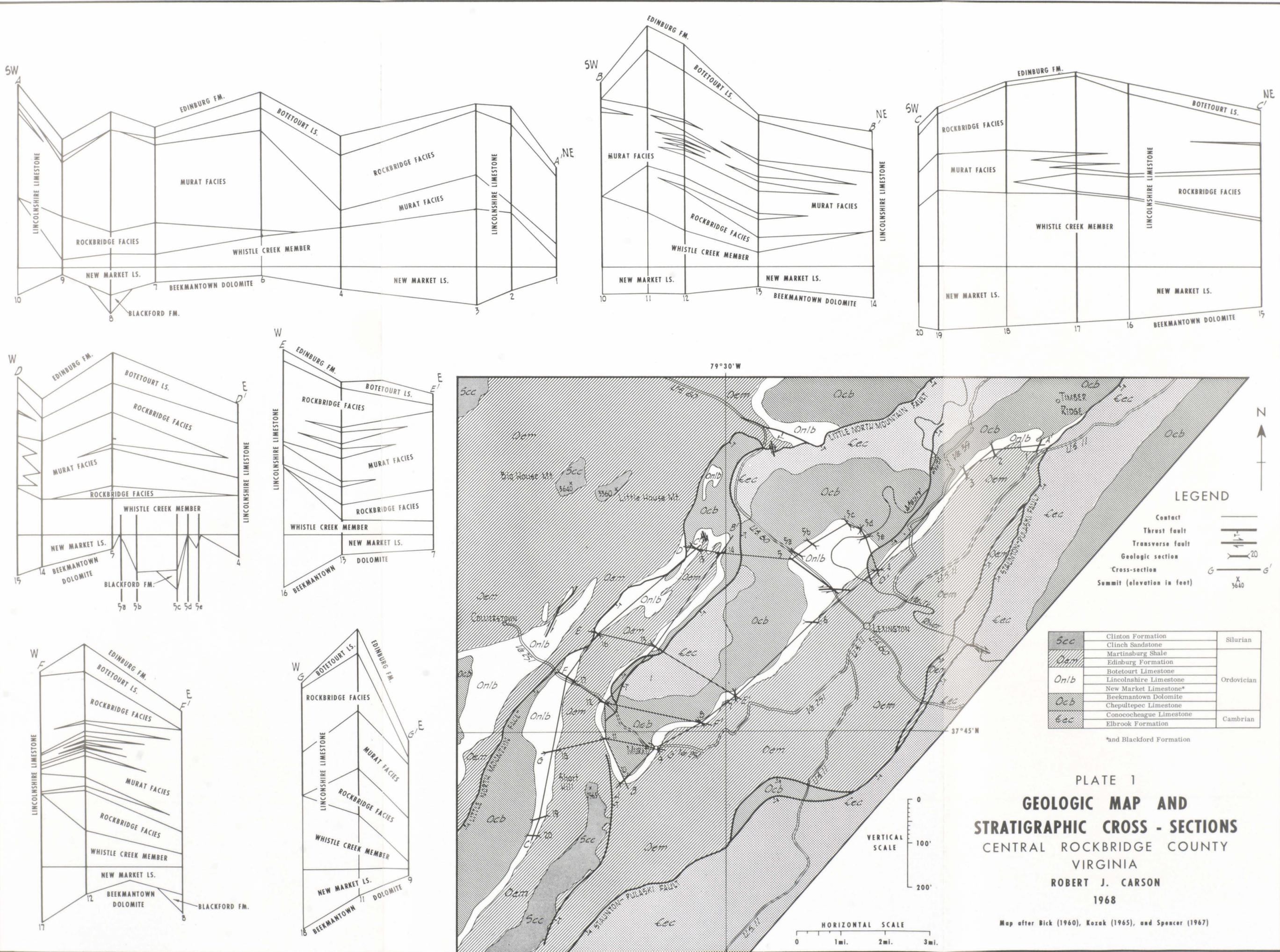
ISOPACH MAP
WHISTLE CREEK MEMBER
OF THE
LINCOLNSHIRE LIMESTONE
171 Measured thickness in feet
(168) Estimated thickness in feet
Contour interval = 10 feet



ISOPACH MAP
NEW MARKET LIMESTONE
142 Measured thickness in feet
(135) Estimated thickness in feet
Contour interval = 10 feet



PLATE 2
**ISOPACH AND
LITHOFACIES MAPS**
SUPERIMPOSED ON OUTCROP BELT OF
POST-BEEKMANTOWN-PRE-LIBERTY HALL LIMESTONES
CENTRAL ROCKBRIDGE COUNTY
VIRGINIA
ROBERT J. CARSON
1968
SCALE
0 1mi. 2mi. 3mi.



LEGEND

Contact: ———

Thrust fault: ———|

Transverse fault: ———|

Geologic section: ———

Cross-section: ———

Summit (elevation in feet): X

Scale: 1" = 3640'

Scc	Clinton Formation	Silurian
	Clinch Sandstone	
Dem	Martinsburg Shale	Ordovician
	Edinburg Formation	
Onlb	Botetourt Limestone	
	Lincolnshire Limestone	
	New Market Limestone*	
Ocb	Beekmantown Dolomite	Cambrian
	Chepultepec Limestone	
Ecc	Conococheague Limestone	
	Elbrook Formation	

*and Blackford Formation

PLATE 1
**GEOLOGIC MAP AND
 STRATIGRAPHIC CROSS - SECTIONS**
 CENTRAL ROCKBRIDGE COUNTY
 VIRGINIA
 ROBERT J. CARSON
 1968

Map after Bick (1960), Kozak (1965), and Spencer (1967)