

LOBAROCHITON, NEW GENERIC DESIGNATION FOR GRYPHOCHITON? ANOMALUS (ROWLEY) (POLYPLACOPHORA)¹

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Abstract. A new generic designation *Lobarochiton* is proposed for the Lower Mississippian taxon originally described by Rowley (1908) from the Louisiana Limestone of Missouri as *Platyceras* (?) *anomalum*. Williams (1943) recognized the polyplacophoran affinities and questionably assigned the taxon to the genus *Gryphochiton* Gray. Subsequent study of the holotype, a tail valve, has shown the presence of primitive insertion plates and differences in valve shape and outline which distinguish it from other known genera of polyplacophorans. *Lobarochiton* is assigned to the Family Lepidopleuridae Pilsbry, 1892.

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Rowley (1908) described two specimens obtained from shale partings in the Louisiana Limestone (L. Mississippian) as *Platyceras*? *anomalum* believing that they were gastropods of this general type. In his study of the stratigraphy and fauna of the Louisiana Limestone in Missouri, Williams (1943) redescribed the larger of Rowley's two specimens, assigning it to *Gryphochiton*? (= *Helminthochiton* Salter in M'Coy, 1846) *anomalous*. The smaller specimen apparently was unavailable for study. The description by Williams is essentially complete as to morphology and measurements, although he states a lack of insertion plates, and feels that the specimen has similarities to *Gryphochiton*? *parvus* (described by Stevens in 1858) from the Spergen Limestone (= Salem Limestone) of Indiana and that they might prove to be conspecific taxa. Yochelson and Saunders (1967) assigned both *Gryphochiton parvus* (Stevens) and *Gryphochiton*? *anomalous* (Rowley) to the genus *Helminthochiton* Salter in M'Coy (1846).

The specimen described by Rowley and Williams, herein designated as the holotype, has been located in the repository of the Department of Geology, University of Illinois, UI-RX-75. Rowley's second specimen cannot be located and subsequent collecting at the type

locality has failed to provide additional specimens.

During a recent study of all available Mississippian and Pennsylvanian polyplacophorans from North America, comparisons of *Pterochiton parvus* (Stevens) and *Gryphochiton*? *anomalous* (Rowley) were made. It is obvious that the specimens from the Salem Limestone in Indiana are neither conspecific with *G.*? *anomalous* nor are they even of the same genus. The Salem specimens are being studied by B. S. Kues of the University of New Mexico and will not be described here.

Illustrations of Rowley's specimen were sent to A. G. Smith of the California Academy of Sciences for comment. He supported the opinion that the specimen did not belong to any of the known genera of Polyplacophora.

SYSTEMATIC PALEONTOLOGY

Class POLYPLACOPHORA de Blainville, 1816
Subclass NEOLORICATA Bergenhayn, 1955
Order LEPIDOPLEURINA Thiele, 1910
Family LEPIDOPLEURIDAE Pilsbry, 1892
Genus *LOBAROCHITON* n.g.

Diagnosis. Small polyplacophorans with tail valve subtrapezoidal in outline, highly elevated mucro located posterior to midlength at termination of distinct medial ridge; narrow sulci bordering medial ridge and a second pair of broadly expanding sulci extending from mucro

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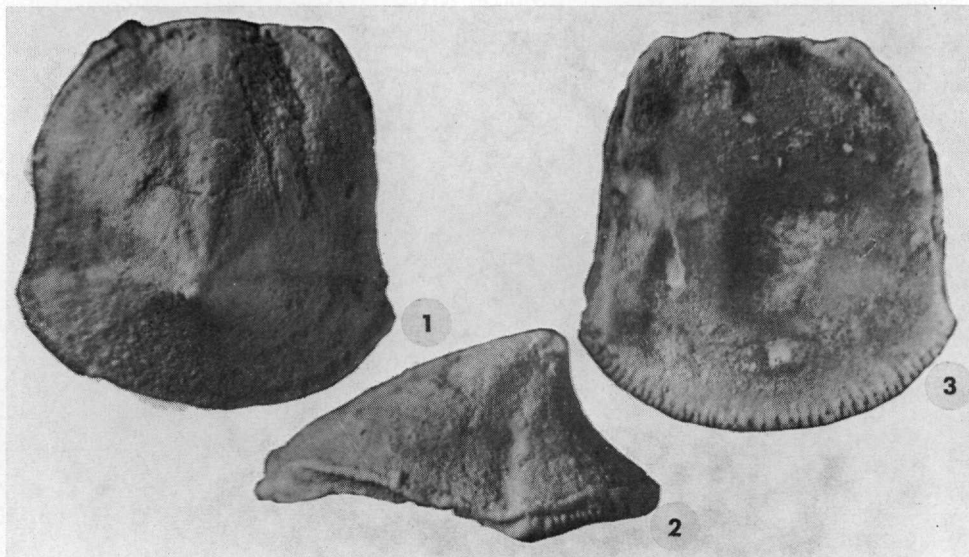
to lateral margins, anterolateral areas broadly lobed, posterior region steeply concave, posterior margin a uniform curve with edge recessed and pectinated, anterolateral margins recessed but not pectinated and sutural laminae broad. Dorsal surface marked by fine granules in quincunx arrangement. Intermediate and head valves unknown.

Derivation of name. Lobar = possessing lobes.

Type species. *Platyceras? anomalum* Rowley.

posterior portion of valve steeply concave in shape with margin a broad uniform curve, edge of posterior margins slightly recessed and marked by numerous (47) fine grooves giving a pectinate appearance, anterolateral margins, just posterior to sutural laminae, also slightly recessed but not pectinate, sutural laminae broad for width of valve but length unknown and dorsal surface marked by fine granules arranged in a quincunx pattern. Intermediate and head valves unknown.

Dimensions of the holotype are: length



FIGURES 1-3. *Lobarochiton anomalus* (Rowley). 1. Dorsal view showing lobate nature of valve; 2. Lateral view showing elevated mucro and recessed anterolateral and posterior margins; 3. Ventral view showing pectinated posterior margin, x10, UI-RX-75.

LOBAROCHITON ANOMALUS (ROWLEY)

Figs. 1-3

Platyceras? anomalum Rowley, 1908, p. 90, pl. 19, figs. 15-17, ?18, ?19.

Gryphochiton? anomalus Williams, 1943, p. 100, pl. 9, figs. 19, 20.

Valves small. Tail valve subtrapezoidal in outline with an expanding rounded medial ridge ending in a mucro at about four-fifths length, mucro elevated and pointing posteriorly, narrow sulci border medial ridge and broadly expanding sulci extend from mucro to lateral margins giving the anterior portion of the valve a distinctly lobed appearance,

5.2 mm (does not include sutural laminae); width anteriorly 3.2 mm; width posteriorly 4.8 mm; height 2.7 mm; length of recessed pectinated area 0.3 mm; and, width of sutural lamina 1.1 mm.

DISCUSSION

Lobarochiton anomalus (Rowley) differs from *Pterochiton parvus* (Stevens) in having a tail valve with a narrower, less elevated medial ridge, a more elevated mucro, a lobed appearance, being wider posteriorly than anteriorly and having recessed margins anterolaterally and posteriorly, which are pectinated posteriorly. *Glyptochiton cordifer* (deKoninck) from

the Lower Carboniferous of Belgium has a pectinate posterior, lateral insertion areas of articulatum which are much larger indicating valve is deeply buried in girdle and a small tegmentum set off by an ovate, crenulate rib (Smith, 1971). *Lobarochiton* differs from *Helminthochiton* Salter in M'Coy, 1846 (= *Gryphochiton* Gray, 1847) by having a more highly elevated mucro, lobed lateral areas, recessed anterolateral and posterior margin edges and pectinated posterior recessed edge.

The recessed anterolateral and posterior areas are interpreted as being primitive, short, insertion plates which extended only slightly into the girdle. The number of grooves (47) present may vary from specimen to specimen. No evidence of silts is present.

Type Locality. Louisiana Limestone

exposed in hillside above State Hwy. 79 just south of the bridge over Buffalo Creek, NW $\frac{1}{4}$ sec. 28, T. 54 N., R. 1 W., Pike Co., Missouri. Specimen collected from shale partings near the base of the formation.

Repository. Holotype, Univ. Illinois, RX-75.

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