

**Article VI.—DESCRIPTION OF A NEW TEREDO-LIKE  
SHELL FROM THE LARAMIE GROUP.**

By R. P. WHITFIELD.

PLATES XXVIII-XXIX.

A block of coniferous wood, highly mineralized (calcareous), was brought in from the east side of Alkali Creek, Wyo., 35 miles west of Edgemont, S. D., in 1900 by Mr. Barnum Brown of the Museum Expedition. The bed from which it was obtained is near the top of the Laramie Group, and known as the Triceratops Bed. The wood contains a group of the casts of borings of a very large species of Teredo-like shell, several of which measure about one and a quarter inches in diameter at the larger end, or near the end of the boring, at the point where the shell is located. A number of these retain remains of the shell well enough preserved for description and partial if not complete illustration. The block when first obtained was quite bulky, being eight or ten inches high and wide by a foot in length, but in freeing the cast of the borings from the matrix so that they could be studied and illustrated, it was necessary to reduce it considerably; so that only the portion containing the borings is preserved, of which the photographic plate given to illustrate it is just half-size. The block as it now remains contains thirteen of the borings more or less entire, with evidence of at least five others. There are also quite a number of other specimens which were detached from the block at the time it was collected.

In studying the characters of the shell as seen in specimens more or less freed from the matrix, but greatly exfoliated, it would appear that the shell is more closely allied to the genus *Turnus* of W. M. Gabb, as emended and illustrated by F. B. Meek, in Vol. IX of the Report of the United States Geological Survey of the Territories, and by F. Stoliczka and Tryon, than any other of the known genera of this group of

shells. Its great size, however, is somewhat startling as compared with the allied forms, which are minute, while this attains a transverse diameter of one and three eighths of an inch through the valves.

The valves have the feature of the rectangular notch in the anterior border, with a large shield-shaped piece filling the hiatus, which forms a section of a sphere, and is, so far as can be ascertained from the specimens, quite smooth, *i. e.*, destitute of surface corrugations. The valves have the usual oblique radiating sulcus passing from the beaks to the extreme basal point, and a secondary fainter one passing in front of the beaks to the angle of the rectangular notch; they also show the concentric lines parallel to the margins of the shell, so characteristic of the *Teredinæ*. The best preserved specimens show also the thin posterior prolongations of the valves into the tube to a length of over two inches beyond the posterior margin of the valves proper, giving a total length, in the specimen photographed for illustration, of three and one fourth inches. All of these features, except perhaps the thin posterior prolongation of the valves, are features which pertain to the genus *Turnus* as illustrated by the authors above mentioned. But beyond this I find, a little anterior to the beaks, evidence of a thickened hinge-plate which is divided into four small teeth on the right valve, which are opposite to and probably fitted into similar ones on the other valve. No appearance of a hinge structure posterior to the beaks has yet been observed.

There is unmistakable evidence of a thin shelly lining to the tube for some distance beyond the thin prolongation of the valves.

In most of its features, this Laramie shell resembles the Cretaceous *Turnus elegantulus* Meek, but it is more gaping behind, and the anterior rectangular hiatus is closed by a shield-shaped plate. It is certainly destitute of the internal ridge which is supposed to be a principal feature of that shell. From the living form, *Jouannetia*, it differs in the widely gaping posterior end, although apparently extended by smooth secretions of shelly matter, and materially so in its

equivalve shell. From Meek's *Goniochasma* and others it differs in wanting the internal ridge behind the beaks. I therefore propose for it the generic name *Xylophomya*, and give below a diagnosis of the generic characters observed.

***Xylophomya*, gen. nov.**

*Generic description.*—Burrowing bivalve shells, widely gaping posteriorly, with a deep rectangular notch or hiatus in the anterior border. Basal margin prolonged into acutely triangular extensions. Valves marked by a narrow sulcus from beak to base and by a second fainter one anterior to it, reaching the margin at the angle of the hiatus. Hiatus filled by a broad shield-like plate. Hinge-plate divided, anterior to the beaks, into four minute tooth-like denticles on the right valve. Posterior margin of the valves prolonged in a smooth tongue-shaped extension, filling the diameter of the burrow, and apparently connecting with the lining of the tube.

***Xylophomya laramiensis*, sp. nov.**

PLATES XXVIII–XXIX.

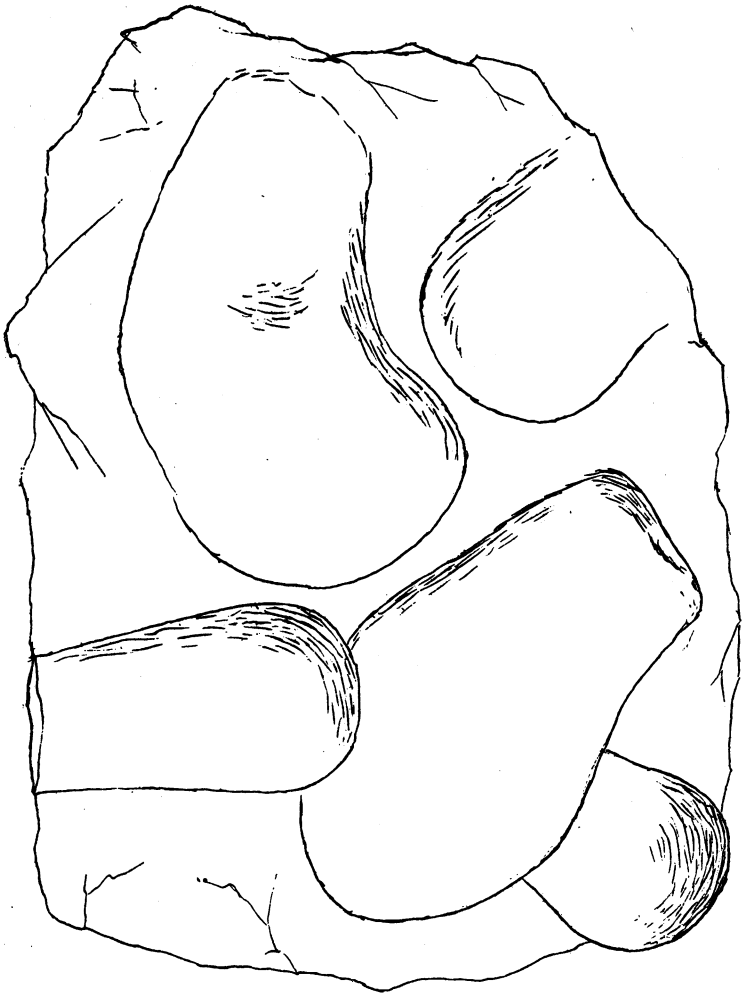
Shell large for the group, measuring one and a fourth inches in diameter, burrowing in wood or other substances; very ventricose and the valves extended backwards into the tube to the extent of two inches or more, gradually narrowing posteriorly, rounded behind. Surface of the valves marked with close concentric lines parallel to the margins. The anterior plate shield-shaped, broad, smooth on the exterior, as are also the posterior extensions of the valves.

*Locality and Formation.*—Alkali Creek, Wyoming, 35 miles west of Edgemont, S. D., in strata of the Laramie Group. Collected by Mr. Barnum Brown.

While examining these western forms I tried to find the plate filling the anterior rectangular hiatus in *Turnus elegantulus* Meek on specimens in an original block in the Hall Collection, but obtained only negative evidence.

Just after working out the block of this western form that served for the photograph illustrating the species I made a visit to the Cretaceous beds at Atlantic Highlands, N. J., and picked up a small slab evidently from the yellow sands at

the top of the hill, and found that it contained four more or less perfect casts of a *Teredo*-boring very closely resembling



Casts of *Teredo*-borings from the Cretaceous beds at Atlantic Highlands, N. J.

the western ones. The outline figure here given is made from it.



EXPLANATION OF PLATE XXVIII.

*Xylophomya laramiensis*, page 75.

View, one half diameter of the original block after the wood had been cut away between and from around the burrow fillings.



NEW TEREDO.







## EXPLANATION OF PLATE XXIX.

### *Xylophomya laramiensis*, page 75.

- FIG. 1.—Back view, nat. size, of one of the separated burrows, which retains a portion of the shell showing the oblique umbonal furrow and the prolonged extension of the shell to the point marked *a*.
- FIG. 2.—Side view of the same specimen.
- FIG. 3.—Back view of a second individual which shows the shell to have extended to the point *a*.
- FIG. 4.—A restored drawing of the anterior end of the specimen shown in Fig. 1, giving the form of the anterior shield-shaped plate and the anterior notch in the margin of the valves.
- FIG. 5.—Lateral outline view of the valve, showing the markings of the surface as obtained from several specimens.
- FIG. 6.—Outline showing the form of the valve.
- FIG. 7.—Outline figure of the dorsal view of the end of the specimen Fig. 1 to show the extent of the shell proper, to the beginning of the posterior extension.
- FIG. 8.—View of the anterior teeth as seen on a fragment chipped from between the beaks, 3 x.

