Article XIII.—DESCRIPTION OF A NEW GENUS OF FOSSIL BRACHIOPOD FROM THE LOWER HELDERBERG LIMESTONES.

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In Vol. III, Palæontology N. Y., p. 224, Prof. James Hall describes a species of Brachiopod under the name *Rhynchonella æquivalvis*, and figures it on Plate xxix. Under the description of the figures, in a footnote, he says, "This species is probably not a true RHYNCHONELLA, its surface characters and form approach RENSSELÆRIA, while in other respects it resembles RHYNCHOSPIRA." In Vol. VIII, Part II, of the same work (Introd. to the Study of the Genera of Pal. Brachiopoda), it is not mentioned.

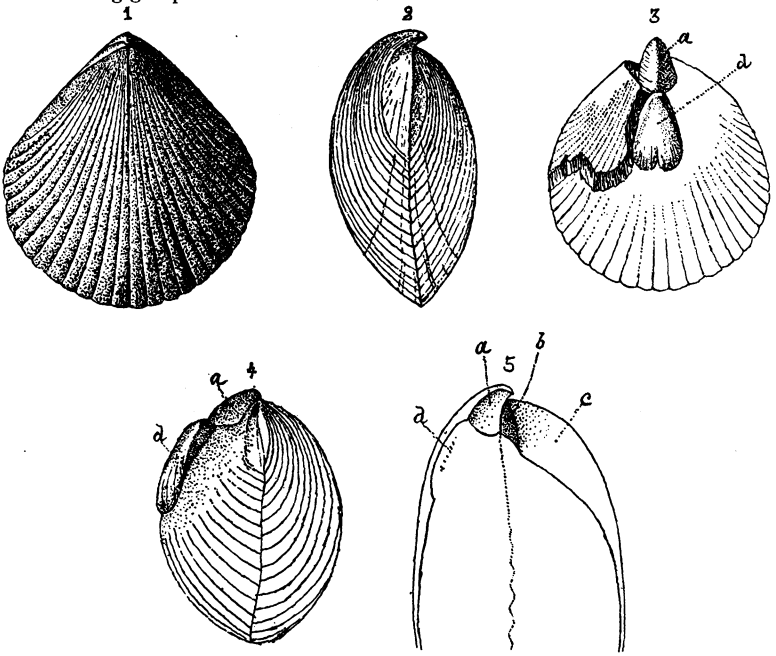
In examining the specimens for cataloguing the types in the Museum collections, we find that it differs in some essential characters from any known genus of Brachiopods, and consequently are compelled to establish a new genus for its reception.

The shells are small, generally less than three-fourths of an inch long, broadly ovate in outline, nearly equally convex on the two sides, sometimes quite thin dorso-ventrally, but frequently quite ventricose; beaks small, not perforated; surface plicated with moderately strong radiating ribs which are convex, smooth, and entirely destitute of interspaces, the edges of the ribs being in close contact. This is a peculiar feature, and gives basis for the generic name LISSOPLEURA, by which I propose to designate it. In external features the shells much resemble a *Rhynchospira*, as remarked by Professor Hall, but there is no perforation in the beak as in that genus, neither is the beak so prominent, but small and more closely incurved. It differs also in being destitute of interspaces between the plications of the exterior. From *Renssel-æria* it differs internally in the possession of a strong median septum in the dorsal valve, while in the ventral it presents almost the same features as those of that genus, namely, a narrow trough-shaped or spoon-shaped cavity in the beak, formed by the dental plates, and a rather deep but narrow muscular scar below. As yet I have not been able to ascertain what form of appendages

exist in the interior, as most of the specimens in the collection are filled with opaque matter, and do not show any feature on cutting, consequently we must depend on the external features already mentioned for generic identification for the present. I think, however, that it is more than probable that it will ultimately be found to belong to the Terebratulidæ.

Lissopleura,[1] new genus.

A Brachiopodous shell, more or less inequivalve, with a small imperforate beak ; surface radiately ribbed ; ribs smooth, without interspaces ; shell substance fibrous. Ventral valve with a spoon-shaped cavity in the beak, formed by the dental plates, and a deep bilobed muscular imprint in front of it. Dorsal valve with a strong median septum. Type, *Rhynchonella æquivalvis* Hall. Lower Helderberg group.



DESCRIPTION OF FIGURES.

Fig. 1, Dorsal view of one of the types, showing the general form. Fig. 2, Outline profile of same. Fig. 3, Ventral side of a specimen from which the shell has been partly removed ; *a*, the filling between the dental plates ; *d*, the muscular scar. Fig. 4, Profile of the same specimen in outline. Fig. 5, View, in outline, of a specimen broken through the center so as to show the thickness of the shell, dental plates (*a*), and septum of the dorsal valve (*c*), the projecting lamellæ of the dorsal valve (*b*), and the thinning of the shell at the muscular scar (*d*) of the ventral valve. All the figures are enlarged two diameters.

[1] λισσός, smooth ; πλευρά, rib.