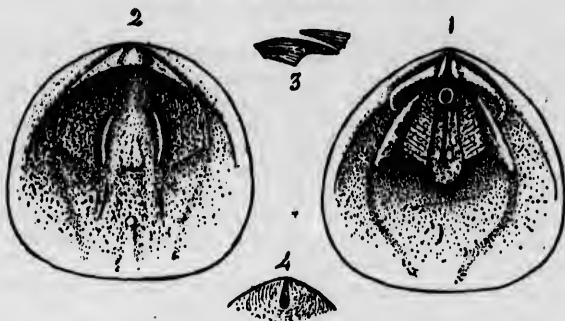


PROTOSIPHON, n. subgen.

PROTOSIPHON KEMPANUM, n.sp.¹

Protosiphon Kempunum.—1. Interior of the ventral valve, showing scars of central and lateral muscles, opening of the siphon, vascular trunks, etc. 2. Interior of the dorsal valve, showing position of the central and lateral muscles, median ridge, vascular trunks, etc. 3. Section of the beak of the ventral valve, showing the passage for the pedicle. 4. Umbo of the ventral valve viewed from above, showing the Schizambonal furrow.—All the figures are magnified $\frac{1}{2}$, except No. 3, which is enlarged $\frac{1}{4}$.—N.B. The large figures are somewhat idealized, as some features (e.g. the vascular trunks) are supplied from examples other than the two which formed the basis of these drawings.

Shell substance calcareo-corneous. Outline of the dorsal valve somewhat oblately orbicular; outline of the ventral valve similar, but with an obtusely pointed beak. Both valves moderately convex, and marked at the hinge area by transverse ridges of growth. The ventral valve has a depressed channel on the back, beginning at the beak and ending forward in a tube buried in the substance of the shell, and terminating inwardly in the viscerol cavity by a minute opening.

The dorsal valve does not differ much from the ventral, except in the absence of a projecting beak, and in being more tumid in the posterior half. Both valves have a broad, shallow sinus towards the front, and so are there straighter than in other parts of their circumference.

The edges of both valves are flattened on the underside, and thickened at the cardinal line, where they are traversed by arched ridges and furrows, which may serve the purpose of articulation. A depression similar to a pedicle groove traverses the cardinal area of the ventral valve on the axial line; and a low tubercle holds a similar position on the dorsal valve.

Sculpture.—The surface of the shell is marked by fine lines, concentric to the umbo, and at intervals by stronger growth-lines.

¹ Dedicated to Dr. J. F. Kemp, Professor of Geology at Columbia College University, New York, well known for his work on the Archæan and Cambrian Geology of the State of New York.