has a series of rounded oscules, that are small near the margin and gradually increase in size as they approach the centre, where the oscules become united into two very large oblong rather sinuous holes. The outer surface of this sponge exhibits a quantity of small circular holes interspersed among the tubercles which bear the bunches of spicules.

The other sponge I have named *Labaria hemisphærica*. It is hemispherical, about 2 inches in diameter, and rather more than 1 inch high, with a rather smooth outer surface and a rather deep regular concavity on the upper surface, which seems formed of interlacing spicules, leaving considerable spaces between them. The outer surface and its margin are scattered with distant, but rather regularly placed, cylindrical perforations, from the centre of which are emitted tufts of elongated filiform spicules, diverging in all directions from the surface of the sponge. The middle of the underside deeply concave, with a well-defined edge, from which is emitted a very large tuft of very numerous crowded spicules, forming a kind of brush, each filament when perfect ending in three short recurved spines.

Mr. Carter will give a further account of these sponges, with descriptions of the spicules of which they are formed, in his account of the sponges in the British Museum.

On the "Capreolus" of Zonites algirus. By E. Dubreuil.

In our anatomical and historical investigation of the generative apparatus of the *Helices*, we have noticed the presence of a spermatophore in *Zonites algirus*, and described the *capreolus* of that species, which had not been indicated by any malacologist.

This body, 26 millims. in length and 1 millim. in breadth at its most inflated portion, is of a tubular form, diminishing in size on both sides from its inferior third. It is a complete canal, furnished with numerous spiral channels. A transverse section made about its middle has the aspect of a cogged wheel furnished with from twelve to fourteen little teeth. Its superior extremity terminates in a tube with a capillary aperture, where the lamellæ disappear; whilst the other, where they are more distinct, is shorter and presents a wider orifice. It is covered with an albuminoid membrane.

When the introduction of the *capreolus* is completed, its inferior extremity, curving into the arc of a circle, inserts itself for three, four, or five millimetres into the neck of the oviduct, which, in this species, is destitute of a transverse muscle. This extremity is enveloped by a whitish viscous matter, which escapes from the interior of the spermatophore, and contains an infinity of spermatozoids. The issue of these from the interior of this appendage is due to the action of the muscular membrane of the copulatory canal.

A part of the inferior deferent duct is destined to the production of the *capreolus*. This duct, which measures 50 millims. in extent, has not the same volume throughout its length. From its point of junction with the deferent channel for a distance of 31 millims. its diameter is $\frac{1}{3}$ or at most $\frac{1}{2}$ millim., whilst in the second half of its

course, which terminates at the penis, it is $\frac{1}{4}$ or sometimes $\frac{1}{3}$ millim. The narrow portion of the duct is pellucid; the dilated portion, of an opaque white, is composed of the same layers which are met with in the *flagellum* of the *Helices*. Beneath an external cellular membrane we find a muscular membrane, followed in its turn by a glandular layer, which does not exist in the narrow part of the duct.

In the wide portion of the same organ we observe numerous lamellæ arranged like the spiral fibre of the tracheæ of plants. These lamellæ extend in an oblique spiral between the two margins of this portion of the canal, their obliquity increasing towards the point of junction of the two portions of the latter, in the neighbourhood of which they finally become longitudinal. At the breeding-time they are covered with solid white particles, which effervesce with hydrochloric acid.

In its movement of retroversion the penis is followed by the inferior deferent canal, which contains the *capreolus* until the moment when this body is expelled.—*Comptes Rendus*, November 4, 1872, tome lxxv. pp. 1126, 1127.

On the Developmental History of Petromyzon. By A. Schneider.

Since August Müller published his fine discovery of the transformation of *Ammocœtes* into *Pteromyzon* (Müller's Archiv, 1856; see also Ann. & Mag. N. H. ser. 2, vol. xviii. p. 298), every zoologist must certainly have been desirous of witnessing this wonderful metamorphosis. Here in Giessen the opportunity seemed to offer itself to me; for, in the Bieberbach, *Ammocœtes branchialis* occurs in such abundance that in the course of two years I obtained about two hundred *Ammocœtes* and a dozen of *Petromyzon Planeri*. But I never obtained the transition-stages, nor could I succeed in getting full-grown specimens of *Ammocœtes* to undergo any further development in tanks. I must therefore acknowledge with thanks that Prof. von Siebold had the kindness to give me two specimens of the transition-stage which were in his possession. As I was sufficiently familiar with the structure of *Ammocœtes* and *Petromyzon*, these sufficed to give me an insight into some of the most important processes.

On the ventral surface of the *Ammocœtes* there is an elongate-oval organ, already mentioned by Rathke, which was regarded by A. Müller as the rudiment of the tongue, but the structure of which has hitherto remained entirely unknown. It is a gland which opens into the œsophagus in the ventral line between the third and fourth branchial clefts. Its structure differs from that of all other known glands. The orifice leads into two tubes lying close to one another, and which extend forward to the end of the branchio-œsophageal cavity, and backward to the boundary between the fifth and sixth branchial clefts. Just at the orifice another tube branches off on each side, passes a short distance backward, and then, bending upward and forward, reaches the vicinity of the orifice of the gland, then again bends downward and backward, and again downward and forward, so that it describes about $1\frac{1}{2}$ spiral convolution. In the part situated in front of the orifice of the gland, there are on each side four cords consisting of nucleated cells. The cells are cu-