

large series of sections of the peduncle of *Lepas anatifera*, the presence of the principal cement-ducts can everywhere be ascertained; in the most superior part of the peduncle they run at a somewhat greater distance from the innermost layer of longitudinal muscle-fibres than is the case in the more inferior sections of the peduncle. The ampullæ which would represent the commencements of the cement-ducts I have not observed. The two ducts run in a zig-zag line, whence in many sections parts of them 0·3 mm. in length are represented. I have not been able to follow the cement-ducts quite up to the inferior extremity of the peduncle. The wall of the duct itself is irregularly folded in all my preparations of *Lepas anatifera*; towards the interior of the canal it seems to be invested with a thin cuticle, for, when a transverse section is studied, its interior is always limited by a sharp smooth line; for the rest, I have not a very clear notion of the cellular structure of the canal. The condition of the specimens of *Conchoderma virgatum* at my disposal has only allowed of my making a preparation of the glands. They are very small, measuring not quite 0·06 mm. Their nuclei are nearly circular, and have a diameter of about 0·024 mm. In one of the glands a little nucleolus was visible, though not very distinctly. The thin cuticle which invests the canal that passes away from the gland in *Conchoderma virgatum* was visible also round the glands themselves. I found Krohn's statement as to the occurrence of the cement-glands for the main part in the parenchymatous tissue of the mantle to be quite correct.

In *Scalpellum* I studied the cement-apparatus in two species in greater detail, viz., in *Scalpellum vulgare*, Leach, and in *Scalpellum regium* (Wyv. Thoms.), Hoek. In these two species this apparatus is, curiously enough, not quite built up after the same type. That of *Scalpellum vulgare* has been described already by Darwin.¹ In young specimens, Darwin says, the attachment is performed by cement proceeding exclusively from the antennæ of the larva; in older and full-grown specimens the cement is poured out through a straight row of orifices along the rostral edge, thus causing a narrow margin to adhere firmly to the thin and cylindrical branches of the coralline. "At each period of growth the corium (the soft flesh, the mass of connective tissue with the muscles of the peduncle) recedes a little from the attached portion of the peduncle; of which portion the greater part is thus left empty, &c. . . . The two cement-glands are seated high up on the sides of the peduncle; the two cement-ducts proceeding from them, are $\frac{3}{2000}$ ths of an inch (0·039 mm.) in diameter and run in a zig-zag line; at the point where they pass through the corium to enter the lower attached portion of the peduncle they become closely approximated, and partially imbedded in the membrane of the peduncle. They run together along the rostral edge, giving out through each orifice a little disk of brownish cement, and finally they enter the larval antennæ."

The specimen of *Scalpellum vulgare*, whose cement-apparatus I have investigated, had a peduncle of about 9 mm. in length, and was attached by its under surface

¹ Darwin, Lepadidæ, 1851, p. 226.