

attached as not to be independent of it; in many it is fused with it and cannot be demonstrated as distinct. This is the case for instance in *Sergestes*. One thing, however, is invariably constant, that however few the joints of the peduncle may appear, that which supports the scaphocerite is always the second.

At the extremity of the peduncle a flagellum is attached which is generally long and slender; its length varies from half to three or four times that of the animal. Sometimes it is short, and in the Scyllaridæ it is squamose and discoidal, and in the fossil form *Cancerinos claviger*, Münster, from the Upper White Jura of Bavaria, it is short, robust, and club-shaped; but this reduction of length is generally due to the shortness of each articulus. The margins are occasionally armed with a series of more or less important spines, so that in the Palinuridæ these organs become effective as a means of protection. As a rule, however, they are smooth and free from hairs or spines, and by their great length sweep the water in search of objects, the character of which they seem to appreciate by the sense of touch.

In the genus *Crangon* they are used to assist in concealing the animal beneath the bottom, by playing over the dorsal surface, and drawing particles of sand over the back so that it becomes covered from view.

In *Palinurus* they are strong and rigid, being capable of use as weapons of offence or defence.

*The Mandibles.*—The mandibles are the appendages attached to the fourth somite, and consist of a large angular joint supporting two or three other joints of rudimentary character, that vary in number and form according to generic distinction.

The joint of which the mandible proper consists is the homotype of the coxa of the crustacean leg, differentiated to fulfil certain specialised functions; and it possesses very similar characters throughout the whole of the higher orders. It is deeply implanted in the body of the animal by a thin broad process of a concavo-convex form (apophysis), the muscles of which are inserted by strong calcified tendons on the inner anterior margin and at the extremity of the apophysis, the other extremity of the muscles being attached, either to the dorsal surface of the carapace or else to its lateral wall just behind the hepatic tooth. At the points of the mandible opposite to those where the tendons are attached two hinges exist, on which the appendage swings in performing the action of opening and shutting.

The anterior or distal extremity of the joint is modified to form a grasping or cutting portion and a grinding process; the former is broad, thin, and of a more or less concavo-convex form, while the latter is stout, cylindrical, and truncate, the truncate extremity being furnished with numerous small teeth and spines of variable form and power. For the sake of clearness of description, I have in this Report named the grasping or cutting portion the psalistoma, on account of its scissor-like mode of