

described and figured by Professor T. J. Parker,¹ who says that Mr. Saville Kent remarked in *Nature*² upon the shrill squeaking sound emitted by living specimens of *Palinurus vulgaris* when handled, this sound being due, according to Mr. Kent, to the friction of the abdominal somites; and Mr. Parker suggested that the noise referred to may possibly have been produced by the apparatus described.

Dr. Möbius attributes the sound made to the action of innumerable close-set minute hairs inclined with their points upwards, situated on the lower surface of the flap, which plays over the lateral ridge of the antennular sternum; but with regard to the statement that it is the friction of the flap, and not of the pad, which produces the sound, Mr. Parker³ says that he has "removed the flap entirely without any sensible diminution of the noise. The mere observation of the parts while in action is enough to show the true state of things: when looked at from the front it is very evident that the flap exerts hardly any pressure upon the ridge, as, indeed, from the fact that it is a soft structure supported only along one edge, it could scarcely be expected to; while the pad, on the other hand, is completely flattened out against the smooth surface, and in the most perfect contact with it." Mr. Parker also remarks:—"In the matter of histiological structure, the pad does not differ from other chitinous membranes, being formed of fine superposed horizontal laminae, marked by a vertical striation. It is, however, of unusual thickness; and its horizontal laminae have, for some distance down, a varying appearance, corresponding with the ridges into which the surface is raised. The stridulation is almost equally audible in water and air." I have produced it with specimens taken out of spirits, but it soon wore off. Dr. Möbius and Mr. Lloyd heard it in the Hamburg Aquarium; and Mr. Parker observed the sound and the movement of the antennae producing it in a specimen brought alive to the Biological Laboratory of the School of Mines.

A similarly formed stridulating organ exists in the genus *Panulirus*, but in the closely allied genus *Palinosyrtus* the inner articulating process is attached, and works as a movable hinge, and there is consequently no stridulating organ; nor is there any in the genus *Synaxes*.

This second joint of the peduncle is peculiar throughout the whole of the Macrura, in having attached to it an articulating appendage, the scaphocerite, excepting in the tribe Synaxidea, and in the genus *Nephropsis* among the Homaridæ. In the family Scyllaridæ, the first joint is fused with the cephalon and the third is peculiarly produced on the outer side to form an elongated plate; the fifth, which represents the flagellum, is produced in this family in the form of a large, broad, thin, disc-like plate.

In the Astacidæ, of which *Homarus* is the most perfect type, the scaphocerite exists probably in its most normal condition, and has a rigid external margin produced to a

¹ *Proc. Zool. Soc. Lond.*, pp. 298, 442, 1876.

² *Nature*, November 1877.

³ *Loc. cit.*, p. 443.