thalmous Crustacea; the hairs are found in the young, though in less numbers than in the adult, and similarly, they are more numerous in the higher than in the lower forms. Although there seems to be no doubt that these organs respond to stimuli which are something else than tactile, we are not yet in a position to definitely assert that they have an olfactory function. The author concludes by remarking that the character of these parts has a value for the systematist. That all parts have a value for the systematist is true, but I can find little that is trustworthy in the appearance of the membranous cilia, or sufficiently distinct and constant to assist in the determination of species. It has been shown that these membranous rods exhibit distinct variations of form in certain different species; but it is equally certain that a large number of very distinct species have them of precisely similar form, and they are therefore valueless as a guide for the determination of specific alliance, although in some instances their variation is distinct in closely allied forms.

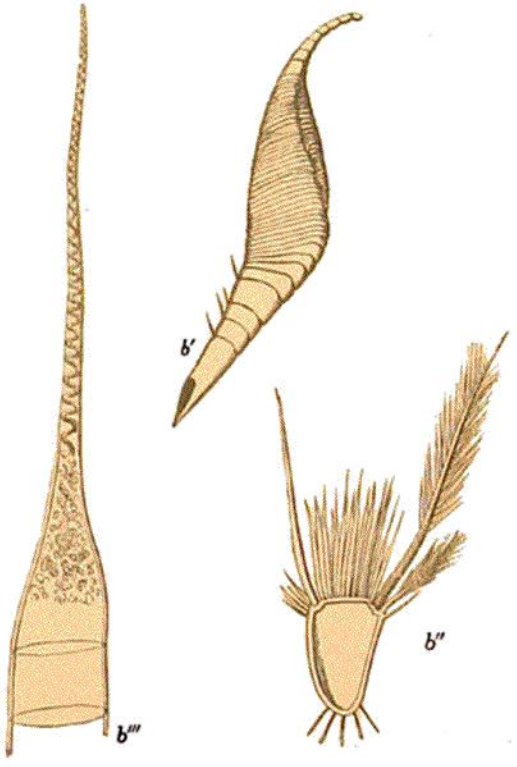

FIG. VI.—*Palinurus vulgaris*—*b'*, outer flagellum; *b''*, section of outer flagellum; *b'''*, distal extremity of a sensory cilium.

In the genus *Palinurus* the flagella are very short and the outer one is robust (Fig. VI., *b'*) when compared with the inner. It commences with a long and narrow articulus at the base, obliquely attached to the peduncle; the second is shorter and a little broader, the next four or five are gradually broader but irregularly longer, after which they decrease much in length, especially on the outer side, so as to produce a curve in the flagellum; then the articuli gradually narrow towards the extremity, where they become slightly elongated. From the commencement of the shortening articuli to those at the distal extremity the inner surface is flattened (Fig. VI., *b''*), the margins of the depressions being furnished with a row of long, straight, stiff, sharp-pointed spines, those on the one side being ciliated, those on the other smooth, and between the two there is a thick mass of membranous cilia that are much shorter than the marginal spines. These membranous cilia have the walls of extreme tenuity, and parallel to a considerable extent, when they suddenly narrow to a long and slender point (Fig. VI., *b'''*); these organs when treated with caustic potash exhibit an articulate structure in the body of the cilium, but in the slender extremity a delicate spiral condition exists.

In the genus *Panulirus*, where the flagella (Fig. VII., *b'*) of the first pair of antennæ