

“ Finally the exceedingly delicate soft parts were successfully examined, both with respect to their most minute characters as well as with reference to their relation to the skeletal structures. In addition to the usual methods of teasing and cutting into sections, it has been found advantageous to stain the specimen with some colouring matter, especially with picrocarmine, alumcarmine, and hæmatoxylin. For this purpose portions, about the size of peas or beans, were stained whole, then thoroughly washed out with alcohol of gradually increasing strength, and finally dehydrated with turpentine or xylol, embedded in paraffin and cut into sections of varying thickness with the microtome.

“ In some cases it was desirable to obtain in the section not only the delicate soft-tissues but also the hard and brittle flinty skeleton as a complete network; but the well-known curling up of the thin sections was a serious hindrance, inasmuch as although the delicate, yet elastic, soft tissues were easily retained in connection, the brittle siliceous web was always obtained in fragments. I sought to discover a means by which this detrimental curling of the sections might be prevented, and after many attempts constructed that small accessory to the microtome which I have described and figured under the name of ‘Schnittstrecker’;¹ by means of this simple instrument it was possible to obtain sections, not only of very firm and compact pieces, but also of more delicate and brittle objects, such as the tubes of the genus *Farrea*, in which not only the soft parts but also the brittle siliceous trabeculæ were retained in their normal positions. The sections prepared in this manner proved of assistance in

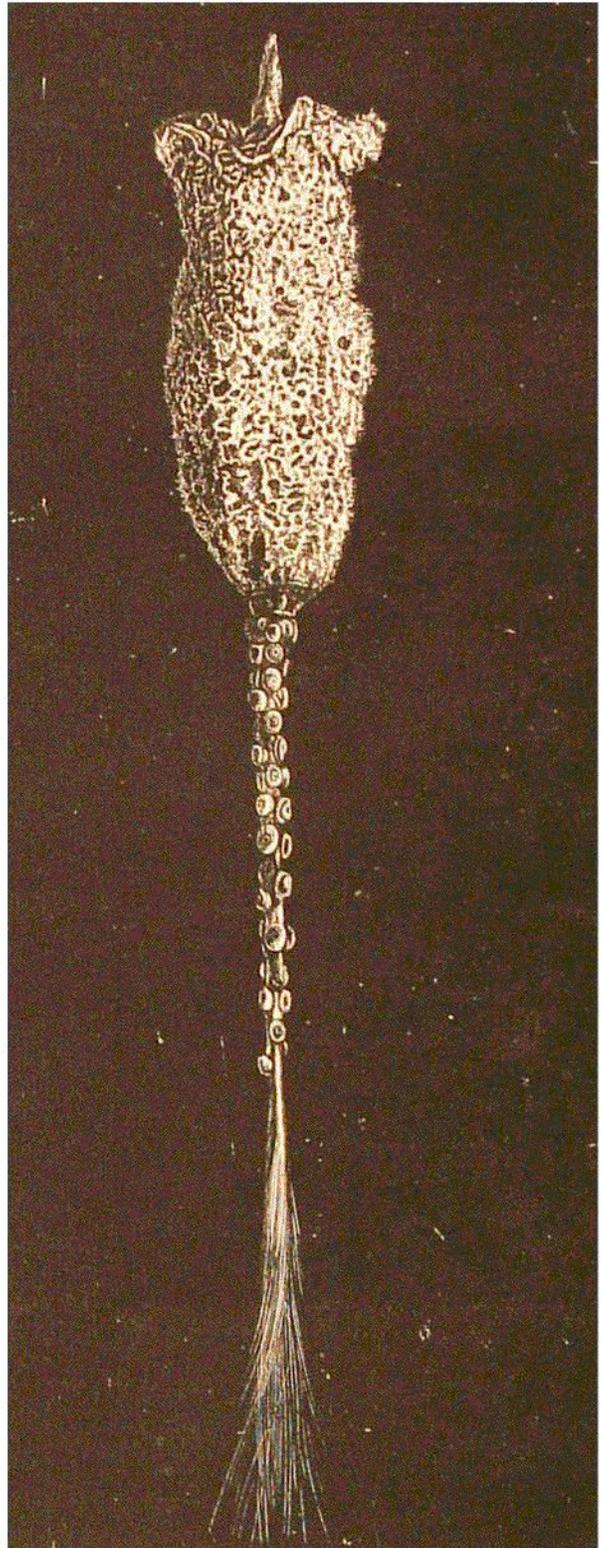


FIG. 163.—*Hyalonema lusitanicum*, Bocage, a representative of the Hyalonematidæ.

¹ *Zool. Anzeiger*, Jahrg. vi, p. 108, 1883.