

of the last stage. As the pedicel is not elongate, and shows no signs of preparation for the development of a fourth medusa, we conclude that three is the highest number on any one axis; we have, at least, never seen more than three. The terminal medusa of *Fig. 19* is very nearly ripe, but not quite so, as may be seen by comparing the pear-shaped spermatie particles (*Fig. 20, A B*), which were taken from it, with those which were naturally discharged from a fully mature animal (*Fig. 21, A B*). From this period to maturity the spermatie contents have an opaque white color. The mature spermatie particle (*Fig. 21, A B*) has an elongated, guitar-shaped body, and from its narrower end a tail tapers away, and extends to about eight times its length. The anterior end suddenly narrows into a rounded prominence. We have searched in vain for female medusæ among this kind of Hydroids.

No. II. *Proles hydroidea*.—The hydra of this hydromedusarium (Pl. XXVII. *Figs. 22–26*) can in no way be distinguished from that of No. I., except by its yellow color; it has the same habitat, size, proportions, and mode of branching, and the structural details do not differ. In the breeding season, however, the differences are very obvious; then we find that the medusæ (*md*) are not only single, but scattered along the stem of the hydra for a considerable distance from the head. As these medusæ were observed in July, the middle of the breeding season of No. I., and the two appeared to be in the same stage of development, they could not be supposed to represent two different states of the same species; the less so since the medusæ of both seemed to be males, and the oldest of the second kind were very opaque and yellow, like the whole hydra. Unlike the *Eudendrium ramosum* figured by VanBeneden and others, the medusæ of our species do not free themselves, but are developed as simple, saccate, globular bodies, with what appears to be a broad proboscis (*Fig. 22, md¹*). The tendency to form branched bunches, as represented by one of the figures (*Fig. 22, a b*), indicates a close relation to the type of the true *Eudendrium ramosum*.

Recent observations have shown that, notwithstanding the extraordinary differences noticed between the two Hydroids described above, they belong to one and the same species; the first form being the stock which produces proliferous male medusæ only, and the second that which produces single, scattered, female medusæ; there is, besides, a marked difference in the color of the hydroids. This case shows, perhaps, more fully than any other, with what perseverance the Hydroids must be studied, in their various stages of growth, before correct results can be reached.

The buds of the female medusæ are usually scattered irregularly upon the calyx of the hydra; occasionally they are found at some distance from the head, along the stem. The wall of the bud, which, in the early stages, is of uniform