of which *p* is the Purkinjean vesicle; *w* the Wagnerian vesicle; *y* the yolk; *v* the vitelline sac. 400 diameters; C the Purkinjean vesicle (*p*), seen isolately; *w* Wagnerian vesicle. 500 diameters.

Fig. 17. A pair of young hydræ, a little younger than fig. 6, with the same lettering. 300 diameters.

Fig. 18. The horn-like sheath of fig. 6. *a b c* the partition between the hydræ and the main stem. 150 diams.

PLATE XXXIII.

Obelia commissuralis *McCr.*

[Figs. 1 and 2, drawn by A. Sourel; the others by H. J. Clark.]

Fig. 1. A hydrarium, full grown, and natural size.

Fig. 2. A hydromedusarium, attached to a sea-weed. Natural size.

Fig. 3. A growing branch and pedicel. *α* the outer, and *β* the inner wall of the branch; *γ* the processes from the outer wall; *ε* the rings of the horn-like sheath; a^1 the outer, and b^1 the inner walls of the young pedicel; c^2 the horn-like film over a^1; g^1 the end of the chymiferous channel. 500 diameters.

Fig. 3ª. The main stem, from which a branch is beginning to bud. *α β γ* as in fig. 3; *δ* the upper edge of the bud, overlapping the outer wall (*ε*) of the stem; a^1 outer, and b^1 inner wall of the bud; c^2 the old horn-like sheath, thrown off by the expanding bud; c^3 the new sheath of the bud. 500 diameters.

Fig. 4. A half-developed hydra. *a* outer, and *b* inner wall of the head; a^1 outer, and b^1 inner wall of the pedicel; c^1 cavity of the calycle; c^2 uppermost ring of the pedicel; c^3 the calycle; *g* the digestive cavity. 500 diameters.

Fig. 4ª. An end view of the polygonal cells of the outer wall (*a*) of fig. 4. 500 diameters.

Fig. 5. A sectional view of an adult hydra. *a* outer, and *b* inner wall of the head; a^1 outer and b^1 inner wall of the pedicel; a^2 outer, and b^2 inner wall of the tentacles; a^3 outer, and b^3 inner wall of the proboscis; c^1 cavity of the calycle (c^1); c^2 rings of the pedicel; *g* the digestive cavity; g^1 cavity of the proboscis (*pr*); *t* tentacles. 200 diameters.

Fig. 5ª. Looking into the mouth (*m*) of the proboscis of fig. 5.

Fig. 5ᵇ. A tentacle of fig. 5. a^2 and b^2 as before; *l* lasso-cells; *u* an infusorium, encircled by lasso-threads. 500 diameters.

Fig. 6. A portion of the branch of a hydromedusarium. *β* the branch; *γ* the top of *β*; *δ* the branchlet; *ε* rings of the horn-like sheath; C rings of the pedicel of B; B the hydromedusa; C C' hydræ; C^2 the rings of the pedicel of C. 60 diameters.

Fig. 7. A hydra, with budding tentacles. Letters as in fig. 5; also *e* the point of attachment to the semi-partition. 60 diameters.

Fig. 7ª. The end of a tentacle of fig. 7. 500 diams.

Fig. 8. A young hydra, just upon the point of emerging from the calycle. *e* the attachment to the semi-partition; e^4 the sides, and e^5 the angles of the polyhedral aperture of the calycle; *d* the opercle; d^1 the inflected edge of *d*; *t* tentacles. 125 diams.

Fig. 9. A hydra a little older than fig. 7. 125 diams.

Fig. 10. A hydra similar to fig. 8. *d* the opercle depressed. 125 diameters.

Fig. 11. A branch of a hydromedusarium. A B the reproductive hydræ; C the hydræ. 11 diameters.

Fig. 12. The calycle of a hydra in profile. *e* the semi-partition; e^1 the cavity of the calycle (*e*); e^2 the pedicel; e^3 the sides, and e^5 the corners of the polyhedral aperture. 300 diameters.

Fig. 12ª. The same as fig. 12, looking into it; *e* e^1 e^3 e^5 as before.

Fig. 13. A portion of the pedicel of a hydra, beset with lasso-cells (a^1); c^2 the concentric layers of the horn-like pedicellar sheath. 500 diameters.

Fig. 14. A portion of the main stem in a state of decomposition. a^1 inner, and b^1 outer wall; c^2 the lamellated, horn-like sheath. 500 diameters.

PLATE XXXIV.

Figs. 1-9ª, Eucope diaphana *Ag.*; Figs. 10-21, Obelia commissuralis *McCr.*

[Figs. 4 and 9, drawn by A. Sourel; the others by H. J. Clark.]

Fig. 1. A portion of the stem of a hydrarium. *a* a^1 a^2 a profile of the concentric laminæ; *b* the inner face exposed; *c* loosened filaments or shreds. 400 diameters.

Fig. 2. The calycle and its pedicel, obliquely in profile. *a* a^1 the thick wall of the calycle; *c* c^1 the thickness of the stem; *f* the basal attachment of the joint above; *g–h* one joint of the stem; *k* the semi-partition. 100 diameters.

Fig. 3. A hydra with partially contracted tentacles (*b* b^1). *a* the calycle; *d* the proboscis. 125 diameters.

Fig. 4. A birds-eye view of a hydra; *b d* as in fig. 3.