Figs. 1, 1a, and 2. Pennaria gibbosa.

Fig. 1. A broadside view of a stem, natural size. *a* the stem; *b* the large terminal hydræ of the branches (*c*); *d* the large terminal hydra of the stem.

Fig. 1a. View at right angles to fig. 1, to show the curve of the stem and branches.

Fig. 2. A portion of the stem, bearing a branch. A the main stem; A^1 rings of A; B the large terminal hydra of the branch; C the youngest hydra, a mere bud as yet; D E F G hydræ, lettered according to their ages; *a* basal rings of the branch; a^1 rings along the branch; a^2 terminal rings of the branch; a^3 pedicel of C; a^4 end of the pedicel of D; *b* pedicel of the large medusa (d^3) of G; *d* the medusa of D; d^1 medusa of E; d^2 d^2 medusæ of F; d^3 d^3 medusæ of G; *e* e^1 the sexual organs of the medusa (d^1); e^2 circular canal of d^3; *f* the proboscis of d^3; *g* the tentacles of d^3; *h* the radiating canals of d^3; *m* mouth of the hydra; *p* proboscis of the hydra; p^1 the bulging side of *p*; p^2 the proboscis of F, stretched out; *t* t^1 the crown of tapering tentacles; t^2 t^2 the globe-tipped tentacles of the proboscis. 15 diameters.

Figs. 3 to 13. Millepora alcicornis.

Fig. 3. A branch, natural size, covered by the extruded hydræ.

Fig. 4. A portion of fig. 3, magnified. *a* the outer wall in profile; *b* the surface of the branch; *c g h* the larger forms of hydræ, with only four to six tentacles; *i k l m n* the smaller hydræ, with numerous tentacles; *d* the mouth of *c*, shown by the bending of the head to one side; *e* the aperture of the cell of *c*; *f* aperture of the cell of *g*; *p* aperture of the cell of a small hydra. 25 diameters.

Fig. 5. One of the smaller hydræ of fig. 4. *a* the outer and *b* the inner wall; *c* c^1 digestive cavity; *d* mouth; *e f g h i k l m* the short, globe-tipped tentacles; *n* the groups of brown cells (fig. 5c) in the inner wall. 100 diameters.

Fig. 5a. A lasso-cell from the tentacles. *a* the empty cell; *b* the base of the thread (*d e f*); *c* the thickened portion. 500 diameters.

Fig. 5b. A B C D E F other forms of lasso-cells. *a* the cell; *b* the base of the thread (in A the barbs); *c* the thread.

Fig. 5c. *a b c* brown cells from the inner wall. 500 diameters.

Fig. 6. One of the larger hydræ of fig. 4, with four tentacles. Letters as in fig. 5 excepting *h*, the stem of the tentacle. 100 diameters.

Fig. 7. Sectional view of fig. 6, to show the form of the cells of the inner wall. Letters as in fig. 5. 100 diameters.

Fig. 8. A portion of the surface of a branch, to show the form of the cells. *a* aperture of a cell of a large hydra; *b* cell of a small hydra; *c* the soft walls of the hydro-medusarium through which the calcareous, spongiform coral shines; *d* the spongiform body of the coral denuded; *e f* views into the cells of the large hydræ; *g* g^1 cells of small hydræ; *h i j k* irregular radiating partitions of the cells of small hydræ; *l m* radiating partitions of a large cell (*e*). 100 diameters.

Fig. 9. Longitudinal section of the cell of a large hydra with three transverse partitions, taken at a point one half of an inch below the tip of the branch. *a* the mouth of the cell; *b* the bottom of the cell; *c* transverse partitions; *d* irregular projections from the bottom of the cell; *e* apertures in the side of the cell, leading off into the spongiform mass; *f* branching cavities in the coral; *g h* sections of cavities like *e*. 100 diameters.

Fig. 10. Longitudinal section of a young, large hydra, taken at a point half an inch below the tip of a young branch. *a* mouth of the cell; *b* bottom of the cell; *c* sides of the cell; *d e f* radiating partitions; *g* section of an aperture like *h*; *i j* branching cavities in the coral; *k* solid part of the coral. 100 diameters.

Fig. 11. Transverse section of a branch one inch below its top. *a* highly spongiform axis; *b* mouth and *c* bottom of the cell; *d* e^1 *k* transverse partitions; *e f g h i* cells more or less exposed; *l* surface of the branch. 40 diameters.

Fig. 12. Transverse section one eighth of an inch below the top of a branch. *a* the spongiform axis; *b d e f* cells in various stages of development; *c g* bottom of the cells. 40 diameters.

Fig. 13. Longitudinal section of a large cell, from a stem half an inch in diameter. *a* mouth and *b* bottom of the cell; *c* the numerous transverse partitions; *d* the upper part of the cell only partially laid open. 40 diameters.

Fig. 14, 14a, 14b. Pocillopora damicornis.

Fig. 14. The tip of a young branch. *a* the youngest, and *b c d e f g* successively older cells. 40 diameters.

Fig. 14a. Transverse section of two young cells, *a b*, from fig. 14; *d* and *e* the bottom of the cells; *c* c^1 ridges between the cells.

Fig. 14b. Longitudinal section of an old branch. *a b*