

PLATE 49.

Fig. 593. *SEPIOTUTTHUS ARCTIPENNIS*, ventral view of the animal; 593 a, superior view of the head; 593 b, a cupule, from above; 593 c, cupule, in profile.—p. 479.

Fig. 594. *OMMASTRETHES INSIGNIS*, ventral view of the animal; 594 a, the dorsal shaft; 594 b, the mouth, and circle of arms; 594 c, d, e, f, views of the jaws; 594 g-m, various sizes and forms of cupules; 594 n, shows the origin of the fin, from above.—p. 480.

PLATE 50.

Fig. 595. *ONYCHOTUTTHUS RUTILUS*, dorsal, and 595 a, ventral views of the animal; 595 b, mouth, and circle of arms; 595 c, cupule, from above; 595 d, ranges of cupules; 595 e, hook cap-sules of the tentacular arms.—p. 482.

Fig. 596. *ONYCHOTUTTHUS BREVIMANUS*, dorsal view of the animal.—p. 483.

PLATE 51.

Fig. 597. *ATLANTA PRIMITA*, shell and animal, magnified; 597 a, the head and proboscis, much magnified; 597 b, natural size; 597 c, thoracic tube and sac; 597 d, section of the shell.

DETAILS. a. The eye, a transparent globe, resting on a dark base. b. Bag and tube, hanging free externally. c. Mouth, the tube below enlarging into a stomach. d. Intestine. e. Ovale organ, probably the heart, beating regularly when the head is exerted, but not observed in action when the head is retracted. f. Lamella, facing the beak. g. Two small plates on the lateral lamella. h. i. Fleishy antennae. k. Tube, connected with the bag b, having vibratile cilia at the aperture.

Fig. 598. *ATLANTA CUNICULA*, the animal and shell, magnified; 598 a, the head, still more enlarged; 598 b, the cervical ganglion and its branches; 598 c, natural size.

DETAILS. a. Cephalic ganglion. b. Otolithes (?). c. Alimentary canal. d. Abdominal nerve. e. Nerve to the thoracic ganglion.

Fig. 599. *ATLANTA VIOLACEA*, lateral, and 599 a, superior views of the shell, enlarged; 599 b, natural size.

Fig. 600. *ATLANTA TESSELLATA*, lateral, and 600 a, dorsal views of the shell, enlarged; 600 b, natural size.

Fig. 601. *LIMACINA* (?) *CUCULLATA*, right, 601 a, left views of the shell; 601 b, view of the shell, with the animal.

Fig. 602. *LIMACINA SCAPIFOSEA*, lateral, and 602 a, longitudinal views of the shell and animal, magnified; 602 b, natural size.

Fig. 603. *HYALEA FENORATA*, shell, with the animal, expanded.

Fig. 604. *HYALEA INERMIS*, shell, with the animal; 604 a, ventral, and 604 b, lateral views of the shell.

Fig. 605. *CLEODORA EXACUTA*, shell and animal, enlarged; 605 a, transverse section of the shell; 605 b, natural size.

Fig. 606. *CLEODORA FLACIDA*, front view of the shell and animal, enlarged; 606 a, natural size.

Fig. 607. *CLEODORA RENDA*, front view of the animal and shell, enlarged; 607 a, lateral view of the same; 607 b, natural size.

Fig. 608. *CLEODORA FALCATA*, shell, with the animal, enlarged; 608 a, natural size.

PLATE 52.

Fig. 609. *CYNTHIA AMPHORA*.

Fig. 610. *PHALLUSIA VIOLACEA*.

Fig. 611. *ASCIDIA MONSTRANS*, several figures, in various attitudes.

Fig. 612. *BOLTENIA COACTA*, lateral view.

Fig. 613. *ASCIDIAN*, attached to coral from Balabac Passage, Sooloo Sea; 613 a, an individual, magnified. (J. D. Dana.)

Fig. 614. *BOTRYLLOID*, of a fleshy texture, from Feejee Islands; soft, fleshy, eight points to stars; stars are openings, but open only half the diameter of the star; the openings appear large, but they are mostly covered by a very thin membrane; tentacles on sides of mass. Animal contracts immediately when approached within a few inches.

The stellar openings are mouths of distinct animals, each having its oesophagus and stomach; oesophagus has transverse folds (light-yellow color) in membrane; folds are not continuous in the tube, but are interrupted in two lines traversing the tube longitudinally, and are also partially flexed in two other bisecting lines; observed two large, deep-yellow masses, which appear to indicate distinct lobes to the cavity; the stomach is attached below to the inferior or basal membrane of the mass, the whole alimentary canal being nearly or quite vertical; no stomach, as far as could be seen, to the large general mouth; 614 a, detached portion; 614 b, oesophagus and stomach to the stellar mouths. A structure of this nature, seen in mouth and oesophagus, appears to be double; forming the oesophagus-tube, or attached to its inner surface; 614 c, natural size. (J. D. Dana.)

Fig. 615. *ECCOELIUM KRUESCENS*, G., of a spongy texture, attached to coral from Sooloo Sea. (J. D. Dana.)

Fig. 616. *ECCOELIUM* —, from coral reef, Balabac Passage, Sooloo Sea; 616 a, enlarged view. (J. D. Dana.)

Fig. 617. *ECCOELIUM* —, from Feejee Islands; surface minutely papillose; spongy substance contracts and closes the mouths and star openings when irritated; 617 a, natural size. (J. D. Dana.)

Fig. 618. *ECCOELIUM LIVIDUM*, G., from Feejee Islands; mass without regular form; two or three mouths in the mass; numerous stellate openings; six-pointed stars; these openings the extremities of tubes, which may be traced into the mass nearly to —; texture of frond spongy and tough; the stellar openings contract when frond is irritated, but the large mouths still remain open even when needle ran into it; 618 a, enlarged drawing, showing the large mouth and some of the stellate openings at the extremity of the internal tubes; 618 b, the frond being torn in two, showed the exterior of the internal vessels connected with the stellar openings; the upper banded portion is the oesophagus; there are ten or eleven yellow bands; the lower portion is the stomach, and is deep yellow. (J. D. Dana.)

Fig. 619. *DIACORA* (?) —, soft and fleshy, from Feejee Islands; 619 a, one of the small mouths, magnified, situated around the large central mouth. (J. D. Dana.)

Fig. 620. *POLYCLINUM* —, from dead coral, Sandalwood Bay, Feejee Islands; 620 a, portion enlarged 25 diameters; it is of a spongy texture; a circle formed by six irregular white spots surrounds the mouth; three white points surround the mouth at the centre; these points sometimes exhibit motions; the mouth opens but very slightly, and contracts when irritated. (J. D. Dana.)

Fig. 621. *NEPHTHIS* (?) —, dredged from about nine fathoms, Sooloo Sea; 621 a, b, front and lateral views of an individual, magnified.