

## C H A P. IX.

*Of the Alcyonium.*

**T**HIS Class of marine Bodies is, by Mr. *Ray*, placed after the Sponges, and is called a kind of Plants growing in Water, formed like *Fungus's* of various Figures, and with different Sorts of Covering; some having a gritty, and some a callous Skin, with a spongy Substance in the Inside. Other Species are of a fleshy Substance.

*Cæsalpinus* was of Opinion, that this Class of Bodies was composed of the Froth of the Sea, differently modified, and of different Colours, and grew to Rocks in the Manner of Sponges.

At present, we shall consider it as consisting of such marine Substances (chiefly the Nests and Matrices of Sea Animals) as are not reducible to any other Class.

Plate XVII. N<sup>o</sup>. 1. *Alcyonium pulmonis instar lobatum.*  
 Fig. b. B. *An Pulmo marinus alter Rondeletii 132? R. S. p. 31.*  
 N<sup>o</sup>. 3.  
 Sea Fig.

This Sea-production is of a dark Olive-colour, of a fleshy Substance, and smells very disagreeably when it is opened; the Inside is full of little oblong yellow Particles, from whence it borrows the Name of the Sea Fig among the Fishermen, from whom it was procured, with many other Things of the like kind, at *Whitestable*. As soon as I received it I put it into Spirits, in order that I might examine it more minutely, being thus kept from shrinking.

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The natural Size is represented at Fig. *b*.

When I applied my Glafs to it, I found the whole Surface covered with small Stars of fix Rays, like small Polypes of fix Claws.

Fig. *C*, gives you the Appearance it made when magnified.

Upon opening it, I found the Inside consisted of a great Number of little Bags of a yellowish Colour, full of a clear viscid Liquor; in the midst of this was a small Duct leading to the Centre of the Star at the Top of each. This Section is represented magnified at Fig. *B*.

In examining one of these Bags attentively, I discovered several regular Figures, like Shells, in this inner Tube or Duct, placed upon one another. But whether they are the Food of the Animal in the Gut or Stomach, or whether it is the Ovary, I am not certain.

Fig. *D*, is the true Appearance magnified.

N<sup>o</sup>. 2. *Alcyonium ramofo-digitatum molle, asteriscis undi-* PlateXXXII.  
*quaque ornatum.* R. S. pag. 31. N<sup>o</sup>. 2. Fig. a. A.

Dead Man's Hand, or Dead Man's Toes.

This extraordinary Sea-production is indebted for its *Eng-lish* Name to the Fishermen, who often take it up in their Nets, when they are trawling for flat Fish. It is met with very frequently on the *Kentish* Coast.

The small Specimen represented at Fig. *a*, is exactly drawn from Nature. This was taken near the *Buoy of the Nore*, sticking, as it is represented, to a small Oyster-shell; and sent to me in Sea-Water quite recent, which gave me the better Opportunity of examining it carefully.

When it first came, I observed the Surface full of small *Papillæ*, with a Star of eight Points on the Top of each. After it had been suffered to rest for some time in the Salt-Water, each small Star sent forth a Polype, with eight *Tentaculi*, or Claws, in the Manner exhibited in the magnified Specimen at *A*.

In magnifying one of the Polypes a little higher, I observed, that each *Tentaculum*, or Claw, had, on both Sides, Rows of minute short Fibres, like the Down on some pappous Seeds of Vegetables. This is represented at Fig. *A 2*.

In the stony Coral, found on the Shore near *New York*, I observed something very similar to this fleshy Kind of Coral. A Piece of this stony Coral is represented at *A 1*. And one of the Stars is magnified a little, to shew the Marks left by the same Kind of small Fibres of the *Tentaculi*, in the Rays of this starry Figure, as at *A 3*.

When the Water became putrid, the Animals in the fleshy Coral died, and the whole Substance smelt cadaverous. It was afterwards dried, in which Condition it shrank up to a spongy light Substance.

Plate XXXII. N<sup>o</sup>. 3. *Alcyonium, seu Vesicaria marina.* J. Bauhin.  
Fig. *b. B.* Sea Wash-balls.

This marine Production is composed of small yellow Bladders of a compressed globular Shape, connected together in Form of a Ball, and very tough. It is found very frequently thrown up on our Shores, and used by the Sailors as Soap to wash their Hands.

Upon dissecting some of these Bladders, I found them to be the Ovaries, or *Matrices*, of our common *Buccinum*, or Whelk; each distinct *Matrix* is about the Size of half a large Pea,

Plate XXXII.

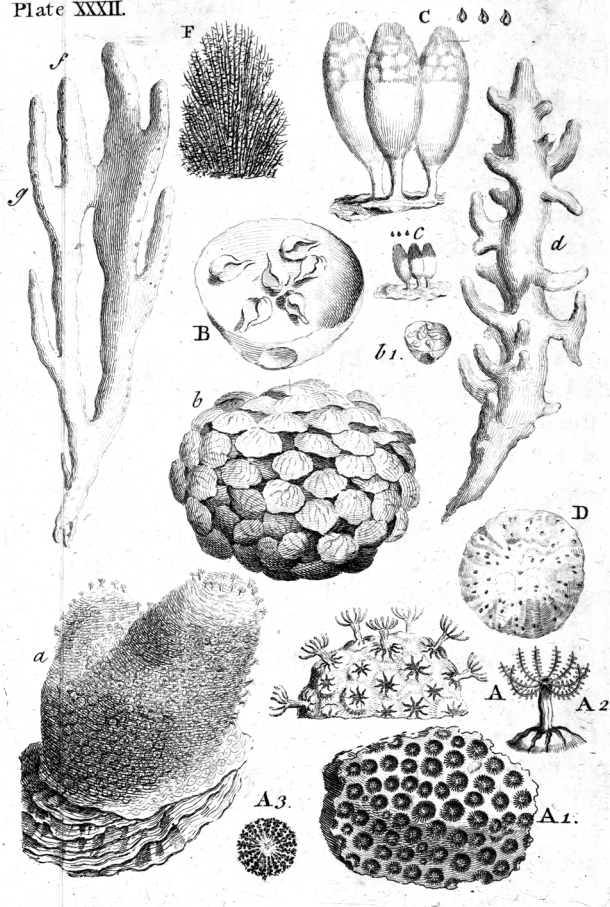
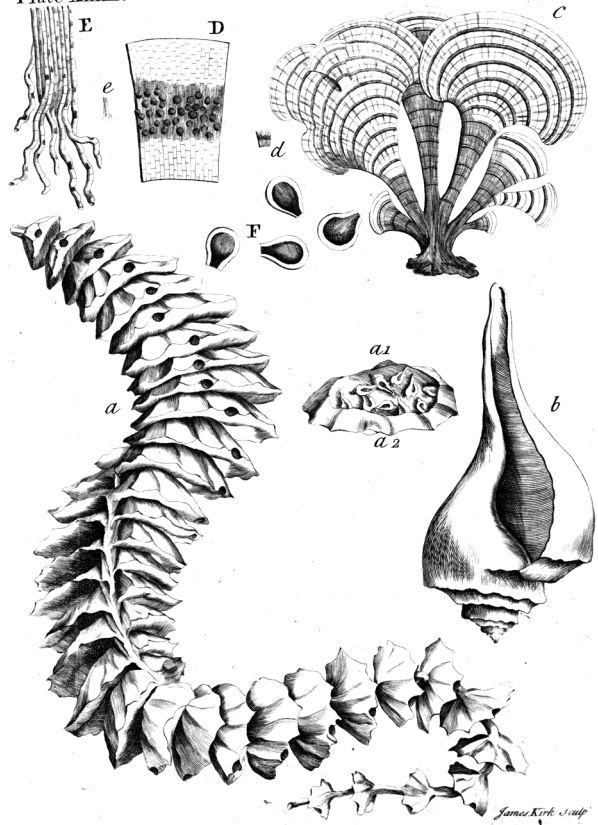


Plate XXXIII.



Pea, and contains several embryo Shells; which, as they approach towards Maturity, distend their Covering, and force open a Valve-like Door, situated in the front Edge of this little Bladder, by which they creep out, and shift for themselves.

Fig. *b*, Plate XXXII. is the natural Size of one of these Balls.

Fig *b r*, is a single *Matrix*, or Bladder, laid open, to shew the natural Size of the embryo Shells.

Fig. *B*, is the same, a little magnified, with the Valve in the Front.

The wonderful Care that Nature takes in the Productions of some of the same Tribe of Shell-fish, is shewn in a still more surprizing Manner in that Species of *Buccinum* called by Doctor *Lister* ;

*Buccinum ampullatum clavícula fulcata, una parte cujusque orbis in planum compressa.* *Lister*, Plate 878, and 879.

Plate  
XXXIII.  
Fig. *a. A.*

Called by some, the Tower of *Babel* Fig-shell.

This breeds in great Plenty on some of the Coasts of *North America*, especially on the Shore from *New York* to *Virginia*.

The Ovaries, or *Matrices*, are of a compressed oval Form, and some of them of the Shape of the Limpet, or *Patella*, but flatter at the Top.

These are united on one Side to a tough pliable Ligament, so near to each other as to seem to lie on one another. On the front Edge, opposite to where they are fastened, is the arched Door, by which the young ones, when they

they are capable of providing for themselves, make their Retreat into the Sea.

The Valve that covers this Door, during their minute State, is a most curious Contrivance, to preserve the tender Animals from the Sea-Water, till they are able to venture into it.

During their Confinement, they are covered with a Slime like the White of an Egg; which, no doubt, nourishes and promotes the Growth of the young Animals.

If we attentively consider this String of Ovaries, we shall be apt to conclude, that both they, as well as the Animals, grew after they were deposited by the Parent Whelk; for they appear by much too large for even the largest of this Tribe ever to have contained. At first Sight, they have the Appearance of something belonging to the vegetable Tribe, and are not unlike the Strings of Seed-Vessels of the Hop Hornbeam.

Fig. *a*, Plate XXXIII. represents one of these Strings of *Matrices* of the *Virginia* Whelk of a middling Size. This appears to have been fastened to some Rock, or other solid Body, by the upper Part of the Ligament: Here we observe the Ovaries begin small; as you trace them on to the Middle, they grow larger: Afterwards they fall off in Size, till, at the lower End, they scarce have the Appearance of Ovaries, but finish in imperfect Figures.

Fig. *a* 1, shews the young Shells lying in one of the Ovaries, in their natural Size; in the front Edge of which, Fig. *a* 2. is the small Valve closed.

Fig. *b*, is a small Whelk-shell, or *Buccinum ampullatum* of Dr. *Lister*, brought from *Virginia*.

the **ALCYONIUM.**

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N<sup>o</sup>. 4. *Alcyonium, seu Cyathus marinus.*  
Sea Cup.

Plate XXXII.  
Fig. c. C.

These little Cup-like Figures are found on the Coast of the *Isle of Sheppey*, in *Kent*, sticking to Stones and Shells erect, many of them together. When they are first taken out of the Sea, they are of a bright semi-transparent yellow Colour, of a horny tough Nature, containing a viscid Substance, with many Orange-coloured Seed, or Egg-like Particles, in the upper Part of each Cup, as they are represented magnified at Fig. C, Plate XXXII. Under it, at Fig. c, is exhibited the natural Size.

While I was at *Ramsgate*, in *August* 1754. I met with some of this Kind; which, upon raising up the *Operculum* at the Top, I discovered, by my Microscope, to be full of small Periwinkles completely formed. The Figures of these Shells are described at Fig. c, and a little magnified at Fig. C. So that we may properly look upon this Sea-Cup as the Ovary to the Periwinkle Shell-fish.

It is recommended to the Curious, to observe at the Sea-side, whether there may not be some Animal of the Polype Kind seen at the Top of each of these Cups; as we already find something similar to this Contrivance in the Sea-Fig, or first *Alcyonium* of this Class (See Fig. D, Plate XVII).

N<sup>o</sup>. 5. *Alcyonium, seu Fucus nodosus & spongiosus.* R. S. Plate XXXII.  
N<sup>o</sup>. 42. p. 49. Fig. d. D.

Sea ragged Staff, called by the Fishermen Pipe-weed,  
or Pudding-weed.

This irregular-shaped yellow fizy Substance, represented in Plate XXXII. at Fig. d, is found adhering to most kinds

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of



## Natural History of

of marine Substances, on the Coast of *Kent*, near the Island of *Sheppey* particularly; so that it frequently becomes troublesome to the Fishermen, by often clogging their Nets.

Upon examining a cross Section of it in the Microscope, it appeared full of small regular Specks, as it is represented at Fig. *D*, Plate XXXII.

Since then, I have examined some farther advanced Specimens, and they appeared full of small regular Figures of an Egg-shape, like those represented in Plate XXX, at Fig. *D*.

This *Alcyonium* deserves a more critical Enquiry. It appears at present to me, to be the Spawn of some numerous Species of Shell-fish.

I shall now take the Liberty to add the microscopical Description of a most elegant Sea-production, which carries a great deal of the Appearance of a Plant, and, possibly, may be of the vegetable Tribe. But I have introduced it here, to shew the singular Appearance it makes, when examined by the Microscope. It is called,

Plate XXIII. *Fucus maritimus, Galloparonis pennas referens.* H. Ox. III.  
Fig. c. p. 645. T. 8. f. 7

*Fungus auricularis.* Cæs. Ej. Pin. 368. II. R. S.  
N<sup>o</sup>. 14. p. 43.

Turky Feather. *Dale's Hist. of Harwich.*

It has the Appearance of the variegated Agaric, from whence possibly it has been considered as a Sea *Fungus*. It is very thin and flat, and stands upright, having many Leaves rising out of the same Stem.

Fig. *C*, Plate XXXIII. gives its natural Appearance.

The Roots, examined in the Microscope, appear divided  
into

into small clear Tubes, consisting of equal longish Joints, each containing a soft Substance in it.

Fig. *E*, is the magnified Part of a small Piece of the Roots, represented at Fig. *e*.

The flat Stem, and broad thin Leaves, are no more than a Continuation of these jointed Tubes, rising Side by Side, and growing on together in such a manner, that the Joints become placed alternately by each other, as at Fig. *D*; which is Part of a Leaf magnified. The natural Size of which is expressed at Fig. *d*.

The whole Surface of each Leaf, seems to be covered with an exceeding thin whitish Skin, which receives the Impression of the minute, regular, long-square Joints.

The dark curved Lines, that we observe, at every Tenth of an Inch Distance, at Fig. *c*, in the natural Appearance of this curious Figure, are full of brown Seed-like Particles. These, as they ripen together, or advance to Maturity, burst those thin white Membranes; which shrink back, and leave these semicircular Spaces bare, with these round Bodies ready to drop off, as they are represented at Fig. *D*.

When they are magnified higher, as at Fig. *F*, they appear like a Grape-stone inclosed, all but the Base, in a viscid transparent Substance.