

The tentacles or claws of all these animal flowers, that were preserved in spirits, are greatly contracted.

This elegant one was likewise sent from the West Indies to the Earl of Hillsborough, by Mr. Greg.

9. *Actinia Dianthus.*

*Sea Carnation.*

*Actinia lævis subcylindrica, disco quinquepartito foliaceo, tentaculis exiguis albis ornato, osculo elevato striato.*

This animal flower is smooth and somewhat cylindrical in its stem. The disk or upper part is divided into 5 leaf-like figures, which are adorned with many minutewhite claws, that surround its mouth, which is elevated and striated.

*Actinia Dianthus.* Ellis Phil. Transf. Vol. 57. pag. 436. tab. 19. fig. 8.

I found this animal flower in plenty adhering to the under part of some rocks, opposite to the town of Hastings in Suffex; it hangs downwards, and has the appearance, when the tide is out, of a slender longstalked yellow fig: but being put into a glass vessel of salt water upon its base, it sinks down and exhibits this form, as it is expanding its feelers.

10. *Actinia Calendula.*

*Sea Marigold.*

TAB. I.  
FIG. 3.

*Actinia stirpe subturbinata, disco tentaculis petaliformibus cincto.*

This animal flower has a topshaped stem, and its disk surrounded by tentacles or claws, something like the petals of a flower.

TAB. I. FIG. 3.

*The*

At fig. 2. is a magnified part of the stem of the Sertularia, with some of the wart-shaped cells of the Alcyonium upon it.

## XVI. S P O N G I A.

Animal *fixum, flexile, polymorphum, torpidissimum, contextum vel e fibris reticulatis, vel e spinulis, gelatina viva vestitis;*

*Osculis seu foraminibus superficiei aquam respirans.*

## S P O N G E

Is an animal that is fixt, flexible, and very torpid, growing in a variety of forms, composed either of reticulated fibres, or masses of small spines interwoven together, which are clothed with a living gelatinous flesh full of small mouths or holes on its surface, by which it sucks in and throws out the water.

As to the nature and formation of Sponges, I shall refer the reader to my letter on this subject, addressed to Doctor Solander, published in the Philosophical Transactions, Vol. 55. p. 280. I shall only add, that the texture of them is very different in different species; some being composed wholly of interwoven reticulated fibres, when others are composed of little masses of strait fibres of different sizes, from the most minute spiculæ to strong elastic shining spines, like small needles of one-third of an inch long; besides these, there is an intermediate sort between the reticulated and the finer fasciculated kinds, which seem to partake of both sorts.

But I must observe here, that those that are composed of the stronger and larger bundles of elastic fibres, like  
needles,

needles, though they have been reckoned Alcyoniums by most authors, yet in my opinion it appears, from the accurate descriptions given us of these bodies, both by Count Marfigli and Dr. Donati, who had seen and examined them alive in sea-water, and who could never discover any polype suckers extending out of their pores, that they should not be reckoned among the Alcyoniums; for these polype suckers are the distinguishing character of that genus, as much as the pores without the polypes in these elastic fibrous bodies, is the character of the Sponges. These are the Alcyonium Lyncurium and Alcyonium Cydonium of Linn. Syft. pag. 1295. The Alcyonium Bursa Linn. also appears from the description given of it by Rondeletius to be one of the same kind. This is said by Mr. Ray to be found on our coasts, but I have never yet met with it. Count Marfigli calls it Aurantium Marinum, and says it appeared to have life in it, when he cut a piece of it with his scissars. That the surface was covered with a great number of glands that transmitted the water from the outside to the inside, which was crossed by a number of fine threads shining like silver; but he makes no mention of any polypes on the surface.

1. *Spongia officinalis.**Common Sponge.*

*Spongia multiformistena-  
x porosissima lobata to-  
mentosa.*

This Sponge is found in a variety of forms; it is elastic, very full of holes; it grows into lobes, and is of a woolly consistence.

*Common officinal Sponge.* Phil. Transf. Vol. 55. p. 288. tab. 10. fig. D. E.

*Spongia officinalis.* Linn. Syft. Nat. Ed. 12. p. 1298.

This

This Sponge generally adheres to rocks by a very broad base. It is often found inclosing small stones and shells. Variety of marine animals pierce and gnaw it into irregular winding cavities; these appear on the outside by large holes raised higher than the rest; it varies in color from a pale to a deep yellow, and likewise in the consistence of the fibres. When we cut it perpendicularly, we find the internal part consisting of small tubes, which divide into branches as they approach the surface. These tubes, which are composed of reticulated fibres, extend themselves every way, by this means increasing the surface of the Sponge, and ending on the outside in an infinite number of small circular holes, which are the proper mouths of the animal: each of these holes is surrounded by a few erect pointed fibres, which appear as if wove in the form of little spines. These tubes, with their ramifications, in the living state of the Sponge, are clothed with a gelatinous substance properly called the flesh of the animal. This the fishermen, as soon as they are brought on shore, are obliged to squeeze out and wash the Sponge clean, to prevent its growing putrid. When they are first taken out of the sea they have a strong fishy smell, and when the Sponge is burnt, the smell soon discovers its animal nature. This kind, of which there are many varieties, is chiefly collected about the islands in the Archipelago, in the Mediterranean Sea, where it is a considerable article of commerce.

2. *Spongia oculata.**Branched English Sponge.*

*Spongia ramosissima mollis, ramis compressiusculis ascendentibus sæpe*

This Sponge is delicately soft, and very much branched; the branches are a very little  
*confluentibus,*

*confluentibus, poris prominulis bifarie dispositis.*

compressed, and grow erect, often uniting together; they have rows of cells on each margin that project a little.

*Branched English Sponge.* Ellis Corallin. pag. 80. tab. 32. fig. f. F. Phil. Transf. Vol. 55. pag. 288. tab. 10. fig. B.

*Spongia oculata.* Linn. Syst. Nat. Ed. 12. pag. 1298.

This Sponge is of a pale yellow color, and grows from five to ten inches high; it is often dichotomous, and the branches end obtusely. The fibres are reticulated, and the gelatinous part or flesh is so tender, that when it is taken out of the water it soon dries away. It is found very common all round the sea coasts of these kingdoms.

### 3. *Spongia muricata.*

### *Shagg Sponge.*

*Spongia stirpe suberosâ ramosâ, ramis cylindricis fasciculis villosis undique muricatis.*

The substance of the stem of this Sponge is like cork, and branched; the branches are cylindrical, and surrounded on all sides with obtuse little shaggy tufts.

*Branched tuberculated Sponge.* Phil. Transf. Vol. 55. pag. 288. tab. 11. fig. F.

*Spongia muricata.* Linn. Syst. Nat. Ed. 12. pag. 1298.

This curious Sponge was sent from our factory at Cape Coast Castle on the coast of Africa, where it grows in plenty on the rocks.

4. *Spongia cristata.**Cock's-Comb Sponge.*

*Spongia plana compressa erecta mollis, poris prominulis superne seriatim dispositis.*

This Sponge is flat, erect, and tender, growing in the shape of cocks-combs, with rows of little holes along the tops, which project a little.

*Cock's-Comb Sponge.* Phil. Transf. Vol. 55. pag. 288. tab. 11. fig. G.

This Sponge grows on the rocks to the eastward of Hastings, in Suffex, and may be easily discovered at low water. The common size of it is about three inches long, and two inches high; but this varies much in different specimens. It is of a yellowish color, and was found many together growing parallel to each other. When it was taken out of the sea and put into a glass vessel of sea-water, I perceived it to suck in and squirt out the water through the rows of holes or little mouths along the tops, giving evident signs of life.

5. *Spongia stuposa.**Tow Sponge.*

*Spongia ramosa teres stuposa atque villosa.*

Sponge with round branches, soft like tow, and covered with fine pointed hairs.

*Downy branched English Sponge.* Phil. Transf. Vol. 55. pag. 288. tab. 10. fig. C.

This little Sponge is of a pale yellow color, and about three inches high. It was found thrown on the shore at Hastings, in Suffex.

6. *Spongia*

6. *Spongia dichotoma.**Dichotomous Sponge.*

*Spongia ramosa tenax, ramis dichotomis erectis teretibus suberosis subvillosis.*

Stiff, branched Sponge, with round, upright, elastic branches, covered with minute hairs.

*Dichotomous branched Sponge.* Phil. Transf. Vol. 55. pag. 289. tab. 11. fig. I.

*Spongia dichotoma.* Linn. Syst. Nat. Ed. 12. pag. 1299.

This was found on the coast of Norway, and grows to five or six inches high; it is of a pale yellow color, and full of very minute pores.

7. *Spongia urens.**Stinging Sponge.*

*Spongia multiformis porosa, spinulis intertextis, tenerrima mollis.*

This Sponge is of many forms, full of pores, very brittle and soft, and interwoven with the minutest spines.

*Sponge like Crumb of Bread.* Ellis Corallin. pag. 80. tab. 16. fig. d. d 1. D 1. Phil. Transf. Vol. 55. pag. 288. tab. 10. fig. A.

*Spongia tomentosa.* Linn. Syst. Nat. Ed. 12. p. 1299.

The specimens, which I have met with of this Sponge, are full of papillæ, or small protuberances, with a hole in each, from whence they suck in and throw out the water, as through so many mouths. It is very common on the British coast, and is frequently found surrounding fucus's. It is also found on the coast of Africa, and in the East Indies. When it is fresh taken out of the sea, it is of a bright orange color, and full of gelatinous flesh;

but when it has lain for some time dry on the shore, it becomes whitish and very light, and has the appearance, when it is broke, of the crumb or soft part of bread.

If it is examined with a common magnified glass, we find it composed of an infinite number of minute spines, which if rubbed on the flesh will raise blisters like cow-itch. It is remarked, that if it is dried in an oven this peculiar property of stinging is much increased, especially that variety of it which is found on the sea coast of North America.

### 8. Spongia Ventilabrum.

### *Fan Sponge.*

*Spongia flabelliformis stuposa, venis lignosis reticulatis, obtectis poris favagineis.*

This Sponge is shaped like a fan, of a tow-like substance, with woody reticulated veins, which are covered with pores like a honeycomb.

*Sea-Fan Sponge.* Phil. Transf. Vol. 55. pag. 289. tab. 11. fig. H.

*Spongia Ventilabra.* Linn. Syst. Nat. Ed. 12. p. 1296.

The size of the specimen, which I received from Stavanger on the coast of Norway, is but six inches high and five broad; but there are much larger found on that coast. It has the exact resemblance of a small Fan Gorgonia, only the pores are of angular shapes, and of a spongy nature; so that, as Dr. Linnæus remarks, it looks like a Gorgonia covered with a Sponge.

TAB. 58.  
FIG. 7.

### 9. Spongia tubulosa.

### *Pipy Sponge.*

*Spongia tubulosa ramosa tenax, tubulis secundis*

This Sponge is full of tubes; it is branched and elastic;  
*cundis*

*cundis arrectis, apicibus attenuatis.* the tubes come out on one side of the stem; they are erect, and grow slender at the tops.

TAB. 58. FIG. 7.

*Spongia tubulosa.* Linn. Syft. Nat. Ed. 12. p: 1297.

This Sponge grows from four to six inches high; it is hollow through the whole inside. The reticulations on the surface are firm and elastic; it is of a deep yellow color, inclining to an orange. It was brought from Batavia by William Webber, Esq. F. R. S.

10. *Spongia palmata.*

*Palmated Sponge.*

TAB. 58.  
FIG. 6.

*Spongia palmata: digitis apice subdivisis, poris prominulis inordinate dispositis.*

This Sponge is like a hand with fingers, which are a little divided at the top; the mouths are a little prominent, and irregularly disposed on the surface.

TAB. 58. FIG. 6.

This Sponge was found on the sea beach at Brighthelmstone, in Suffex. It is of a reddish color inclining to yellow, and of the same soft woolly texture with the common English Branched Sponge, or *Spongia oculata*.

11. *Spongia prolifera.*

*Proliferous Sponge.*

TAB. 58.  
FIG. 5.

*Spongia multoties ramoso-palmata: digitis distinctis.*

This Sponge grows several times branched, one above another, in the form of hands, ending in distinct fingers.

TAB. 58. FIG. 5.

I received

I received a large mass of this Sponge from New Jersey; it grows in great bunches on that coast, but is not above five or six inches high. The pores are very small and numerous; the inside is composed of hard wiry reticulations, and the outside is full of minute spines.

TAB. 58.  
FIG. 1-4

12. *Spongia botryoides.*

*Grape Sponge.*

*Spongiatenenerrimaramosa quasi racemosa: racemis cavis uviformibus, apicibus apertis.*

This Sponge is very tender, and branched, as if in bunches; the bunches are hollow, in the shape of grapes, and each is open at top.

TAB. 58. FIG. 1-4.

This beautiful little Sponge is of a bright shining white color. The bunches are made up of oblong oval figures, open at the end; these openings seem to be the mouths of the animal, to suck in and throw out the water. When the surface is highly magnified, it seems covered with little masses of triple equidistant shining spines, as represented at fig. 4.

This was found, among many other sea productions, in the harbour near Emsworth, between Suffex and Hampshire.

TAB. 58.  
FIG. 8.9.

13. *Spongia coronata.*

*Coronet Sponge.*

*Spongia simplex tubulosa minima, apice spinulæ radiatis coronata.*

This minute single tubelike sponge is surrounded at top by a crown of little spines.

TAB. 58. FIG. 8. 9.

This

This little Sponge, when magnified, is covered all over with little rising points; it is hollow and open at the top: the rays that compose the little crown are of a bright shining pearl color; the body is of a pale yellow. It was found with the foregoing in the harbour of Emfworth.

EXLPLA-

TAB. 51.

*Madrepora gyrofa*, *pag.* 163. *n.* 44.

TAB. 52.

Fig. 1. *Madrepora foliosa*, *pag.* 164. *n.* 50.

Fig. 2. a piece of it magnified.

TAB. 53.

Fig. 1. 2. *Madrepora annularis*, *pag.* 169. *n.* 69.

Fig. 3. 4. *Madrepora stellulata*, *pag.* 165. *n.* 52.

Fig. 5. 6. *Madrepora faveolata*, *pag.* 166. *n.* 57.

Fig. 7. 8. *Madrepora Pleiades*, *pag.* 169. *n.* 68.

TAB. 54.

Fig. 1. 2. *Spongia*.

Fig. 3. 4. 5. *Madrepora Retepora*, *pag.* 166. *n.* 58.

TAB. 55.

*Madrepora rotulosa*, *pag.* 166. *n.* 59.

TAB. 56.

*Madrepora interstincta*, *pag.* 167. *n.* 60.

TAB. 57.

*Madrepora muricata*, *pag.* 171. *n.* 76.

TAB. 58.

Fig. 1. *Spongia botryoides*, *pag.* 190. *n.* 12.

Fig. 2. one of the branches separated from the rest.

Fig. 3. the same magnified.

Fig. 4.

- Fig. 4. the spines which cover the surface; highly magnified.
- Fig. 5. *Spongia prolifera*, pag. 189. n. 11.
- Fig. 6. *Spongia palmata*, pag. 189. n. 10.
- Fig. 7. *Spongia tubulosa*, pag. 188. n. 9.
- Fig. 8. *Spongia coronata*, pag. 190. n. 13.
- Fig. 9. the same magnified.

## TAB. 59.

- Fig. 1. 2. 3. Sponges from Otaheite.
- Fig. 4. Sponge called the Sea-Fig, from the Mediterranean.

## TAB. 60.

The under side of *Asterias Echinites*. Star-fish with twenty rays, and two rows of suckers in each ray, furnished with many rows of large and small moveable spines, like an *Echinus*. It was brought from Batavia by Captain W. Weber, and is in the possession of Dr. Fothergill.

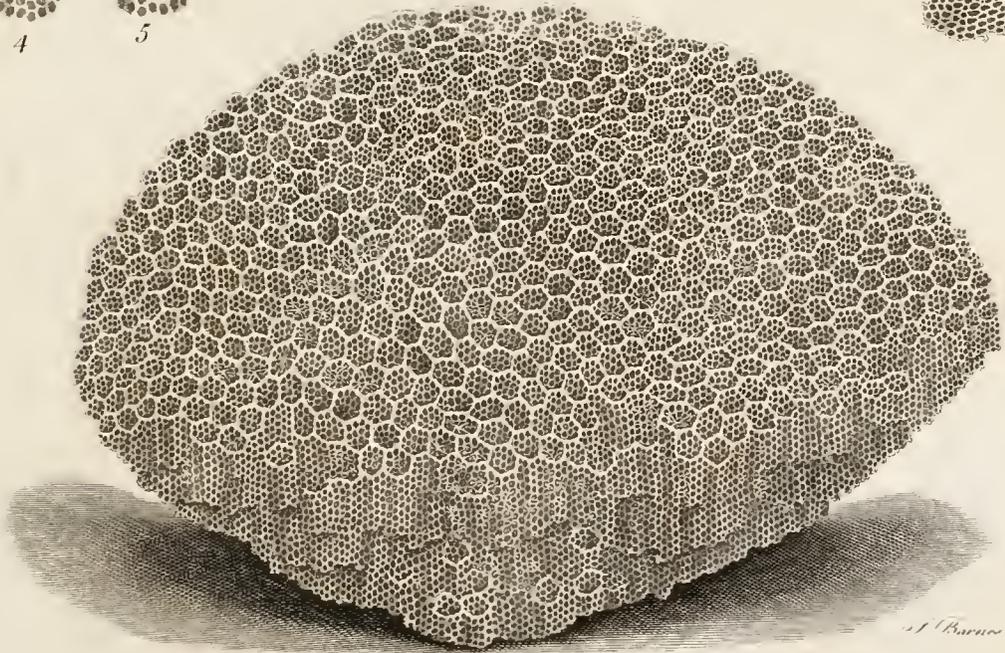
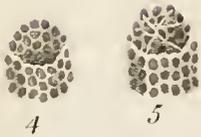
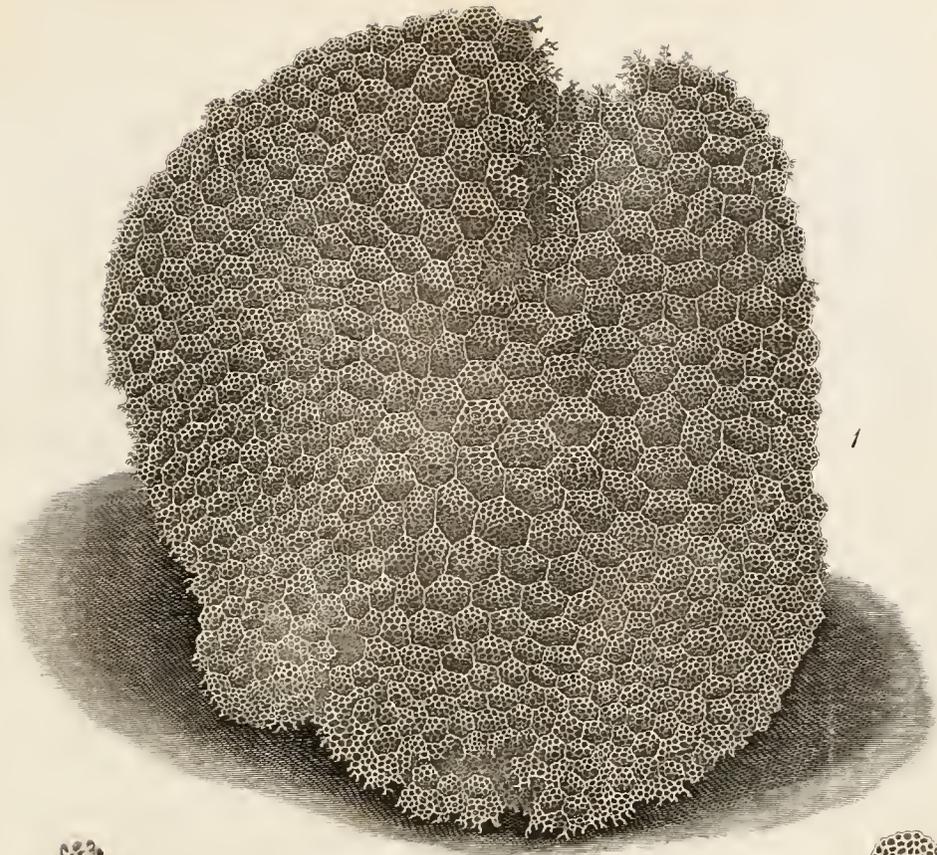
## TAB. 61.

The back of the same.

## TAB. 62.

The end of one of the rays of the same, magnified, to shew the spines in their sockets.

T H E E N D.



1) *Barrore delinquant of pulpa.*





