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J. P.

T H E  
N A T U R A L H I S T O R Y  
O F M A N Y C U R I O U S A N D U N C O M M O N  
Z O O P H Y T E S,

C O L L E C T E D F R O M V A R I O U S P A R T S O F T H E G L O B E

B Y T H E L A T E J O H N E L L I S, E S Q. F. R. S.  
S O C. R E G. U P S A L. S O C.

A U T H O R O F T H E N A T U R A L H I S T O R Y O F E N G L I S H C O R A L L I N E S,  
A N D O T H E R W O R K S.

S Y S T E M A T I C A L L Y A R R A N G E D A N D D E S C R I B E D

B Y T H E L A T E D A N I E L S O L A N D E R, M. D. F. R. S. &c.

W I T H S I X T Y - T W O P L A T E S E N G R A V E N B Y P R I N C I P A L A R T I S T S

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L O N D O N :

P R I N T E D F O R B E N J A M I N W H I T E A N D S O N, A T H O R A C E ' S H E A D, F L E E T - S T R E E T ;  
A N D P E T E R E L M S L Y, I N T H E S T R A N D.

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M. D C C. L X X X V I.



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81. Madrepora granosa.

*Madrepora subramulosa cristata subdigitata, ramis obtusis, ambulacris omnibus acute carinatis undulatis, stellis acerosis irregularibus.*

XV. ALCYONIUM.

ALCYONIUM

Animal *plantæ forma crescens.*

Is an animal growing in the form of a plant.

*Stirps fixa, carnosa, gelatinosa, spongiosa vel coriacea.*

The stem is fixt, and is either fleshy, gelatinous, spongy, or a leather-like substance;

*Epidermis cellulosa, poris stellatis seu osculis pertusa,*

having an outward skin full of cells, with star-like openings, or little mouths, which send forth

*Polypos tentaculatos oviparos exferentibus.*

Polype suckers, through which the eggs are produced.

Formerly many of those irregular marine masses, that could not properly be reduced to any genus, were called Alcyoniums; and these were supposed by old authors to be made up of the froth of the sea. Even in these more enlightened times many errors have crept into their arrangement, and several sponges have been very improperly placed under this title, for want of attending to the proper definition of the genus: for my part, I shall consider those only belonging to this genus that agree with the foregoing character, except one that is commonly called Alcyonium Schlofferianum, which, though it is covered

covered with stars on its outward skin, does not send out the polype suckers here described: but at present, till a new genus is constituted for it, I shall rank it with this. The reader, when he comes to consider this animal, and attend to the description, will be better able to judge of the propriety of this remark. In looking over the Alcyoniums of such authors as have lately wrote on the subject of Zoophytes, I find some of them more probably belonging to the Gorgonias, particularly such as have an internal harder part, which is undoubtedly the bone or support of the animal; and these are very nearly allied to the *Gorgonia suberosa* and *Gorgonia Briareus*, which I could not avoid on this account placing under that genus. The species that I mean are the *Alcyonium arboreum* Linn. or great Norway Sea Shrub, and probably the *Alcyonium exos* Linn. or *Manus Latronis* of Marfigli. If these are cut perpendicularly through the middle, I believe they will appear to have a harder part within, very different from the true character of the genus of *Alcyonium*. Others that are ranged among the *Alcyoniums* approach more to the genus of Sponges, particularly to those that are composed of small spiculæ, which are intimately blended with their gelatinous flesh; but these spiculæ in some are remarkably disposed on the surface, where they surround internally the openings or mouths of the animal. I believe no polype-like suckers have as yet appeared to proceed from these mouths, when the animal was alive, nor any remains when dry; nor have they those starry cells on the surface, which are a distinguishing character of this genus. Donati, who had an opportunity of examining most of these bodies alive, never discovered any polypes on the surface of either the *Alcyonium Lynceurium* Linn. or *Tethya Spherica* Donat. Adriat. tab. 10. or the *Alcyonium*

Alcyonium Cydonium Linn. or Alcyonium prim. of Donat. Adriat. tab. 9. The Ficus of Marfigli, which has been introduced as an Alcyonium, is evidently a Sponge. The form is like a fig, for which reason it was so called by him.

1. Alcyonium digitatum.

*Dead Man's Toes*

*Alcyonium albidum car-  
noso-spongiosum lobatum,  
osculis stellatis undique no-  
tatum.*

Is a whitish substance between flesh and sponge, divided into lobes, the surface of which is covered with little mouths in the form of stars.

*Dead Man's Hand, or Dead Man's Toes.* Ellis Corallin. pag. 83. tab. 32. fig. a. A. A 2.

*Alcyonium Manus marina.* Phil. Transf. Vol. 53. tab. 20. fig. 10—13.

*Alcyonium digitatum.* Linn. Syst. Nat. Ed. 12. p. 1294.

Nothing can better illustrate the internal form and manner in which both the Astroite Madreporae and the common officinal Sponge grow, than a perpendicular section of this Alcyonium. It is very commonly found on the Kentish coast, near the Isle of Sheppey, where likewise there is another variety, of a deep yellow color, which is frequently to be met with.

2. Alcyonium Pulmonaria.

*Sea Lungs.*

*Alcyonium pulposum li-  
vidum lobato-compressum;  
osculis stellatis minimis ob-  
ductum.*

This is of a fleshy substance and deep yellowish color; it is divided into flattish lobes, which are covered with minute stars.

*Sea-*

*Sea-Fig.* Ellis Corallin. pag. 82. tab. 17. fig. b. B.  
*Alcyonium Ficus.* Linn. Syft. Nat. Ed. 12. p. 1295.

The name of Sea-Fig was given to this substance by the fishermen on the coast of Kent (where I found it) on account of the internal structure, the cells and their contents looking like the seeds in the fig, and not from the external form, as I have already mentioned in my Essay on Corallines. This name of Sea-Fig has occasioned a mistake in some late authors, who have confounded it with the Sea-Fig of Count Marfigli, tab. 16. fig. 79. which is a true Sponge.

3. *Alcyonium gelatinosum.*

*Pudding Weed.*

*Alcyonium luteum gelatinosum polymorphum.*

This *Alcyonium* is of a yellowish color, and of a gelatinous substance. It is found in various irregular forms.

*Sea ragged Staff.* Ellis Corallin. pag. 87. tab. 32. fig. d. D.

*Alcyonium gelatinosum.* Linn. Syft. Nat. Ed. 12. p. 1295.

*Fucus gelatinosus.* Hudf. Flora Angl. pag. 471.

This is found at particular seasons full of minute papillæ, which send forth polypes, and properly comes under this class. In the month of August, 1752, there was so great a quantity of it driven near Sheerness, in the Isle of Sheppey, as to clog the fishermen's nets, and interrupt their fishing.

4. *Alcyonium*

## 4. Alcyonium Schlofferi.

*Schloffer's Alcyonium.*

*Alcyonium carnosum lividum asteriscis luteis, radiis obtusis, ornatum.*

This consists of a lead-colored fleshy substance, adorned with yellow stars, that have obtuse rays.

*Uva marina.* Rondelet. hist. aquatil. 2. pag. 130.

Phil. Transf. Vol. 49. pag. 449. tab. 14.

Borlase Nat. Hist. of Cornwall, pag. 254. tab. 25. fig. 1—4.

This most curious sea production grows on fucus's and stones on the coast of Cornwall and Wales.

We have but an imperfect figure and account of it in Rondeletius; but my worthy friend the late Dr. Schloffer has given us a very good figure and description of it in the Philosophical Transactions. The Rev. Dr. William Borlase, in his Natural History of Cornwall, has likewise given us a figure of two kinds; one with a hole at each end of the rays, besides the central hole in the epidermis; and one with only one hole in each ray, and that on the broad part, which he takes to be the same with Dr. Schloffer's; but I find that the two kinds, mentioned by Dr. Borlase, are one and the same animal, and this appears very clearly from a specimen sent me from North Wales, by my ingenious friend Thomas Pennant, Esq. where the stars on it answer to both kinds; for some of the rays have only one hole, which is on the obtuse end, but the greatest number of the stars have a small hole at the narrow end of the rays which turns up, besides the hole on the broad part: sometimes these holes at the small end join all together in a circle, and the opening of the outward skin, or

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epidermis,

epidermis, exactly covers them, as in the magnified figure at C. Phil. Transf. Vol. 49. tab. 14.

It appears from Dr. Borlase's account, that though there were fibres supposed to move in the great hole in the center, yet that the holes on the broad part of the rays were the mouths of the animal. From Dr. Schloffer's description it appears as if there were little fibres moving both in the holes on the broad part of the rays, which holes he likewise takes to be the mouths of the animal, and also fibres in the great opening of the epidermis in the center, which opening he observed to expand and contract at particular times with great alertness and velocity.

The number of rays in these stars is from five to twelve; eight is the most common number.

From the observations which I have already made on this substance in the Philosophical Transactions, Vol. 49. pag. 454. they don't appear to me to be polypes extending from starry openings on the surface, and consequently not to answer the character of an Alcyonium, but to be formed at different times with additional rays, which we may perceive endeavouring to thrust their pointed part towards the opening of the epidermis in the center, and unite with the rest; besides, the whole intermediate fleshy part is full of roundish bodies adhering to fibres, which as they approach the surface appear more pear-shaped, but lower down they are smaller and of a globular form: these all seem to be the young beginnings of future rays. In order to examine this substance more particularly, I have lately dissected several of these obtuse rays, which viewed sideways and separately, have the appearance of a stomach. In the inside of these, which was full of (rugæ) wrinkles, I perceived small eggs and a loose substance, as if the food digested. There is something

something singular in the contraction and dilatation of the opening of the outward skin over the holes at the smaller end of the rays. We cannot consider this as a mouth, when at the same time it is agreed that the holes on the broad end of the rays are mouths; so that the use of this central hole must be left to future observation, when it is suspected it will be found to be a new genus.

5. *Alcyonium mamillifosum.*

*Alcyonium with little Teats.*

TAB. I.  
FIG. 4. 5.

*Alcyonium albidum coriaceum, mamillis convexis: centro cavo substellato, coadunatis.*

This whitish leather-like *Alcyonium* is spread over rocks, with many convex teat-like figures, hollow in the middle, with a faint star-like appearance, and united close together.

TAB. I. FIG. 4. 5.

*Lapidis Astroitidis sive stellaris primordia.* Sloane Hist. Jam. Vol. I. tab. 21. fig. 1. 2. 3.

Sir Hans Sloane, who has given a figure of this and the following *Alcyonium* in his History of Jamaica, takes it to be the beginning of the *Astroite Coral*: but the softness of the substance, of which it is composed, shews it to be of a different genus. The West-India islands afford us several varieties of this kind. Each mamilla, or cell, has a polype within it, adhering to its base by twelve filaments, which answer to as many tentacula when they extend themselves.

Fig. 4. is the natural size of a piece of this *Alcyonium*; fig. 5. is the figure of two cells opened perpendicularly to

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shew

shew the polypes as they are fixt in them and contracted; fig. 7. represents one of the Polypes taken out of the *Alcyonium digitatum*, with its tentacula extended, to shew how each answers to its filament at the bottom, and gives us an idea of these when they open their cells and extend themselves.

TAB. I. 6. *Alcyonium ocellatum*.  
FIG. 6.

*Alcyonium with little Eyes.*

*Alcyonium ferrugineum coriaceum, cellulis subcylindricis rugosis, apicibus radiatis et ocellatis.*

This coriaceous iron-colored *Alcyonium* has many wrinkled cylindrical cells united together; their tops are radiated, and each has the appearance of an eye in the center.

TAB. I. FIG. 6.

This is one of Sir Hans Sloane's first beginning of the *Astroite Corals*. Specimens of this and the former are in the British Museum.

I have received some specimens of this preserved in spirits from Mr. Greg, from Dominica; they are of a tough viscid nature, and appear to have some fine sand mixt in their texture. They spread over rocks with a single superficies of cells, as the *Flustra* does on fucus's and shells, but never rise into branched figures that I have yet seen. They have twelve rays.

7. *Alcyonium tuberosum*.

*Tuberous Alcyonium.*

*Alcyonium flavescens tuberosum, apicibus saepe*

This yellowish *Alcyonium* is full of knobs, many of *subdivisis*.

*subdivisis, poris tubulosis confertis.*

which are a little divided at top; the whole is covered over with tubulous pores, set very close together.

The substance of this Alcyonium, now it is dry, is more friable than leather, and not unlike the dried flesh of most of the Gorgonias. It is two inches and a half long, and one inch and a half high; it seems to have adhered to a rock. It was found on the coast of the Island of Mauritius, and presented to me by my worthy friend Dr. John Fothergill.

8. Alcyonium gorgo-  
noides.

*Gorgon-like Alcyonium.*

TAB. 9.  
FIG. 1. 2.

*Alcyonium cinereum arenoso-carnosum cellulis radiatis verruciformibus.*

This Alcyonium is of an ash-color, and of a fleshy substance mixt with sand, having radiated wart-shaped cells.

TAB. 9. FIG. 1. 2.

The cells of this Alcyonium are much smaller than those of the *A. mamillosum* or *A. ocellatum* beforementioned, but are composed of the same number of rays, that is, twelve to each cell. It is often found incrusting rocks and corals; and in the specimen here figured, it is incrusting the *Sertularia frutescens*. I received this specimen from Dr. Pallas, who sent it to me to convince me that he had found a new *Sertularia*, which united the *Sertularias* with the *Gorgonias*, and gives it the name of *Sertularia Gorgonia* in his book on Zoophytes, pag. 158. It was brought from Curassoa, in the West Indies.

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