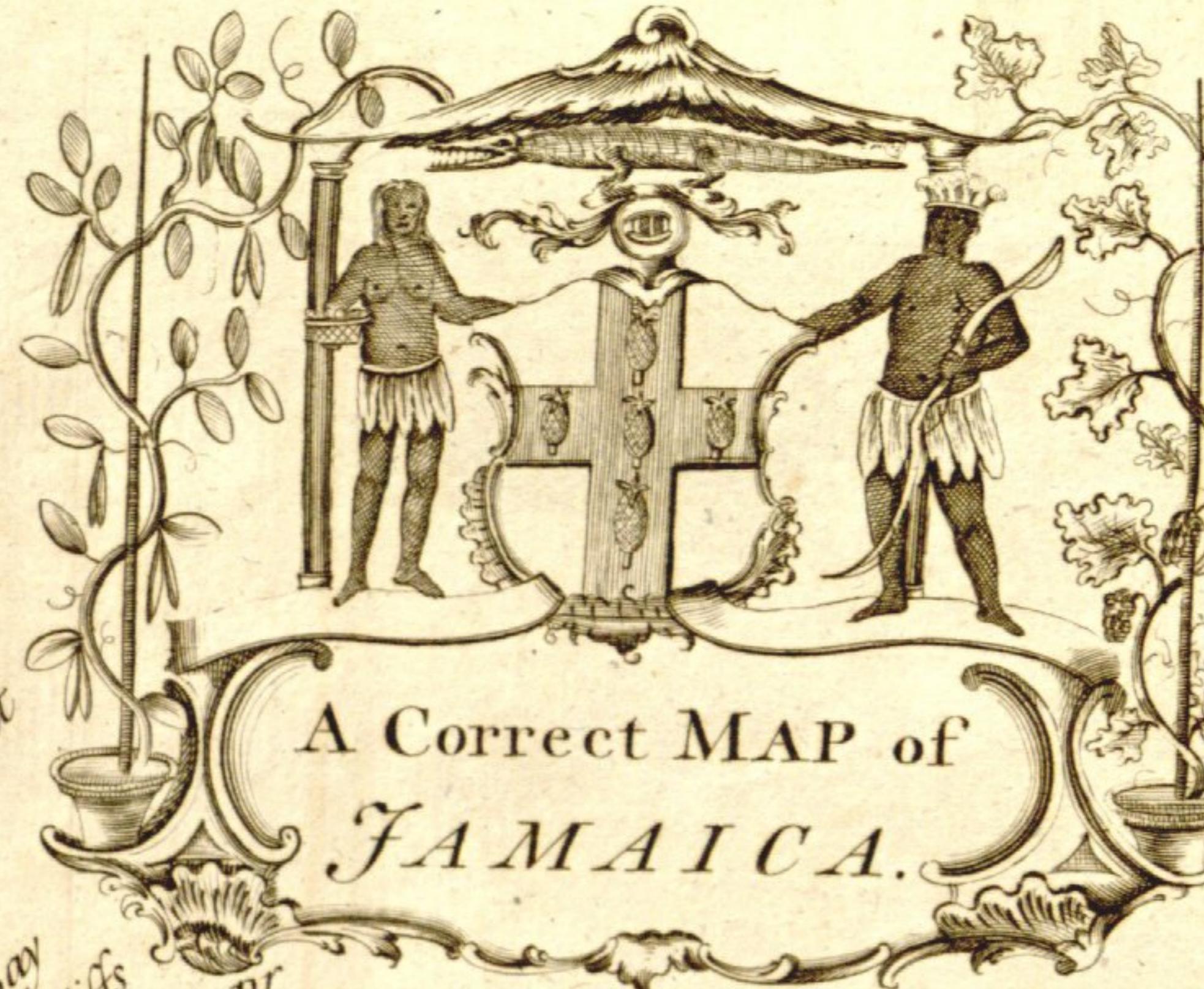


T H E  
C I V I L and N A T U R A L  
H I S T O R Y  
o f  
*J A M A I C A.*

Scale of 36 English Miles



# A Correct MAP of JAMAICA.



25<sup>th</sup>

C 636

Linnæus  
QK91  
C636  
1756

T H E  
C I V I L and N A T U R A L  
H I S T O R Y  
O F  
*J A M A I C A.*  
In Three P A R T S.

C O N T A I N I N G,

- I. An accurate Description of that Island, its Situation and Soil; with a brief Account of its former and present State, Government, Revenues, Produce, and Trade.
- II. A History of the natural Productions, including the various Sorts of native Fossils; perfect and imperfect Vegetables; Quadrupedes, Birds, Fishes, Reptiles and Insects; with their Properties and Uses in Mechanics, Diet, and Physic.
- III. An Account of the Nature of Climates in general, and their different Effects upon the human Body; with a Detail of the Diseases arising from this Source, particularly within the Tropics.

In Three D I S S E R T A T I O N S.

The Whole illustrated with Fifty *Copper-Plates*:

In which the most curious Productions are represented of the natural Size, and delineated immediately from the Objects.

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By PATRICK BROWNE, M.D.

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L O N D O N:

Printed for the A U T H O R; and sold by T. OSBORNE, and J. SHIPTON,  
in Gray's-Inn. MDCCLVI.

1756  
MISSOURI  
BOTANICAL  
GARDEN.

A D D E N D A  
D I C T I O N A R Y  
THE  
NATURAL HISTORY  
OF MAMMAGA.  
PART II.  
BOOK III.  
OF ANIMALS.

An Account of the several Sorts of Quadrupedes, Birds, Fishes, Reptiles, and Insects, commonly observed in and about the Island; their Properties, Mechanism, and Uses.

*Si motum, vel mechanismum, vel sensus externos internosque, vel denique figuram, respiciamus; omnibus in aprico erit, animalia esse summa & perfectissima Creatoris opera.*

Lin. Obs.



## P R E F A C E.

**W**HETHER we consider this part of the creation with regard to the variety or peculiar forms of the individuals, to the number of conveniences with which it supplies mankind, or with respect to the real uses of its different productions in the course of life, we shall certainly find it superior to either of the others. But when we observe those delicate organs with which most beings of this class are furnished; consider the formations, dispositions, uses, and various mechanical powers of their several parts; and reflect on the different senses, instincts, dispositions and modes of action, peculiar to each; we must allow it to be, by far, the most perfect as well as the most engaging part of the creation.

Is it not then natural, that bodies endowed with affections and qualities so particularly adapted to the form and station of every individual, with such peculiar habits and dispositions, with those singular faculties which some enjoy in a more perfect degree than the rest; and which, besides these, and many other flattering inducements, are known to supply us daily with the most agreeable and nourishing part of our food, to furnish many conveniences that tend to the ease and satisfaction of life, and to yield the most necessary as well as the most agreeable part of our cloaths and coverings; should engage some part of the thoughts and studies of mankind? Or should we not rather conclude, that beings endowed with such extraordinary qualities, so useful, and yet frequently more engaging by their habits and attachments, ought to employ a more considerable part of the thoughts and contemplations of every reasonable creature?

The nature of the different sorts of food obtained from this class, as well as the different calamities arising from the poisonous bites, stings, &c. of many of the individuals, and a thousand other particulars, must naturally engage the attention of the Physician. Here the Philosopher may see a numberless variety of actions, powers, mechanisms, and other curious phæ-

nomena, the proper objects of his enquiry; while the Naturalist endeavours to observe the peculiar forms, differences, classes, and general properties of all. The nature of society we may learn from the Castor, and the rules of government, industry and friendship, from the Ant and the Bee. The little Nautilus has first taught us to sail; and the uses of the Paddle, the Lever, the Forceps, and the Saw, with a thousand other mechanical powers are daily shewn us by numbers of the Insect Tribe.

These, indeed, were for a long time considered as the mere productions of filth and putrilage, about which they are frequently found; and have been but little noticed among the Writers of Natural Histories, until the observations of later ages, the labours of the accurate Redi, Swamer-dam, Wormius, Reaumure, Baker, De Jussieu, and Linneus, have made us better acquainted with their mechanisms, actions, and genius; and satisfied every person, that they are perfect and distinct beings; and as regular and uniform in propagating their species, as any other class of individuals can possibly be.

Their organs, it is true, are so small and delicate, and their motions and operations so very quick, that it was almost impossible to know any thing of their formation, parts, or mechanism, before we were acquainted with the powers and use of microscopes, by which we are now enabled to form distinct ideas of many objects, that have been wholly unnoticed before; and to observe the form, parts, and structure of many that are hardly perceptible to the naked eye: by their assistance we become daily acquainted with the manner and causes of the most surprizing movements and mechanical powers; and by the help of them alone we are at length enabled to range these minute objects in a regular order, and to divide them into convenient classes and genera, according to the more and less general uniformity that is observed to subsist in their genius, forms, parts, and functions. Nor is there any class of the animal creation that deserves our attention, or can move our admiration more; for, whether we consider the minuteness of many of the individuals, some scarcely larger than a globule of human blood, and yet furnished with proportioned vessels and adequate juices; with perfect organs to see, to feel, and to propagate their kind; with convenient limbs to walk, to fly, or to swim; and frequently with weapons to defend their young, and to guard their labours and themselves; or observe the diversity of their forms, habits, and dispositions, or more various mechanical operations; we shall hardly find any other class of beings that will afford so great a variety of engaging scenes; and none that can so effectually raise our thoughts to the contemplation of that infinite power and wisdom by whom all things were ordained.

These, with a thousand other curious or useful particulars, have, since the invention of microscopes, engaged a good deal of the attention of the learned; many of whom have spent a considerable part of life in the stu-

dy of this branch of Natural History; and I think it the duty of every man to assist in so laudable a design: for the most despicable insect we now know, may, hereafter, be discovered to have the most surprising qualities, or found of the greatest use to mankind; and the knowledge of the individuals, is the first step towards a discovery of their properties, which can be hardly obtained without the assistance of many, and a circumstantial account of the species commonly found in every country, their properties and mechanisms; with the observations of the vulgar, who by a long experience frequently learn both their genius and qualities.

The consideration of the use of such an institution, was, I must acknowledge, the only motive that engaged me to engage in this part of the work; for the study of Vegetables was always the most agreeable to me, and the Island, whose Natural History I now write, furnished a great variety of them, tho' there was but a few species of the animal tribe peculiar to it; most of those now observed there, being introduced from foreign parts, and the fishes, birds, and many of the insects, such as are frequently observed in other seas and countries. But as I had sometimes met with bodies of this kind that were not described before, and frequently observed others that were but imperfectly represented, I was induced to digest the whole; and to dispose what I had observed on the occasion, in the form in which it now appears.

I have endeavoured to follow the distribution of Linneus, as much as possible, in the arrangement of this tribe as well as of the foregoing; but as I proceed from the mineral to the vegetable, and thence to the animal reign, I was obliged to invert the order in which he disposed them, and to begin with those that shew least of animality. Nor is this the only circumstance in which I differ from him; for, wherever I thought his disposition either forced or irregular, I have studied to follow that which seemed the most conformable to nature, whether adopted by another, or the produce of my own imagination.

THE  
NATURAL HISTORY  
OF

*F A M A I C A.*

PART II.

BOOK III.

C H A P. I.

OF INSECTS.

C L A S S I.

Of Worms, or Insects that have no solid Props within themselves, but perform all their weakly motions by a mere tonic or muscular power.

S E C T. I.

Of *reptile Insects*, or such as have no limbs, but perform all their actions by the flexions and contractions of their long and slender bodies.

**G**ORDIUS 1. *Gracilis & longissimus, sub cutem reptans.*  
*Seta aquatica quibusdam.*  
*Vena Medinenis Chirurgorum.*

The *Guinea Worm.*

This insect is often found among the negroes imported directly from the coasts of *Africa*; and is, generally, both troublesome and dangerous to all whom it infests. It lies commonly under the skin, or in the interstices of the muscles; and must be very cautiously and artfully managed, to be disengaged with success. When the creature grows to a certain state, it begins to push its way through the skin, and then the artist lays hold of the first part that appears, pulls it very gently and gradually, and secures all that lies without the surface, that he may have a better

opportunity of repeating the same operation the next, and every other succeeding day, until the whole is extracted: but he must be always careful to secure the whole of what appears, for it can't be extracted with too much caution; and, if it should chance to break, it is apt to raise great inflammations in the parts about it, which is frequently the occasion of very dismal consequences.

This insect is not peculiar to the coasts of Guinea alone, but may be frequently seen in different parts of Europe: It is commonly found in still waters, in which it swims with great ease, appearing generally of the size and form of a horse-hair; slender, and about twelve or fifteen inches in length. It is most common in shallow pools where rocks and weeds most abound.

**ASCARIS I. *Cylindracea, utrinque attenuata, albida.***

*Ascaris Couleti & omnium authorum.*

The round Worm.

This species infests the human body more frequently than any of the other sorts, and, without exaggeration, may be deemed the most fertile source of diseases among the negroes and poorer sort of white people, in all the sugar colonies; nay, is often the cause of more than three-fourths of all their complaints: nor are the ladies, who generally live very temperate in those warm climates, and often indulge themselves in the use of the richest fruits, always free from their attacks. They are frequently the occasion of general complaints in close moist seasons, which are commonly attended with anomalous fevers, or other irregular complaints accompanied with spasms and convulsions: but these I hope I may be able to give a more satisfactory account of hereafter, which, if leisure permits, I purpose to publish in a particular dissertation at the end of the work.

**LUMBRICUS I. *Terrestris minor vulgaris.***

The Earth-Worm.

Though most sorts of insects seem to prosper in warm climates, the Earth-Worm grows but rarely to any considerable size in those parts of the world. I have observed a few of this sort in *Jamaica*, where they continue the same habit and appearance with which they commonly shew themselves in *Europe*.

**TÆNIA I. *Compressa oblonga.***

*Tænia. L. S. N. & Tænia paludosa. Fn.*

*Lumbricus latus Tulp. & Coul.*

The Tape-Worm.

This, like most other insects that infest the human body, is no where more common than in *Jamaica*; where it is frequently observed to grow to a monstrous length. The appellation proceeds from its flat narrow form, for they generally come away in continued heaps, many of them being commonly linked together into one body of a narrow, flat, and lengthened shape.

**FASCIOLA I. *Minor, capite fuscō, ore subbirsuto.***

The Gourd-Worm with a dark-brown head.

This sort is not common in *America*: I have seen it but once in those colonies, and then it was found sticking to the *uvula* of a young boy. It seldom exceeds an inch in length.

**FASCIOLA**

FASCIOLA 2. *Oblonga alba.*

The Maw-worm, Bott, or Grub.

This insect is found sometimes in the human body; but is more common among cattle, to which it is frequently destructive.

FASCIOLA 3. *Turpida marina.*

The Sea-Bott.

This insect is very frequent in the harbour of *Kingston*, and generally found sticking to most shells and stones that settle near the shore. It gives but small signs of life, though it be visibly of the class; and is generally found in little groups, from three to ten, sticking to each other. They are generally about half an inch in length, and pretty thick in proportion.

FASCIOLA 4. *Marina major verucosa.*

The warted Marrow-Pudding.

FASCIOLA 5. *Marina maxima glabra.*

The large smooth Marrow-Pudding.

Both these species are frequent in the harbour of *Kingston*, and generally found buried in the mud, in the less agitated parts; they are both of an oblong cylindric form, tapering, and rounded at the ends. The mouth, as well as the anus, is somewhat fleshy and muscular, and the body furnished with five longitudinal muscular *fascia* on the inside, which run the whole length of the cavity from the anterior to the opposite extremity, disposed at equal distances from one another; but the anus is smaller than the other aperture, and appears always in the form of a star. Each of these creatures is furnished with convenient entrails which run, with a few windings, from the one opening to the other; but there is no distinction of back or belly in them. The whole body is soft and yielding, and when exposed to the heat of the sun, on a dry board, it flattens, spreads, and gradually (after a few minutes) melts into a gelatinous slime, tho' neither of them is transparent in the perfect state. The negroes have given these insects this *English* appellation, from the common figure and consistence of them.

HIRUDO 1. *Sanguisuga vulgaris.*

The Leech.

I have never seen above three or four of these insects in *America*, and these were carried there from *Europe*.

## S E C T. II.

*Of the Zoophyta, or Insects that are furnished with convenient limbs,  
tho' destitute of solid props.*

### ORDER I.

*Of such as are furnished with pliable limbs, but have neither coats nor receptacles.*

THE productions of this kind are commonly transparent, and of a firm gelatinous consistence and appearance. Their motions, in general, are merely tonic; but, in some individuals, the vibrations of particular parts are extremely swift and regular, and seem to be the effects of the most perfect organs: and yet, most bodies

of

of the kind retain so much of the vegetable nature, that, being cut in pieces, each part grows again into a perfect being of the same form and like parts with those of the parent stock.

THALIA 1. *Oblonga, cristā perpendiculari compressā quadratā, lineis laterālibus integris.* Tab. 43. f. 3.

The *Thalia*, with a square erect crest.

THALIA 2. *Oblonga caudata, cristā depresso rotundā, lineis lateralibus interruptis.* Tab. 43, 4.

The *Thalia*, with a round depressed crest.

THALIA 3. *Oblonga, lineis interruptis, caudā & cristā destituta.*

The simple *Thalia*.

These bodies are of an oblong rounded form, tapering slowly towards both ends; they are generally between three and four inches in length and better than one in diameter, transparent, of a firm gelatinous consistence and hollow, each opening by a small triangular aperture at the end next the crest, and by a narrow round one at the opposite extremity. They have each a spiral line, of a milky colour, which runs the whole length of the back, in the substance of the insect; under this appears another, larger, opake, straight, and simple; which seems to be the gut or common reservoir of whatever serves to nourish it. And, on each side, but lower than either of these, appears another, smaller than either of those already mentioned, and of a beautiful purple colour.

They are natives of the ocean, and frequent about the western islands, where I have observed them in my voyage from *Jamaica*. They are generally found single, and appear each with a single longitudinal white line in the water; but, at times, you may observe them in heaps, four, five, six, or eight sticking lengthways together; and then the mass appears large, and furnished with many white lines. Whenever I met with these insects linked together in this manner, I observed them to be all of the same form, which made me divide them into so many different species.

BEROE 1. *Radiis octo longitudinalibus ciliatis.* Tab. 43. f. 2.

The *Beroe*, with eight ciliated longitudinal lines.

This beautiful creature is of an oval form, obtusely octangular, hollow, open at the larger extremity, transparent, and of a firm gelatinous consistence; it contracts and widens with great facility, but is always open and expanded when it swims or moves. The longitudinal radii are strongest at the crown or smaller extremity, where they rise from a very beautiful oblong star, and diminish gradually from thence to the margin: but each of them is furnished with a single series of short, delicate, slender appendixes or limbs, that move with great celerity either the one way or the other, as the creature pleases to direct its flexions, and in a regular accelerated succession from the top to the margin. It is impossible to express the liveliness of the motions of those delicate organs, or the beautiful variety of colours that rise from them while they play to and fro in the rays of the sun; nor is it more easy to express the speed and regularity with which the motions succeed each other from the one end of the rays to the other. I have frequently met with these insects to the north of the western islands; they seldom exceed three inches and a half in length, or two and a half, in the largest transverse diameter.

MEDUSA 1. *Major fimbriata, tentaculis quatuor longissimis.*  
*Urtica marina quibusdam.*

The Sea-Nettle.

This creature grows to a considerable size, being seldom under seven or eight pounds in weight. It is of a firm gelatinous consistence and appearance, and adorned with a regular star upon the back; but the border, by whose tonic contractions and expansions it moves in the water, is large and fimbriated. The limbs or *tentaculæ* are long and slender, and descend from the center of the mole that lies within the border.

MEDUSA 2. *Major subrotunda, tentaculis brevioribus.*

The roundish Sea-Nettle or *Blubber*.

Both these species are frequent in the harbours of *Kingston* and *Port-Royal*, and may be seen playing in the waters every calm sunshine day. The second sort is smaller than the other, and its *tentaculæ* are very soft.

MEDUSA 3. *Major subcroceo.*

The Orange-coloured *Blubber*.

I observed this species about two hundred leagues to the north of *Bermudas*; it was nearly as large as either of the foregoing.

MEDUSA 4. *Minor, anulis quatuor subrotundis, opacis & fere integris; tentaculis brevissimis.*

The small smooth *Blubber* with an opaque star.

This *Blubber* is adorned with four opaque but imperfect *anulæ*, which resemble so many horse-shoes, their openings being almost contiguous near the center of the base.

MEDUSA 5. *Minor glabra, non stellata, maculis subfuscis oblongis undique aspersa.*

The mottled *Blubber*.

MEDUSA 6. *Minor verucosa non stellata, tentaculis maculis rufescensibus aspersis.*

The small warted and spotted *Blubber*.

MEDUSA 7. *Minima subfusca verrucosa.*

The little warted *Blubber*.

I met with these four last species off the western islands. They are seldom observed in any other latitude, though very frequent in those parts, where they constitute the principal part of the food of the loggerhead turtles when out at sea.

LIGEA 1. *Oblongo-ovata, variabilis, ab alterâ parte truncatâ.*

The floating brown *Ligea*.

This is a thin gelatinous body furnished with a little opaque head of an irregular form and brown colour. The gelatinous part seems to float like a membrane

from the rest, and expands to the breadth of three or four inches; but the head is no larger than the top of a man's finger. I have observed two or three of these insects in the seas about the western islands.

**CLIO 1. *Vaginâ triquetrâ pyramidatâ, ore oblique truncato.*** Tab. 43. f. 1.

The smaller *Clio*, with a trilateral sheath.

This beautiful little creature, together with its vagina, seldom exceeds half an inch in length. The body, which is opake, slender, and pointed at the bottom, supports a small round head adorned with a little sharp bill, and a pair of beautiful green eyes; the shoulders are furnished with two transparent membranous expansions, by which it moves itself with great celerity on or under the surface of the water; but the lower part of the insect is fastened to the bottom of the sheath into which it shrinks, and from thence extrudes itself as occasion requires. The vagina is of a firm consistence, transparent, and made large enough to contain the whole body of the creature, together with its membranous expansions, upon occasion: it is of a regular figure, sharp underneath, pointed at the extremity, and commonly about  $\frac{4}{5}$ ths of an inch in length. I have found two other empty sheaths, of different forms and sizes, much in the same latitude; which seemed to agree so well with this, in the general habit, consistence, and appearance, that I was induced to look upon them as the cases of different species of the same kind; for which reason I have ranged them here as such.

**CLIO 2. *Vaginâ compressâ caudatâ.***

The *Clio*, with a large compressed sheath.

**CLIO 3. *Vaginâ triquetrâ, ore horizontali.***

The *Clio*, with a large triangular sheath.

The sheaths or vaginæ of these two species are pretty large, being seldom under an inch, or better, in length: they are transparent like that of the other, and of a firm consistence.

**SEPIA 1. *Vaginâ subovato-truncatâ.***

The Ink or Scuttle-Fish.

This insect is frequent enough about *Jamaica*, but most common on the north side of the island. It is composed of a firm transparent sheath which includes the greatest part of an adherent but softer gelatinous mass, furnished with a great number of *tentaculæ* of different sizes and forms. It is curious to see how readily this creature discharges its ink on the approach of danger, to hide itself in the coloured fluid: but the juices discharged on such occasions, are not only black and thereby sufficient to protect the creature by giving a tincture to and thickening the water about it; they are also bitter and clammy which must probably render them either pernicious to the gills, or hurtful to the eyes of all other fishes.

**ARETUSA 1. *Cristâ subrubellâ venosa.***

The Portuguese Man of War.

This is no more than a simple transparent bladder, furnished with a great number of *tentaculæ*, or stringy appendixes. The former is very like the human stomach in shape, and adorned with a cellular crest on the upper side; but from the opposite part, towards the larger extremity, it emits its long and numerous *tentaculæ*: these take their rise by fourteen or fifteen tendinous roots, and divide after-

wards into an infinite number of slender branches of various forms, lengths, and sizes, which descend commonly about three or four feet in the water. All the juices of this creature abound with acrid particles.

**PHYLLIDOCE** i. *Labris cæruleis.* Tab. 46. f. 1:

The Sally-Man.

This insect, though evidently of this class, is more firm and opaque than either of the foregoing; and consists of an oblong cartilaginous flat body slightly radiated from the center, and intersected with small concentric lines: but this is furnished with two thin, fleshy or semigelatinous lips, *bb*, that extend themselves by short vermiform appendixes over the under surface of the cartilaginous part. It is also supplied with a semi-elliptical, dry, transparent membrane *E*, which stands perpendicularly on the surface of the more firm part *A*, in the direction of the line *DD*, furnishing it with a pair of constant standing sails which answer upon all occasions; for when this body is to move in any particular direction, suppose towards *X*, the part *A, DD-I*, of the perpendicular membrane, which arches in the direction of the line *AD-I*, fills and pushes the body forwards, while the other part floats in the wind. But when the wind changes, and the body is to move towards *Z*, the other part answers in the same manner, and all the motions are performed by the same mechanism. It is furnished with a great number of slender *tentaculæ*, each about half an inch in length, which rise very thick from the margin of the cartilage underneath; and it seems to have an opening or mouth in the center of the base.

**LERNEA** i. *Subfuscæ major, valvis binis majoribus per longitudinem dorso productis.*

The larger dark *Lerneæ* or Sea-Snail.

This insect is pretty frequent in the American seas, but lives generally near the shore where it feeds very ravenously on all the smaller weeds. On touching this creature, it emits a considerable quantity of a viscid purple liquor, which thickens and colours the water about it so much that it can scarcely be seen for some time after, by which means it is generally enabled to make its escape in times of danger. This liquor is discharged from a large gland situated deep between the valves of the back, by the means of which it performs all its floating motions; but, while it feeds, it creeps like a snail upon its belly.

I have gathered a small quantity of the discharges of this creature, and stained a linen handkerchief with it: it gives a very beautiful dark purple colour, which is not apt to change either with acids or alkalies; but it is easily washed out.

It is remarkable that the water grows always clear in a few minutes after each discharge, though confined in a small vessel; and yet the stained handkerchief retained the colour until washed, which was not done for many weeks after. When the creature is put into fresh water, it contracts, and dies soon after.

**ACTINIA** i. *Subfuscæ mollis, fundo musculofo.*

The Sea-Pudding.

This insect is of the same consistence with the snail, and of a dark dirty colour: it is soft and glutinous, of a cylindric form, short, and furnished with a great number of small flabby *tentaculæ* disposed in a double row round the margin, at one end; but the opposite extremity is rugged, muscular and yielding, like the belly of the sea-snail or *Lerneæ*. I have seen only one of this sort; it was about an inch and a half each way, but I am informed they grow very large sometimes.

LIMAX I. *Subfuscæ media.*

## The small Snail.

Though *Jamaica* abounds with many sorts of the testaceous snails, I could not observe above one or two sorts that go without coverings; and these are chiefly found in the woods, where they may be frequently seen, either mornings or evenings, when the grass is fresh and moist.

## ORDER II.

*Of such as are furnished with convenient but pliable limbs, and form and dwell constantly in fix'd receptacles of various figures and great hardness.*

AS I have adopted the late opinion in the disposition of these insects, and considered most of those hard cavernous structures in which we generally find them, as the produce of mere animal labours; it may be expected I should give some account of the nature and mechanism of the inhabitants. But as this can be hardly undertaken by any, besides those that have made this part of natural History particularly their study, and strictly observed the motions and configurations of the individuals, while their little limbs were fresh and pliable and their motions perfect; I shall content myself with referring to those authors, on whose observations the opinion was first founded, and by which, I must acknowledge, I was chiefly induced to dispose many of them in this order and class. Nor will the hypothesis appear unnatural, though we should ever remain strangers to their particular modes of action, when we consider the general properties of the various receptacles in which they are commonly found; receptacles formed of a substance of the same nature and disposition with that of which other cells and coverings, the acknowledged work of other submarine insects, are made; and every where divided into convenient and similar lodges.

When indeed we consider the diminutive size and languid motions of those creatures, it seems amazing that they should be the fabricators of such considerable masses; but as we are wholly unacquainted with their peculiar mechanisms, we can argue only from other considerations.

It is however allowed, that these little insects are always found in the pores and cells of these masses; and it has been observed that their lodges are constantly similar and distributed very regularly throughout the whole substance. The masses themselves we find of a nature and texture inconsistent with the growth or circulation of vegetables, and not wholly conformable to the accretion or condensation of fossils, to which however they seem to approach the nearest; but we always find them to answer the laws of apposition, and to be, both in nature and disposition, like other bodies which all acknowledge to be the work of the like insects: why may we not then be allowed to consider them as productions of the same sort? Many, I do believe, will be ready enough to allow that they may be such, but can't conceive how such considerable masses can be put together by those languid infirm inhabitants; the muscle, the oyster, and the congue, they observe, with reason, do bear a certain proportion to their coverings, as well as most of the other clammy marine insects; and this, I must acknowledge, is the strongest argument I hear against the supposition of those other masses being also formed by the very inhabitants that are found in them. But we ought to consider that these little insects are endowed with organs and mechanisms with which we are yet unacquainted; nor shall we, perhaps, think those fabrics so disproportionate as some imagine, when we consider that the fluid in which they live abounds with matter of the same nature, which always supplies a sufficient quantity of proper particles for such purposes; particles that

that require no more than a certain tho' small power to lay, a peculiar mechanism to dispose, and a proper slime or gluten (with which we know all marine insects to abound) to fix and bind them.

## DIVISION I.

*Of Zoophytes that live in hard or elastic tubular receptacles of various forms.*

## ARTICLE I.

*Of such as live in slender, flexible, articulated, and, for the most part, branched tubes; having all the appearance of smaller plants, whose flowers and foliage are represented by the expanded limbs of the inhabitants, which generally appear at the end of every compartment of the common fabrick.*

**S**E RTULARIA 1. *Major ramosa.*

The larger branched *Sertularia*.

This tubular structure has all the appearance of a submarine plant, and is found in great abundance in the sea about five-islands, westward of *Antigua*. It grows in beds, and rises frequently to the height of eight or nine inches. All the branches are moderately thick, and continue nearly of the same diameter to the top. The whole substance is flexible and yielding while fresh, and has a sharp biting taste.

**S**E RTULARIA 2. *Minor ramosa, ramulis gradatim minoribus, ultimis fere capillaceis.*

The small shrubby branched *Sertularia*.

Great quantities of these branched substances are thrown upon the shores of *Jamaica* after every storm and strong sea-breeze; but they do not seem to differ much from that commonly found on the shell of the European oyster, and seldom rise above two or three inches in height (a).

## DIVISION II.

*Of Zoophytes that live in stiff stony receptacles, of a porous or cavernous texture and structure.*

## ARTICLE I.

*Of such as form their receptacles in small thin flakes, composed of an infinite number of very small cells, placed contiguous to each other in the form of a honey-comb.*

**M**ILLEPORA 1. *Cellulis obliquis, valvulis minoribus semiclaufis.*

The small compressed *Millepore* with oblique cells.

I found this cellular substance on the surface of a large decayed brain-stone. It grew in small spots, and formed a very beautiful net-work upon the rugged surface of the fabric.

(a) I have never found a species of the *Tubipora* in those parts of the world.

## ARTICLE II.

Of such as are found in branched masses of a stony hardness, and of an uniform porous texture, without any remarkable cavities or perforations.

N.B. The following substances are known to be of this class by their texture, forms, and general properties.

**CORALLIUM 1.** *Brachiatum maximum, ramis subcompressis æqualibus.*  
*An, Corallium asperum candicens adulterinum J. B. & Slo. Cat. I.*

The large branched white Coral.

This coralline substance is very frequent about *Antigua*; it grows in beds, shoots in a branched shrubby form, and rises frequently to the height of two feet, or better; but the limbs seem to be of the same thickness from the bottom to the top, and are formed into a thousand beautiful figures by the various dispositions, connections and reflexions of the upper branches.

**CORALLIUM 2.** *Minimum subramosum glabrum.*  
*An, Corallium album pumilum nostras Rai. & Slo. Cat. I.*

The small tooth-like Coral.

This little coralline substance is frequent on all the common pebbles in the harbour of *Kingston*, but is seldom observed to rise more than an eighth or a quarter of an inch above its enlarged base. It seems to be of a closer grain and more even texture than any of the rest.

**CORALLIUM 3.** *Brachiatum & articulatum, articulis cylindraceis nervo tenuiori connexis.*

*Corallina nervo tenuiori fragiliorique internodia longiora necente Slo. Cat. & Pk. t. 26. f. 2.*

The smaller divided and articulated Coral.

**CORALLIUM 4.** *Brachiatum & articulatum, articulis majoribus angulis nervo majori connexis.*

*Corallina opuntioides &c. Slo. Cat. & Pk. t. 26. f. 1.*

The opuntioid Coral.

**CORALLIUM 5.** *Minimum capillaceum, ramulis subarticulatis æqualibus.*

*Corallina minima capillacea Slo. Cat.*

The small divided Coral with equal branches.

**CORALLIUM 6.** *Æquale lamellatum Keratophytis reticulatis & afferiis inductum.*

The smooth thin incrustating Coral.

This substance is very frequent in all the American seas, and commonly found, in thin strata, on the reticulated Keratophyta, and other submarine substances.

## A R T I C L E III.

Of such as live in branched stony receptacles of a regular porous texture; composed of a great number of radiated cylindric caverns of moderate diameters, running obliquely, in an erecto-patent direction, from the center to the surface, where their openings appear regular and uniform.

**M**ADREPORA 1. *Minima subverrucosa rubra.*

The small red *Madrepose*.

This little coralline substance is frequent on all the larger decaying masses of this class, and seldom or never observed to rise above a tenth or an eighth of an inch in height: it is of a beautiful red colour and an uneven form; but adorned with a few regular stars on the surface.

MADREPORA 2. *Lamellata & muricata Keratophytis inducta.*

The thin rugged *Madrepose*.

This little substance is commonly found on all the sea-fans, and most other submarine plants of *America*. The protuberances on the surface appear like so many rugged warts; and when these small tops fall off, the whole mass appears with a multitude of small cavities.

MADREPORA 3. *Minor, aperturis cavernarum concavo-radiatis, rarioribus.*

The smaller branched *Madrepose* with few stars.

This branched fabric is frequent in all the harbours of *Jamaica*: it is generally found in groups, but seldom grows to any considerable height, or exceeds the thickness of a swan's quill in any part.

MADREPORA 4. *Minor, stellis creberrimis.*

The smaller branched *Madrepose* with many stars.

This is very like the foregoing both in size and form, but may be easily known by the multiplicity of its star-like apertures.

MADREPORA 5. *Ramosa major, muricata & stellata, aperturis cavernarum minoribus depresso.*

*Corallium album porosum maximum muricatum Slo. Cat. p. 1.*

The larger branched prickly *Madrepose*.

This species is frequent about the Keys near *Port-Royal*, and grows frequently to the height of two or three feet above the base: its branches are all round and tapering.

MADREPORA 6. *Maxima compressa, palmata & muricata.*

*Corallium porosum album latissimum muricatum, &c. Slo. Cat. & H. t. 18.*

The large compressed prickly *Madrepose*, or white Coral.

This grows the largest of all the coralline substances found about *Jamaica*; it is met with in large single masses of an irregular compressed form, which spread into broad flat lobes towards the top.

All the productions of this class are of a free porous texture, and regular structure; they ferment readily with acids, like all the other substances formed by marine insects, and make a good lime when well burned.

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