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The species of this genus are very closely allied to each other, and at the same time they exhibit so few characters, that it is with difficulty that some of them are determined. The present seems to differ from either of those already described. In the collection of the Academy are two fragments of DENTALIA, very closely allied to this species, which were obtained by Mr. A. Jessup in New Jersey; but their imperfect state do not justify me in deciding upon a fact so important to geology as their specific identity.

Description of several new Species of HOLOTHURIA.

By C. A. LESUEUR. *Read April* 6, 1824.

Much difficulty has always attended any attempt to arrange the HOLOTHURIÆ in a natural order, owing to the contraction of the body when placed in a preservative liquid, and the consequent obliteration of many characters which distinguish the living animals.

This difficulty was sensibly experienced, and distinctly expressed, by Blainville, in the Dictionaire des Sciences Naturelles, vol. xxi. p. 315, who, nevertheless, endeavoured to group the species by correspondencies of form, and disposition of feet. These two characters I believe to be uncertain,

inasmuch as they are variable, and often differ exceedingly after death from their appearance in the living specimen. The tentaculæ are less liable to this objection, and Lamarck has availed himself of the modifications in the form and structure of these organs, to separate the genus into two divisions.

In the following essay I have resorted to the same basis of classification, with the addition of a third division for the reception of those that have pinnated tentacula, only one species of which was known to Lamarck.

Cuvier, in his classification of the HOLOTHURIÆ, draws his characters from the arrangement of the feet; but, as we have already remarked, these organs are too various in their disposition, and are often too indistinct from contraction in alcohol, to furnish an obvious or certain guide. Some species, like the H. *briareus*, nobis, are covered with feet in every part; others have but one, two, three to five distinct ranges of feet; others again have the feet placed behind, as in the *agathophytos*, of which Peron has formed his genus CUVIERA, not yet published, and which Mr. Cuvier has figured in his Regne Animal, vol. iv. p. 15, and described p. 22, under the name of H. *Cuviera*.

† With cylindrical tentaculæ; summit terminated by a branched, flat, spherical or infundibuliform umbel.

1. HOLOTHURIA *obscura*. Tentaculæ twenty, cy-

lindrical, umbel indefinite, subspheric; body tubular, with conic tubercles; a single foot furnished with numerous, red, small, approximated suckers.

Inhabits St. Bartholomews.

Body tubular, slightly inflated in the middle, and more slender at the extremities: *back* covered with conic tubercles, which are surmounted by small whitish tubes, as contractile as the small sheathing tubercles which support them: *anterior opening* annular, small, placed in the middle of the disk, of which the exterior margin is furnished with twenty equal tentaculæ, which are tuberculous at base, and their summits are divided into small, very short, approximated branches, resembling so many little balls, which are contiguous when all the tentaculæ are developed: *anus* terminal, furnished with slender papillæ, longer than the tubercles of the body: *foot*, or the side upon which the animal moves, with numerous, small, very short suckers: *colour* fuliginous brown; extremity of the tentaculæ blackish.

Length, when developed, six inches, transverse diameter nine lines.

H. *aglutinata.* Tentaculæ eighteen, equal, umbel infundibuliform, small; body tubular, covered with contractile tubercles: *foot* none.

Inhabits St. Bartholomews.

Body soft, tubular, covered with distant tubercles: *colour*, above very deep bistre-brown, paler beneath; the tubercles, which are irregularly dis-

posed, do not appear to be all used in locomotion; but those of the paler side of the body seem to be more particularly employed for this purpose, and are elongated when the animal is in motion, whilst the others remain contracted, though there is not a distinct foot, as in the preceding. These inactive tubercles appear like black points, or as rounded or conic tubercles on the surface of the body: *mouth* small, placed in the centre of a disk which is surrounded by eighteen slender, cylindric, very delicate tentaculæ, of a clear yellow-bistre colour, each surrounded by a small infundibuliform umbel, which is composed of small ramifications dichotomously divided, and not contiguous with the surrounding ones when these organs are developed: *anus* small, placed in the centre of a yellowish coloured disk, which, in the state of contraction, is covered by five triangular divisions, furnished with small papillæ.

Length from three to four inches.

This species is very numerous in a small bay opposite to the port of St. Bartholomews.

They conceal themselves in rolled madrepores, which are there very abundant. A whitish viscous fluid transudes from the body, forming threads of great tenacity, which envelop the substance on which the animal rests, and attach it so firmly as to be removed with difficulty.

3. H. *maculata*. Tentaculæ twenty, slender, equal; umbel small, flat, with laciniated branches;

body fusiform, tuberculous, pale cinereous, with bluish-black oval spots.

Inhabits St. Bartholomews.

Body soft, contractile, narrow and pointed before, inflated behind, covered with tubercles on the back and sides: *locomotive tubes* long, distant beneath: *mouth* very small, without any disk, and surrounded by twelve tentaculæ, which are slender, flaccid, transparent, very long, and surmounted by a very small umbel, the ramifications of which are also very small, and laciniated: *anus* terminal, round.

Length about four or five inches.

The form of this species is very beautiful; the body is sprinkled with oblong spots of the length of five or six lines by four or five wide, which are relieved by the pale colour of the body.

Like the preceding, it is found in Madrepores and in the same bay.

4. H. *fasciata.* Tentaculæ twenty, short, transparent, spotted; umbel plane, composed of six very short, bifurcated divisions; body soft, ornamented with five bluish-cinereous bands, and five bands covered with small inequal tubercles.

Inhabits St. Bartholomews.

Body subfistulous, soft, a little narrower at the extremities: *skin* smooth, coriaceous, thick, white interiorly, divided into ten longitudinal bands, of which five are covered with small tubercles, probably used in locomotion; but not having seen the

animal in its state of development, I cannot speak confidently of their office: *mouth* small, placed in the centre of a small disk, surrounded by twenty tubular, transparent, short tentaculæ, which are larger at base, and surmounted by a small stelliform umbel of five or six bifurcated, whitish divisions: *anus* terminal, margined with red, and having small papillary tubes, placed in the centre of a small disk, concealed in the contracted state by five small valves or triangular divisions; the skin is of a deeper blue and smoother in the spaces between the five divisions.

Length of the largest specimens from eight to ten inches.

This animal, like the other species, has the faculty of admitting and rejecting the water by the mouth and anus. It decomposed very rapidly, and almost entirely disappeared when exposed to the air. The intestinal canal is filled with sand. It conceals itself beneath rolled Madrepores, and in their cavities, with the preceding species.

†† Tentacula arborescent.

5. H. *lapidifera.* Tentaculæ sixteen, branched and united at base, surrounding the mouth; body with scattered, small, poriform tubercles.

Inhabits St. Bartholomews.

Body cylindric, firm, contractile: *skin* smooth, ornamented with small longitudinal lines, and covered with small circles placed irregularly, from

which are protruded fistulous organs, which serve for locomotion, and to attach the body in the cavities of madrepores; they are also used to hold small scales with which the body is in part covered, when the animal removes from its habitation: the *mouth* is capable of being dilated and elongated: the *tentacula* are united at base, and surround the mouth; the small branches of the tentacula are dilated in small membranes, twisted in a semispiral line and of a reddish colour; the interior base of the tentacula is distinguished by a very black line, and the exterior base by tubercles: *anus* terminal: *colour* pale violaceous blue, the tentacula and their base very pale hyaline blue.

Length when developed three to four inches.

In the cavities of old madrepores, and other concealed situations.

6. H. *briareus*. Tentacula eight, branches very much divided; body fistulous, entirely covered with small approximated tubes.

Inhabits the coast of the United States.

Body fistulous: *skin* smooth, soft, covered in every part with small locomotive, concealed tubes: *tentacula* very much branched, the branches somewhat foliaceous, divided, and like so many trees arranged around a disk, in the centre of which is the mouth: *anus* simple, terminal, surrounded with papillæ, which are longer and placed more closely together than those of the body: *colour* reddish or blackish, papillæ and tentacula paler.

Length from three to six inches.

Brought from the coast of Florida by Messrs. Maclure, Ord, Say, and Peale. In the contracted state, the body seems covered with numerous small, transverse incisions. Mr. Say informs me that this species occurs very frequently on the coast of New Jersey.

††† Tentacula pinnated; body vermiform.

7. H. *hydriformis.* Tentacula twelve, flaccid, consisting of six or seven pairs of opposite processes; body red, spotted with white.

Inhabits Guadaloupe.

Body elevated, terminated behind in a point, gelatinous: ***mouth*** large, surrounded by twelve equal tentacula, united at base by a diaphanous membrane; each tentaculum is furnished with six or seven pairs of processes, which are tuberculated on each side; these small tubercles, or suckers, appear to me analogous to those of the tentacula of the ACTINIÆ; at the base of each tentaculum are two black points: ***anus*** terminal, small, without appendices; the body is furnished with very small, distant tubercles, which perform the office of suckers to fix the body to fucus, and in locomotion the tentacula are used as feet: ***colour*** of the tentacula red, varied with slight white and bluish spots; about eight longitudinal lines, of which four are more distant, and small transverse lines: ***intestinal canal*** obvious, folded three times upon itself, and at each fold much undulated.

Length about two inches.

The tentacula are inclined alternately, by two or three pairs together, towards the mouth.

8. H. *viridis*. Tentacula eight, entire, long, with six or seven pairs of pennatulæ, and four small ones destitute of pennatulæ; body cylindric, green.

Inhabits St. Thomas.

Body cylindric, covered with small prehensile tubercles, used in adhering to submarine objects. It is usually upon coralines and plants, growing at the depth of three or four feet, that this species is found, secure from the effects of the agitation of the waves; the tentacula are in continual motion, alternately approaching the mouth; *anus* terminal; *colour* entirely green.

Length about two inches.

Observations on the Nomenclature of WILSON'S ORNITHOLOGY. *By* CHARLES BONAPARTE. *Read November* 9, 1824. (Continued.)

MUSCICAPA.

There is, perhaps, no genus more difficult to elucidate than the present; for no two authors agree respecting its divisions. Brisson, who established it, seems to have been more accurate in assigning its limits, than any of the ancient