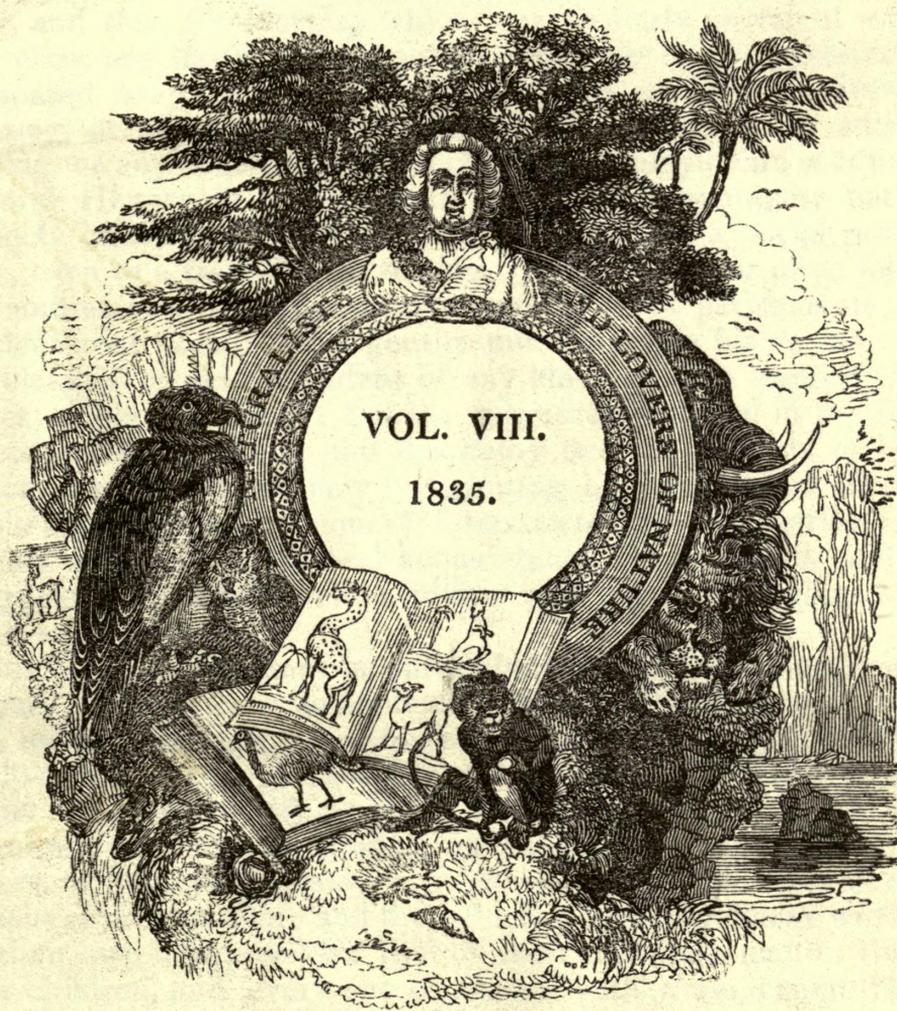


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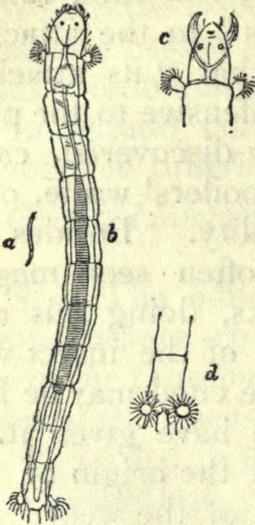
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[A writer in the *Gardener's Magazine*, viii. 498., who has referred the origin of "fingers and toes" to the attacks of *Nédyus contráctus Stephens*, remarked that "its attack can only be prevented by making the plant offensive to the parent fly [weevil]; and this, it has been lately discovered, can be done by incorporating with the soil soapboilers' waste, or any other substance of similar alkaline quality. Besides partridges preying on the larvæ, I have often seen magpies, crows, and, if I mistake not, even rooks, doing this useful service." Whatever may be the species of the insect which causes the "fingers and toes," the recipe cited may be found to have a preventive effect: therefore we have given it. In opposition to the preceding ascription of the origin of "fingers and toes" to the attacks of insects of the weevil tribe, we present, from the *Gardener's Magazine*, ix. 504., some observations by the late A. H. Haworth, Esq.:—"It is presumed that not any *Curculiónidæ* [weevil tribe], nor even any coleopterous insect, causes the vegetable disease called 'fingers and toes.' This is one of *contraction*: it is more probably the work of *Tenthredínidæ* [the sawfly tribe]. I have somewhere observed, in print, that lacerations on the green or growing parts of vegetables usually *enlarge* themselves, as is well observed on pin-scratched gourds, &c. The diseases of contraction, or those diverting the sap, &c., seem to be effected by haustellated insects. Marl is the great cure for 'fingers and toes:' and Norfolk marl is said to be the best."]

ART. V. *Illustrations in British Zoology.* By GEORGE JOHNSTON, M.D., Fellow of the Royal College of Surgeons of Edinburgh.

31. CAMPÓNTIA ERUCIFÓRMIS (*fig.* 18.) *Johnston*, in *Zoological Journal*, iii. 325.

DESCRIPTION.—Body 4 lines long, cylindrical, of twelve subequal segments (exclusive of the head), of a clear faint water green colour, smooth, and somewhat corneous. Head distinct, brown, subquadrate, sparingly ciliate on the margins. Eyes two, black, remote, not marginal, placed towards the front. Antennæ two, distant, very short, inarticulate, setaceous, originating in the front margin. Mouth with a pair of exsertile corneous brown hooked mandibles, which, when in motion, it is seen incessantly to protrude and retract; no proboscis. On the front and ventral margin of the first segment are two short unjointed legs, armed with a circle of retractile claws; and the last segment is furnished, near its



18

a, *Campóntia erucifórmis*, natural size; *b*, magnified; *c*, the head, slightly compressed between plates of glass; *d*, the under side of the anal segment.

termination, with two similar legs: the other segments are footless and naked; but a few hairs terminate the anal segment, which is very slightly lobate. Anus round, simple, small.

This animal lives among *Confervæ*, in pools left by the tide; and is very common in Berwick Bay. It moves with considerable quickness by means of its mandibles and legs; for the former seem to be as subservient to progressive motion as the latter; and, during its progress, the upper lip is considerably protruded, as shown in *fig. 18. c*. Within the first segment we observe a heart-shaped lobated organ, which, although colourless and almost transparent, is undoubtedly the stomach. The very short gullet enters it above; and from its inferior end a small intestine proceeds, which suddenly enlarges at the commencement of the fourth ring, and continues of the same calibre to its termination at the anus. This large intestine is always filled with earthy feculent matter, except that portion of it which traverses the three last segments, and which is usually empty. Two slender thread-like vessels are to be traced winding down the sides in the space between the skin and intestine; these occasionally anastomose by still slenderer transverse branches; but I could not discover any common centre of departure. At the end of the ninth ring there are four filiform dark-coloured tubular organs, which seem to originate in the sides of the intestine: they traverse the ninth and a part of the tenth segment, and end apparently with free extremities. These are probably hepatic vessels; and the deficiency of solid feculent matter in the intestine below their origin appears to prove their importance and necessariness to the proper assimilation of the food.

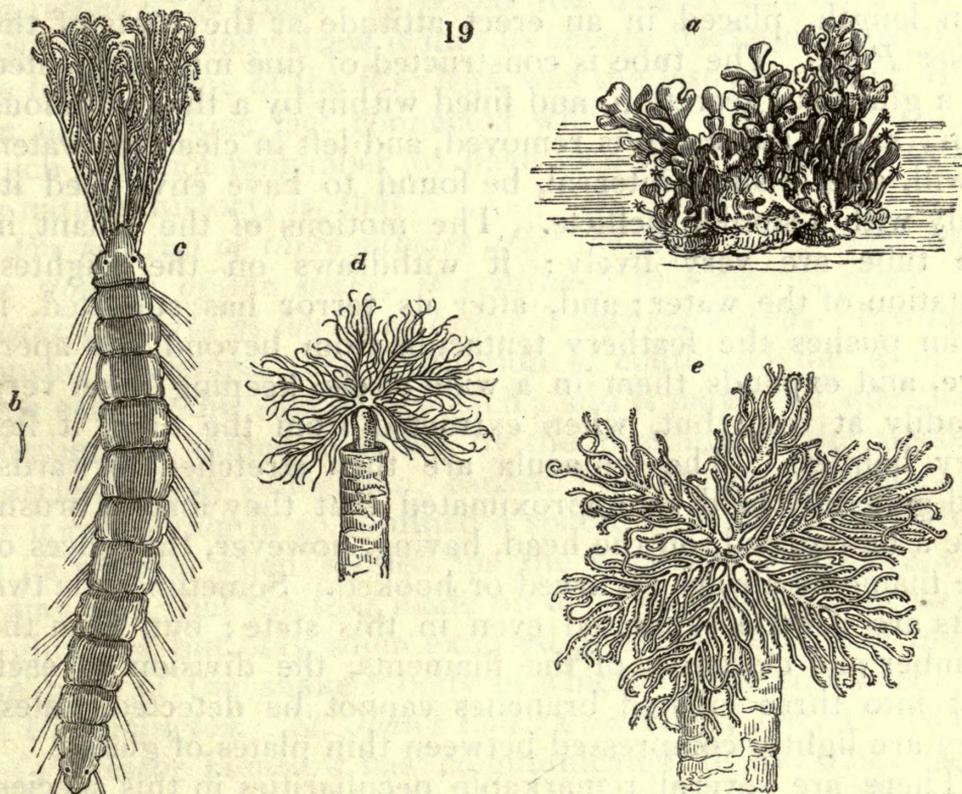
When I first described this animal, its close resemblance to some caterpillars was particularly mentioned; but the suspicion of its being actually a larva did not occur to me; for I believed it to be an established fact among entomologists that no insect passed its preparatory stages in sea water. I have been informed, however, that Mr. MacLeay, and no higher authority can be given, has proved that the worm in question is the larva, probably, of some dipterous fly; and if this opinion is correct (which its anatomy strongly confirms), then it will follow that at least one larva naturally lives and under-

goes its changes in the sea; a conclusion which, I think, is one of some importance, and at variance with our present notions. Our *Campòntia erucifórmis* may be found, at all seasons, at the roots of sea weed and corallines, in pools left by the recess of the tide. The very specimens before me were procured by myself, a few days ago, in pools to which no fresh water could have access, and which are covered to the depth of several feet by every tide; for they are near low-water mark.

Nov. 13. 1834.

32. OTHÒNIA FABRÍCII. (fig. 19.)

Synonymes. — *Tubulària Fabrícia* Mull., Zool. Dan. Prod. p. 254. no. 3066.; *Fabr.*, Faun. Grœnl., p. 440. no. 450. fig. 12.; *Turt.*, Gmel., iv. 668.



Othònia Fabrícii: *a*, a tuft of *Lauréncia pinnatífida*, with *Othònia Fabrícii* intermixed, natural size; *b*, the worm, removed from the tube, natural size; *c*, the same magnified; *d*, the head, protruded from the tube, with the tentacula displayed, as seen through the magnifier; *e*, the same, more highly magnified.

Description. — Body 3 or 4 lines in length, vermiform, cylindrical, narrowed posteriorly, of a reddish or yellowish brown colour, stained with the contents of the intestine, annulate, the rings thirteen in number, smooth, furnished on each side with a small fascicle of retractile bristles, which can be pointed either forwards or backwards; the terminal segment semioval, obtuse, marked on each side with a distinct black speck; bristles bent, and somewhat thickened about the middle, whence they taper to a very sharp point; two first segments

rather narrower than the following; the anterior with a projecting semioval process on the dorsal aspect, and marked with two round black eyes? placed towards the sides; branchial tentacula one third the length of the body, straw colour, unspotted, in two dense tufts originating in the sides of the head, each tuft consisting of three main stalks, which are ciliated with numerous filiform straight filaments, serulate with very short processes on their inner aspects; mouth between the tufts; intestine straight, nearly equal throughout; the anus terminal; space between the intestine and sides mottled, transparent.

This, although not hitherto enumerated among our natives, is certainly the most common species of its family on our coast. It lives in a narrow cylindrical tube, about twice its own length, placed in an erect attitude at the roots of the lesser *Fuci*. The tube is constructed of fine mud cemented by a glutinous secretion, and lined within by a thin glutinous skin; and if the worm is removed, and left in clean sea water, it will, after a short interval, be found to have enveloped its body with a similar pellicle. The motions of the tenant in the tube are very lively: it withdraws on the slightest agitation of the water; and, after its terror has subsided, it again pushes the feathery tentacula from beyond the aperture, and expands them in a wide circle, keeping them very steadily at rest: but, when extracted from the tube, it lies very helpless. The tentacula are then stretched forwards, and generally held so approximated that they form a brush, like a hair pencil, on the head, having, however, the apices of the filaments always recurved or hooked. Sometimes the two tufts are a little separated even in this state; but, from the number and closeness of the filaments, the division of each tuft into three ciliated branches cannot be detected, unless they are lightly compressed between thin plates of glass.

There are several remarkable peculiarities in this species. The fewness of its segments, the same in number as in caterpillars, the presence of eyes, or at least eyelike specks, on the first segment, and on the caudal one (for this is not an accidental, but a constant, character), the form of the head, with the peculiar formation of the branchiæ, are all characters which separate it from *Sabélla* [VI. 405.], and mark it as the type of a distinct genus. This, accordingly, Blainville has established under the name of *Fabrícia*, which is, unfortunately, preoccupied in botany, and is commemorative of the celebrated entomologist. I have consequently thought myself justified in adopting another; and, in selecting the Christian name (*Otho*) of the natural historian of Greenland, I adopt

one euphonical enough, and, I hope, unobjectionable; for it has the same intention as Blainville's had, of honouring the memory of one of the best and most accurate of our faunists.

Berwick upon Tweed, Nov. 15. 1834.

ART. VI. *Short Communication.*

THE Mode in which Snakes take their Food having been the subject of controversy of late [VI. 466. 551., VII. 67. 165.], I send the following note on the subject: — During a visit to my friend Dr. G. Johnston, at Berwick upon Tweed, in Sept. 1834, I was much interested by observing a common snake (*Natrix torquata Flem.*), which he had in a tame state, swallowing rather large frogs. It seized the frog by one of its *hind* legs, and gradually drew it into its mouth backwards; so that the head, or one of the fore legs, was the last part seen. But the most curious fact connected with this subject, and one which I do not remember to have seen noticed in any work on natural history, is, that

For full two or three minutes after the frog had passed into the stomach of the snake, it continued to have the power of croaking nearly as loudly as before it was swallowed. It would appear, therefore, that respiration is continued for a short time even in the snake's stomach; and it may be a question, whether the animal is killed by the pressure of the snake's muscles, or by suffocation, caused by the small quantity of air it can obtain in so confined a space, and the impossibility of its renewal when spoiled for the purposes of respiration. I may add, that the frog made no noise during the process of deglutition, but only when external pressure was made upon the part of the snake's body in which it was contained. — *C. C. Babington. St. John's Coll., Cambridge, Dec. 17. 1834.*

[Professor Henslow has communicated, in IV. 279., facts and remarks on the habits of the common snake, in relevance of a question distinct from that renewed by Mr. Babington, but to which some of the facts will also apply. “. I kept a couple of snakes for some time, which, after fasting for three months, at length began to take food. I have frequently seen them swallow the largest-sized frogs. When these were sometimes slowly receding, hind quarters foremost, into their enemy's stomach, the distended jaws of the snake were, in one period of the process, tightly contracted round the frog's head, producing the curious effect of an animal with one mouth (the frog's) and four eyes, two of which were winking continually, and the other two in a glazed stare.”]