

Observations on the *Hirudo complanata*, and *Hirudo stagnalis* : now formed into a distinct genus under the name, *Glossopora* / by Dr. Johnson.

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From the Author.
Bristol, March 4th 1825.

OBSERVATIONS

ON

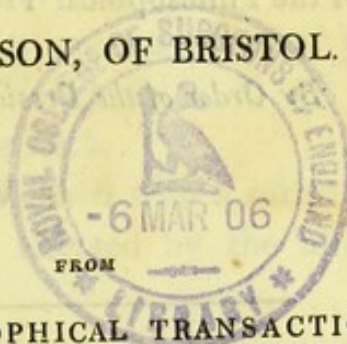
THE HIRUDO COMPLANATA, AND HIRUDO STAGNALIS,

NOW FORMED INTO A DISTINCT GENUS UNDER THE NAME,

GLOSSOPORA.

BY

DR. JOHNSON, OF BRISTOL.



THE PHILOSOPHICAL TRANSACTIONS.

LONDON:

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Gentlemen who are indulged with separate Copies of their Com-
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OBSERVATIONS, &c.

Read before the ROYAL SOCIETY, June 26, 1817.

I BEG leave to lay before the Society, a few remarks on the *Hirudo complanata* and *Hirudo stagnalis*; animals that have been hitherto but injudiciously, retained in the genus HIRUDO.

From the circumstance, in which they differ more particularly from the leech, they are now formed into a distinct genus, under the term of *Glossopora*.

These animals resemble the leech,

- a. In the body being furnished with a series of rings.
- b. In locomotion being effected by the alternate attachment of the head and tail.
- c. In the division of one general stomach into several lateral cells or partitions.

These animals differ from the leech,

- a. In the mouth being furnished with a projectile tubular tongue.
- b. In the body being nearly flattened, and pyriform.
- c. In having an abdominal pouch, or cavity, for the reception of their young.

The genus which they now form, takes the name (from γλῶσσα, a tongue, and πόρος, an aperture) of GLOSSOPORA.

CHARACTER GENERIS.

Corpus subovatum, depressum, caput acuminatum, lingua tubulata resiliens, os caudamque alterne affigendo progrediens.

G. tuberculata: *Glossopora dilatata, supra cinerea linea duplici tuberculata, subtus grisea, atomis nigris innumeris.*

LINNÆUS. *Syst. Nat. XII. 2. p. 1079. n. 6.*

————— *Faun Suec. 2082, Hirudo depressa ovato-oblonga interaneis fuscis pinnatis pellucetibus.*

HILL. *Hist. Anim. p. 16. Hirudo lateribus attenuatis.*

BERGMANN. *Act. Stockh. 1757, Tab. 6. Fig. 12, 14. Hirudo sexoculata.*

MULLER. *Hist. Verm. 2. n. 157, p. 47. Hirudo complanata.*

G. punctata: *Glossopora gracilis, cinereo-viridis, punctis plurimis subnigris.*

LINNÆUS. *Syst. Nat. XII. 2. p. 1079. n. 5.*

————— *Faun. Suec. 2081. Hirudo (stagnalis) depressa nigra, abdomine subcinereo.*

BERGMANN. *Act. Stockh. 1757, n. 4. Tab. 6. Fig. 9—11. Hirudo binoculata.*

MULLER. *Hist. Verm. 2. n. 171. p. 41. Hirudo bioculata.*

I am of opinion, that the *Hirudo circulans* described by Mr. SOWERBY,* and the *Hirudo crenata* by the Rev. WILLIAM KIRBY,† belong to this genus; but having had no opportunity of seeing either, I cannot determine whether or not they possess the tubular tongue.

* British Miscellany, Tab. 76.

† Linn. Trans. vol. ii. p. 316.

The *Hirudo Hyalina* which, MULLER observes, has a flattened body, and carries its young in a pouch, and the *Hirudo tessulata* of the same author, will, I think, also be found upon examination, to belong to this new genus.

The tubular tongue very seldom falls within our view; hence our surprise is the less, that it should so long have escaped notice. At the time I first observed it, I was unacquainted with any author, who had mentioned it. On my referring, however, to BERGMANN'S account of the *Hirudo sexoculata*, (now *G. tuberculata*) I find it there noticed, not as a tongue, but as a slender body, of a whitish colour, occasionally projected from the mouth; of the use of which he confesses himself to be ignorant. I give his words, " *Utur munnen har jag åtskille gånger sett uträckas en blek, smal lem, hvars mytta är mig obekant.*"* MULLER mentions that he never witnessed (although he frequently looked for it) the body which BERGMANN saw the *Hirudo sexoculata* thrust from its mouth: but he once observed the *Hirudo vulgaris* protrude a similar organ, when, he says, this assertion of BERGMANN came across his mind. On his observing it, however, more narrowly, it proved to be a small aquatic worm that the animal had swallowed and afterwards rejected. This readily accounts, he adds, for the mistake into which BERGMANN has fallen.

In stepping forward to support BERGMANN, I am only doing an act of justice to the merits of an accurate and intelligent observer.

Having had the *G. tuberculata* and *G. punctata* under my

* Stockholm Transactions, for 1757, p. 313.

daily notice for a period of at least six months, I may, I presume, speak with some decision on this point. It may seem perhaps unnecessary to add, that I possess an elegant preparation, showing this tongue (protruded from the mouth) filled with mercury. It is of a cartilaginous structure, and admits of great flexibility. It is in length about one-eighth of an inch, and is seen, delineated (magnified) in Fig. 5. (Pl. XVII.)

The *G. tuberculata*, is about half an inch in length, but when fully extended, one inch. It is commonly found in rivulets, attached to pieces of wood, stones, &c. A delineation is given of its natural size, in a front and back view, in Fig. 1, 2, 3, 4. It possesses great transparency, and has a fine glossy vitreous appearance. It is convex above, flattened beneath, and somewhat resembles a compressed pear, the tail being very broad, and the head tapering towards the extremity, in which may be seen six eyes, (Fig. 9. *b*) disposed in two longitudinal rows. The sides or margin of the body are serrated. The back is usually of a brown colour, with lighter or darker patches, ornamented in the middle with a double longitudinal row of white tubercles. (Fig. 9. *c*.) These tubercles are connected together by two black longitudinal lines, and are seldom apparent, unless the animal is at rest. The belly is generally of one uniform colour, chiefly grey, with a slight double black line running longitudinally in the centre.

When this animal is in motion, (to which it is much averse, seldom quitting the spot on which it may be affixed,) it is observed to throw forward its head to the greatest point of extension, and then attach itself by means of the sucker ter-

minating that extremity. Thus securing its hold, it draws up the tail, when the back describes an arch, as in Fig. 6. The tail is then fixed by a similar sucker, and the head is again extended. Now and then it supports itself by the tail, the head waving to and fro, and occasionally buries its head under the abdomen, somewhat after the manner of an *oniscus*. This is seen in Fig. 7.

The *G. punctata* is much smaller than the above, and exceedingly delicate in its structure. On the head, we notice two eyes, placed transversely (Fig. 13. *b*). It is delineated of its natural size, in Fig. 11, 12. Both the back and belly is of a dusky grey, profusely sprinkled with minute black speck.

The stomach of the *G. tuberculata*, like that of the leech, is divided into several cells or partitions (Fig. 10. *d. e.*) with their extreme points verging towards the tail. The two last of these cells (*f*) are much longer than the rest, and terminate in two blind sacs. Between them, we notice the intestine, a tortuous tube extending to the anus, (Fig. 9. *e.*) a foramen above the rim of the circular sucker, or what constitutes the tail.

These animals, it has been asserted, when cut, or divided, are capable of reproduction, but this seems to rest on no just foundation.

Their food principally consists of the *water helices*, and here we see the great use of the projectile tubular tongue. The animal, from its tapering so much towards the head, is enabled to penetrate some considerable way into the hollow of the shell, and from the flexibility of its tongue, can follow its victim to the innermost recess of its habitation. A passage

c refers to the root or the expanded part of the tongue, or what, more properly speaking, constitutes the œsophagus.

Fig. 6. Shows the arched back the *G. tuberculata* presents, when in motion.

Fig. 7. Shows the abdominal pouch of this animal with the young affixed to it by their tail, enjoying free motion with the rest of the body.

Fig. 8. Its appearance when about to deposit its ova; *a*, the mouth; *b*, the contracted portion containing the ova to be then excluded; *c*, the remaining portion of the ova left in the abdominal cavity; *d*, the tail.

Fig. 9. The *G. tuberculata* magnified, showing, *a*, the tubular tongue; *b*, the eyes; *c*, the double longitudinal row of white tubercles; *d*, the serrated margin; *e*, the anus.

Fig. 10. The back part of the same animal, showing, *a*, the tubular tongue projected from the mouth; *b*, the œsophagus; *c*, the abdominal foramen; *d*, the alimentary canal or stomach; *e*, the lateral cells of the stomach; *f*, the two last long cells; *g*, the intestine; *h*, the sucker, or tail.

Fig. 11. *G. punctata*, natural size, front view.

Fig. 12. Ditto, back view.

Fig. 13. The same animal, magnified, showing, *a*, the projectile tubular tongue; *b*, the eyes; *c*, the abdominal pouch; *d*, the tail; *e*, the serrated margin.

Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.



Fig. 12.



Fig. 13.



