

IV. *An Anatomical Description of Worms, found in the Kidneys of Wolves, in a Letter from Mr. James Theodorus Klein, Secretary of the City of Dantzick, F. R. S. to Sir Hans Sloane, Bart. &c.*

I Now lay before you, Sir, some Worms found in the Kidneys of Wolves, to which we commonly give the Name of Vipers. Of these one may read in divers Places of the *Curiosities of Art and Nature*, collected at *Breslaw*. They were sent to me from *Sewaldia*, in *Eastern Prussia*, the Estate of a Gentlewoman named *Madam Rose*.

*The first* P L A T E.

*Fig. 1.* exhibits a female Worm found in the Kidney of a the Wolf.

*Fig. 2.* The Kidney of a Wolf, resembling a Bag, on Account of the almost entire Consumption of its *Parenchyma*. It contained eight Worms, some of a yellowish, others of a Blood Colour; *two* of which were *Females*, *six* *Males*.

Being desirous to see the Dissection of these from the Bag, I sent for my good Friend, the most learned and ingenious *David Kade*, M. D.

The Dissection of each Sex is shewn in

*The second* P L A T E.

The *Females* were more than twice longer and thicker than the *Males*. They were furnished with three very visible Holes; the first of which performed

ed the Function of the Mouth ; the second of the *Anus* ; the third of the *Vulva*. This last Hole is seen under the Belly, about  $1\frac{1}{2}$  Inch from the Mouth. ( *Fig. 1. a, b, c.* )

The membranous Skin was marked with annular Fibres, and 7 or 8 Chestnut-coloured Lines ( *Fig. 1. d.* ) running the whole Length of the Worm. The Skin being cut, a limpid Humour issued forth, and then appeared the transversal Fibres interlaid on every Side with the *Viscera*, and are all round about inserted into the Skin in the Interstices of the *Vesicles* ( *of which hereafter* ) and at the same Time the *Viscera* appeared, which the *sole* Parts destin'd for *Nutrition* and *Generation* seem to make up.

As to the first, or alimentary Passage, it is composed of two Canals, one whereof ( *Fig. 2. b, b.* ) which begins at the Mouth, and is about 2 Inches long, smooth, fleshy, whitish, and endow'd with thick Coats, serves for receiving Nourishment. As this Duct proceeds with equal Thickness, it is once reflected and retorted before it enters the other ( *Fig. 2. c, c, d.* ) which is of a dark brown Colour, much broader and tenderer than the first, flatted, membranous, covered with very fine Coats, wrinkled like a *Swathing Cloth*, then runs into transversal and winding Sinews, and extends in a strait Line to the *Anus*. The inner Coat of this Canal seemed somewhat rough, and as it were strew'd with Dust. The contained Liquor was perfectly fluid, and of a faint footy Colour.

But the Organs of Generation we found thus. Near the *Anus* was fix'd to the Skin, the End of a whitish tender Vessel, which thence proceeded strait to the Beginning of the alimentary Canal, where reflecting

flecting towards its Origin, and again refuming its first Way, after being contorted and implicated in many and various Windings and Curves, widens and straitens here and there, until at length becoming more and more capacious, it forms a little Bag, for which a whitish, fine, smooth Canal, about an Inch long, covered with pretty thick Coats, piercing thro' the Skin  $1\frac{1}{2}$  Inch from the Mouth, prepares an Outlet, marked under the Belly with a Caruncle (*Fig. 1. c. Fig. 3 and 4. b.*) This little Canal may be, not improperly, called the *Oviduct* or *Vagina*.

The Colour of these Parts is not every where the same; for of whitish at the Beginning, in the Progress it insensibly becomes darker: And at length, where the Vessel acquires a greater Volume, and especially where it stretches forth into the Bag, it is of a Chesnut Colour. And as far as this Chesnut Colour continues, the Vessel is thick stuffed with *Myriads* of Eggs, and therefore is to be called the *Ovary*.

The Eggs, whose Number is certainly incredible, seen with the naked Eye, resemble a *Magma* of a brown Colour; but viewed through those Microscopes, which in the *English Apparatus* bear the second and third Number, they are of the Figure marked *a* and *b* in *Fig. 5*.

The Surface of the inner Skin which inclosed the abdominal Contents, was all beset with small whitish Bladders, of different Figures and Bulks, pouring out a Lymph upon tearing them. These were in the Females.

Though the Integument of the *Male* be marked with annular Fibres, and as many Chesnut-coloured Lines as that of the *Female*, throughout its whole

Length, yet his external Shape differs from that of the *Female*, *First*, Because, as I have already said, he is much less. *Secondly*, Because, the third Hole, *viz.* that under the Belly, is wanting in the *Male*. *Thirdly*, Because the *Anus* of the *Male* is surrounded with a thick cartilaginous Membrane, of near an orbicular Figure, about a Line broad, externally convex, internally concave; on the Middle of which appears a Tubercle, divided by a fine Slit, which lets out the Excrements and a very small capillary Process (*Fig. 6. k.*)

The Cavity of the Belly contained a limpid Humour, the transversal Fibres, the alimentary Canals, and spermatic Vessels.

The alimentary Passages had the same Situation and Structure as in the *Female*; the anterior Canal was of a whitish Colour, the posterior, or wrinkled one, of a pale brown.

The spermatick Vessels were very white and slender, yielding, when wounded, a milky Humour. They are divided into two small Branches, hanging out of a vermicular Process (scarce an Inch long) which lies in the Belly, in that Place where the alimentary Canals are joined together, and leans on the Side of the wrinkled Canal, by the Help of the transversal Fibres. These Branches, in their Progress hence, creeping above and below the Canal of the Aliments, are very often reflected, intorted and folded; one at length freed from its Windings, stretches away strait towards the *Anus*, into which it is inserted in the Shape of a pretty stiff Vessel; but the other, at the Side of the wrinkled Canal, being pressed, collected, and equally inflected, almost through its whole Extent,

tent, by the transversal Fibres, ends in the opposite Side, by an Extremity pendulous in the Belly, not far from the *Anus*.

The inner Coat of the Skin, just as in the Females, is all covered with small whitish Bladders, turgid with Lymph, but less, in Proportion to the lesser Bulk of the Worm.

Moreover, we found under the wrinkled Canal a certain whitish Duct expressed in *Fig. 7*, and marked with the Letters *b, b, b*, firmly connected to the afore-said Intestin by its finest Part; but whose Outlet or Origin, the Tenderness of the Intestin, and Fineness of the Duct hindred us from tracing with Exactitude.

So much I humbly beg, Sir, you'll not take amiss. Furthermore, 'tis great Pity that the excellent Work of the most illustrious Count *Marsilli*, of the History of the Sea, was so inaccurately printed. We have thought it well worth our while, not only to make the Corrections and Additions it wanted, but also to draw up an Index of its Contents, which we intend for our own more commodious Use of that Book. To these I add an Example thereof: And if it proves acceptable, you may expect, at a proper Time, the Fruits of another Labour, perhaps not less useful.

It remains to wish you all Prosperity, and assure you that I am, &c.

*From my Study in Dantzick,  
Decemb. 3d, 1726.*

The EXPLICATION of the Figures of the second Plate, drawn according to their natural Bigness.

*Fig. 1.* The Shape of a Female Worm ; *a*, the Mouth of the Worm ; *b*, the *Anus* ; *c*, the *Vulva* ; *d*, the Chestnut-coloured Lines running along the Worm's Length.

*Fig. 2.* *a*, the Worm's Mouth ; *b*, the alimentary Canal, which is white, carnous, &c. *c*, the alimentary Canal, which is brown and flatted, and whose Extremity is in the *Anus* ; *d*, the Place where the Canals join ; *e, e, e*, the transversal Fibres ; *f*, the *Anus*.

*Fig. 3* and *4.* *a*, the Worm's Mouth ; *b, b*, the first alimentary Canal ; *c, c*, the latter alimentary Canal ; *d*, the Place where these two Canals cohere ; *e, e, e*, the transversal Fibres ; *f, f, f*, the white Vesicles turgid with Lymph, with which all the inner Skin is thick beset ; *g*, the *Anus* ; *h*, the *Vagina* ; *s*, the *Oviduct* ; *i*, the Outlet of the *Vagina*, or the *Vulva* ; *k, k*, the Ovary fill'd with innumerable Eggs ; *l, l*, the preparing Vessels.

*Fig. 5.* The Eggs viewed though a Microscope ; *a*, through the Microscope, N<sup>o</sup>. 3 ; *b*, through the Microscope, N<sup>o</sup>. 2.

*Fig. 6.* A Male Worm ; *a*, the Mouth of the Worm ; *b, b*, the whitish alimentary Canal ; *c, c*, the wrinkled Canal of the Aliments ; *d*, the vermicular Process of the  
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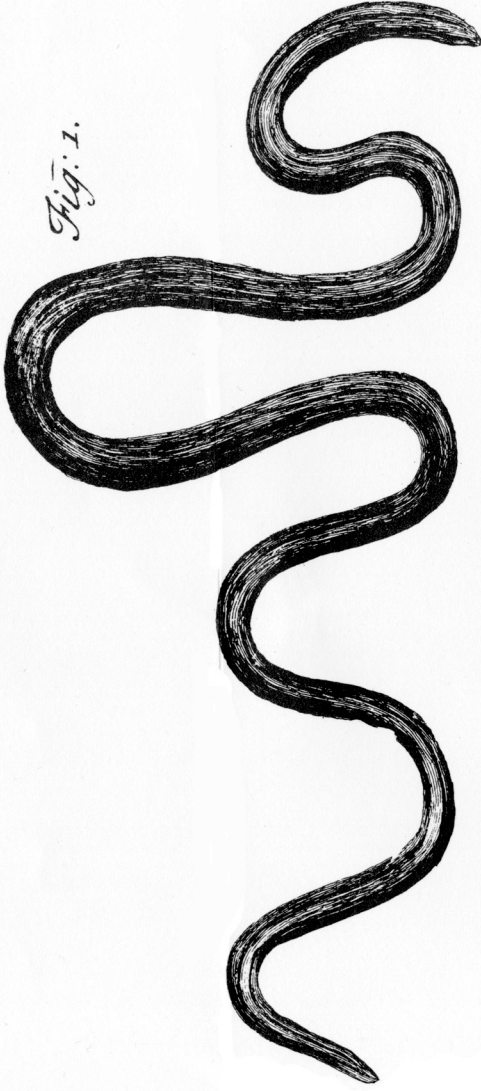
the spermatick Vessels ; *e, e*, a Branch of the spermatick Vessels along the Side of the Intestine, compressed by the transversal Fibres, and inflected through its whole Extent in an uniform Manner ; *f, f, f*, the Windings and Turnings of the spermatick Vessels ; *g, g*, the transversal Fibres ; *b*, the cartilaginous Membrane surrounding the *Anus* ; *i*, the small Slit in its Middle ; *k*, the very fine capillary Process ; *m, m*, the small Bladders covering the Skin.

*Fig. 7.* A Male Worm inverted, and dissected about the *Anus*, in Order to see with Ease the Duct lying under the alimentary Canal ; *a*, the wrinkled alimentary Canal ; *b*, the whitish Duct under the wrinkled Canal ; *c*, the spermatick Vessels.

*Fig. 8.* *a*, the vermicular Process of the spermatick Vessels ; *b, b*, the Branches of the spermatick Vessels, freed from their Windings ; *c, c*, the same Branches dissected.

V. *Some material Observations upon dissecting an Ostrich, made lately by Mr. Ranby, Surgeon to his Majesty's Household, and F. R. S.*

ABOUT five Years ago, I laid before the Society some Observations made in an Ostrich dissected, by Order of Sir *Hans Sloane*, Bart. to which Account I beg Leave to add two or three more Observations which escaped my Notice in my former Dissection. And *First*, the Eye, the Figure of which, when



*Fig. 1.*



*Fig. 2.*

*Fig. 1.*



*Fig. 2. ca.*







Tab. 2. da.

Fig. 1.



Fig. 2.

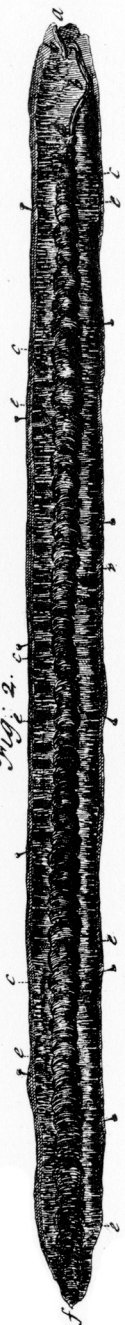


Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.





Fig. 1.



Fig. 2.

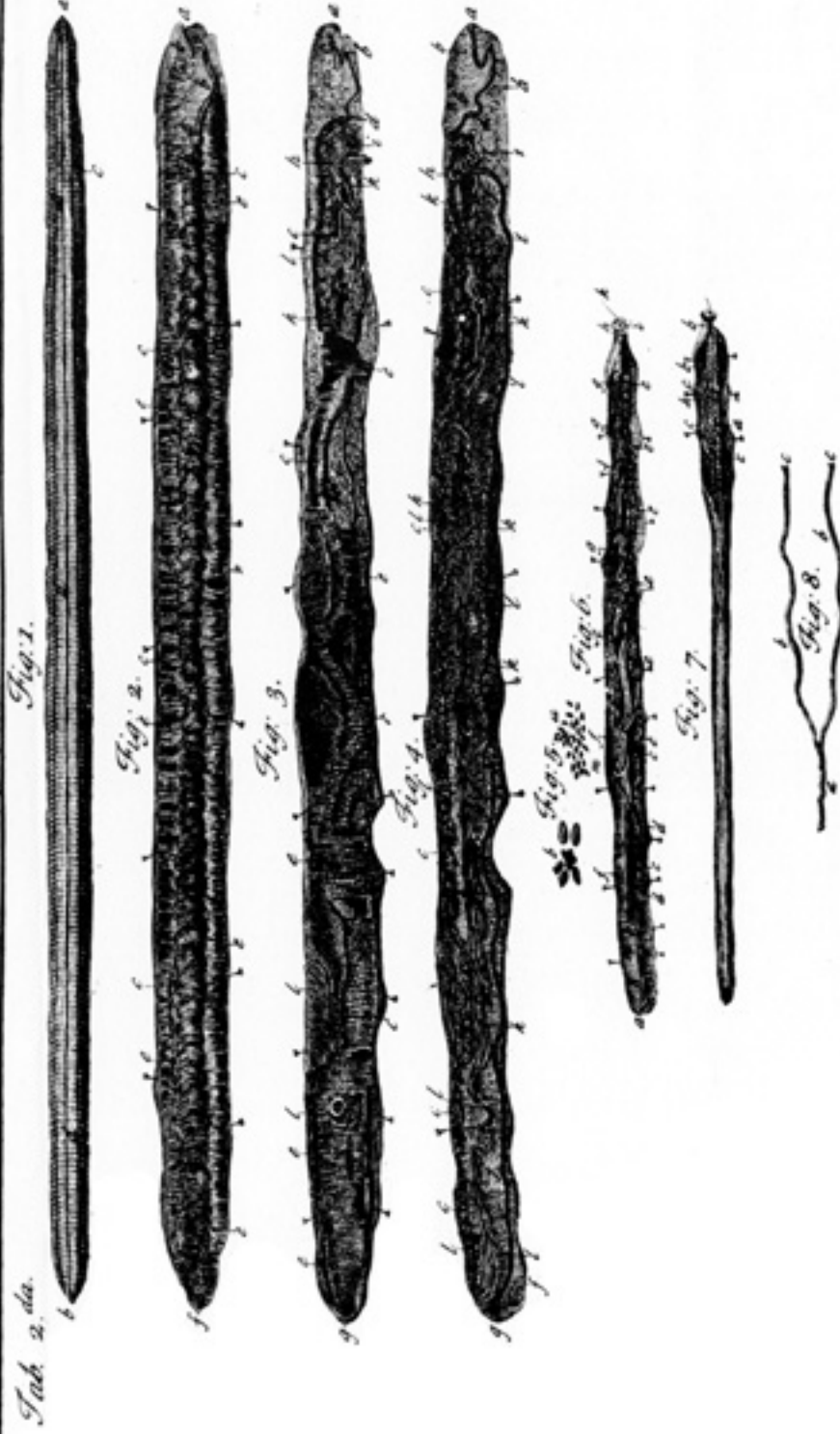


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.