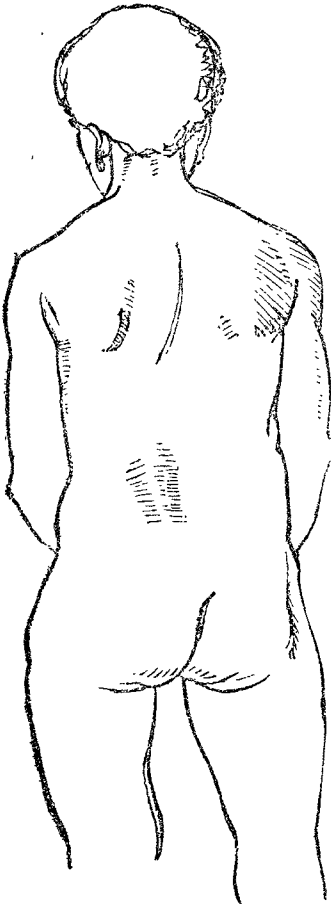


brought under the influence of chloroform. A flat and slightly curved trocar and canula is the best instrument for the purpose. It is to be inserted about three-quarters of an inch behind the upper end of the trochanter, and passed onwards and a little forwards. The hand holding the instrument will detect immediately when it has entered the cavity. It may then be pressed a little more home, and the trocar withdrawn. The thigh is next to be inverted and rotated inwards. Pressure with the hand may be made both on the groin and behind the trochanter, which manœuvres will as far as possible procure the emptying of the capsule. While withdrawing the canula, the finger must be placed over its outer opening; the wound must be closed at once, and the limb placed in the splint. By this simple procedure we spare the patient a great deal of very severe and wearing pain, evading that period of intense suffering which precedes the shortening. We lessen the widely destructive effects of the inflammation, and we render the subsequent course of the disease more manageable. Moreover, if the fluid in the capsule be pus, we certainly do to a very considerable extent diminish the probability of subsequent abscesses, which are so generally produced in the neighbourhood of hip-joint disease. Indeed this method, combined with other and more essential treatment, will prevent such occurrence altogether.

Very soon after distension of the capsule is relieved, whether by natural or artificial means, the thigh becomes shortened (unless mechanically prevented). The peculiarities of this posture to be observed in the living patient are these: Erect, he supports the weight of the body on the sound limb; the diseased one rests on the ground only by the ball of the foot, which is generally inverted; the heel is raised; the knee is higher than the other; the thigh is bent on the pelvis more or less according to the severity and age of the case; the pelvis is raised on the diseased side, and the haunch projecting (Fig. 7);

FIG. 7.



the fold of the nates is higher on that side than on the other; the buttock drawn up and pointed backward; the *rima natium*, traced from below upward, slopes away from the diseased side; the more or less defined and fluctuating swelling which continued through the second stage has now yielded to a more diffuse tumefaction; and in cases left to themselves, after the establishment of shortening, abscesses form in positions determined by the locality of rupture in the synovial membrane, and the disposition of fasciæ in the neighbourhood.

I have already shown how adduction produces lengthening; it will be unnecessary to adduce opposite and similar reasons why adduction should cause shortening. Let me refer back to the above diagrams of the pelvis, but change in your mind's eye the position of the disease from the right to the left side, and observe that shortening corresponds with an acute angle between the femur and pelvis. It will also be as well for me to point out that when adduction is established the diseased thigh would cross the other, but for the changes in its posture and in that of the pelvis; thus, while in abduction or lengthening, support for the weight of the limb is the chief cause of the pelvic distortions, the malposture

is principally produced in adduction or shortening by the necessity of parallelism between the two thighs. But observe that in both these conditions, the chief symptoms and appearance of the second and third stages of the disease, are produced by abnormal muscular contraction. Recollect the position of all the affected muscles—that their attachment to the femur is below in nearly all cases, as well as outside their origin from the pelvis, so that their power, besides producing adduction, must have the effect of pressing the head of the femur with considerable violence against the acetabulum. Gentlemen, this fact, one of the most important, though previous to my investigations unnoticed, in hip disease, is so essential to its successful

comprehension and treatment, that I do not know how I can lay sufficient stress upon it, or impress it too deeply on your minds. It certainly cannot be done at the end of a lecture. In our next it will be proved to you that nearly all the ultimate mischief and nearly all the pain is produced by this spasmodic contraction and by this pressure, and it will be shown how such disastrous effects may be counteracted.

ON THE
OCCURRENCE OF ASCARIS MYSTAX IN
THE HUMAN SUBJECT.

BY T. SPENCER COBBOLD, M.D., F.L.S.,

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IN this communication I propose to rescue from oblivion a most important contribution to helminthological literature; to offer proofs of the occurrence of *Ascaris mystax* in the human body; and to vindicate the authority and general accuracy of Dr. O'Brien Bellingham, and other Irish naturalists, whose statements have been unfairly handled by continental parasitologists.

The late Dr. Bellingham, who was one of the surgeons of St. Vincent's Hospital, Dublin, published in the thirteenth volume of the "Annals of Natural History" an extended Catalogue of Irish Entozoa; and in this list he recorded the existence of a new round worm in man, under the title of *Ascaris alata*. This catalogue has been constantly referred to by Dujardin, Diesing, and other systematic entozoologists, comparatively few of them having, it would seem, had access to Dr. Bellingham's more extended account of this parasite given in the first volume of the *Dublin Medical Press* (No. 7, Feb. 20th, 1839). One is led to make this inference from the doubts which some have cast upon the very existence of the worm; although others, with more candour, suppose the species has merely been mistaken. Thus, Küchenmeister ("Parasiten," s. 464; in Lankester's edit., vol. ii., p. 100) says, "The *Ascaris alata*, found in the small intestine of a man, is probably only a young individual of one of the long-known Nematoda, if indeed it be a worm at all!" (The italics are mine.) This statement is reproduced by Hulme in his English edition of Moquin Tandon's "Elements of Medical Zoology" (p. 341); and the French author himself evidently shares the doubt of other people. Dujardin ("Helminthes," p. 156) admits the species, as does also Diesing ("Systema Helminthum," p. 175); but the latter unkindly adds the following very significant suggestion:—"An *Ascaris lumbricoides* capitis epidermide emphysematice inflata?" Dr. Leidy of Philadelphia admits *A. alata* among his *Entozoa hominis* without comment ("Smithsonian Contrib." for April, 1853); but Weinland of Frankfort, in his list, prefixes the species with a note of interrogation, observing, also, that it has been "once" found in Ireland ("Essay on Tapeworms," p. 88). It is quite clear, therefore, that these authors entertain no belief as to *Ascaris mystax* being a human parasite, because those who doubtfully accept Bellingham's *Ascaris alata* do so under the impression that, whatever it is, it is quite distinct from the common ascaris of the cat. The evidence which I shall now adduce is quite conclusive, and ought, once for all, to clear up the mystery.

Dr. Bellingham, in his paper (*loc. cit.*) "On an Undescribed Species of Human Intestinal Worm," remarks that there are three species of ascaris infesting man (i.e., he includes the *A. lumbricoides* and *A. vermicularis*, the latter being now better known as an *Oxyuris*); and he proceeds to notice the third form in the following manner:—

"The third species of the genus ascaris, which occurs in the human intestine, has not hitherto been described (although it would appear to have been already observed in this country); as yet I have met with it only once. It belongs to the third division in Rudolphi's arrangement, and to the subdivision in which the head is winged. From the distinctness of the lateral membranes of the head, I have given it the name of *Ascaris alata*."

Dr. Bellingham states that he possessed two specimens, both females; and, having next given a minute description of them, he goes on to remark: "The only instance in which I have as yet met with the *Ascaris alata* was on the occasion of my pre-

scribing for a child, aged about five years, who exhibited symptoms of worms. I ordered some vermifuge medicine, and desired, in case any worms were voided, that they should be kept. A day or two afterwards the specimens from which I have taken the above description were brought to me; they were dead when I received them, and I could not learn that the child ever passed any since." Dr. Bellingham then refers to a previously published case, where worms "closely resembling" his so called new species had been "passed by a female residing in the county of Cork," and thereupon concludes his paper with the following statement:—"This species, the *Ascaris alata*, is very distinct from the *Ascaris lumbricoides* of the human subject. In general appearance it is not unlike the *Ascaris mystax* which inhabits the stomach and small intestines of the cat; it differs, however, in having a greater diameter posteriorly than anteriorly, and in the lateral membranes of the head being broader in the *Ascaris mystax* than they are in the species under consideration. There are some minor points in which they also differ, which will be observed if we contrast the characters of the two species."

So much for Dr. Bellingham's interesting record, which appears to me to be singularly clear and accurate, although, as I shall show in the sequel, he has, after all, only been describing a genuine *Ascaris mystax*. In the meanwhile, however, it is necessary to glance at the earlier and still more remarkable communication by Dr. Pickells, where considerable numbers of similar ascarides were obtained from a patient, named Mary Riordan, aged twenty-eight years. This case will be found minutely detailed in the fourth and fifth volumes of the "Transactions of the Association of Fellows and Licentiates of the King and Queen's College of Physicians in Ireland." In this instance the first specimen was voided in April, 1822, and on its being submitted to that distinguished naturalist, Dr. J. V. Thomson, of Cork, that gentleman writes to Dr. Pickells as follows:—"The ascaris resembles most that which is so common an inhabitant of the stomach of a cat, (*Ascaris felis*), but it is rather longer in proportion to its thickness." After an interval of one year and ten months, (Feb., 1824,) we are told that several were passed at one time; then, again, (Nov., 1825,) eleven more, and subsequently, (March, 1826,) there was another addition of nine, which were thrown up alive. Taken altogether, Dr. Pickells had "seen about fifty of various sizes." These were generally evacuated alive, and, in a majority of instances, without medicine. To use the author's own words, "they came away usually in groups of six or more. I have sometimes," he adds, "found a whole group knit together by the extremities. The common lumbricus (*Ascaris lumbricoides*) was also eliminated in some instances. One measured upwards of a foot."

The mention of the presence of *Ascaris lumbricoides* is particularly important in this case, because some have supposed that Mary Riordan was attempting to impose upon her medical attendants. The case, indeed, is one of singular interest; for this woman not only passed the before-mentioned nematodes, but also an astonishing number of the larvæ of *Blaps mortisaga*, a coleopterous insect "which inhabits such situations as churchyards." This person had, from superstitious motives, long practised the disgusting habit of drinking water mixed with clay taken from the grave of a clergyman or priest, under the impression that she would thus free herself from "both disease and sin." I have mentioned this, not with the view of now discussing the true and false instances where insect larvæ have been obtained from the human body, but for the purpose of directing attention to the possible or probable sources from which the ova of *Ascaris mystax* may have been derived, and in the sequel I think its importance will be made manifest.

The foregoing communications by Drs. Bellingham and Pickells are fortunately accompanied by a few drawings, exact outline copies of which I have here reproduced in order that they may be compared with my original figures given below. Some weeks back, when engaged in preparing a paper "On Human Entozoa," (which I partly read at the recent meeting of the British Association at Cambridge,) I took occasion to work out this vexed question as to the genuineness of Bellingham's *Ascaris alata*; and I must say that whatever doubts I had previously entertained regarding his two nematodes, they were at once dissipated on viewing the figures given by Dr. Pickells in the work above cited, (Vol. IV., Plate III., Figs. 6, 7, 8.)

Having thus, by an examination of these writings, and from my familiarity with specimens of *Ascaris mystax* obtained from cats, arrived at the conclusion that Bellingham's *Ascaris alata* was neither more nor less than *A. mystax*, it is a matter of great satisfaction to myself that I am now enabled to bring

forward a third instance of the occurrence of *Ascaris mystax* in the human body, and that, too, under the following clearly-defined circumstances:—

About the middle of last November, Dr. Edwin Lankester, F.R.S., Coroner for Central Middlesex, received from Mr. Scattergood, M.R.C.S., of Leeds, a specimen of a nematode worm (one out of eight examples), accompanied by a note explaining the source from which it had been derived. On the evening of the 21st of November, Dr. Lankester called my attention to this parasite, and most kindly and unselfishly permitted me to examine it at leisure, with the view of making any further use of it which I might think advisable. On seeing it, I did not doubt for a moment we had stumbled upon a genuine *Ascaris mystax*, and therefore at once, with Dr. Lankester's consent, putting myself in communication with Mr. Scattergood, the latter gentleman, on the 22nd of November, obligingly favoured me with the following important particulars:—

"I have great pleasure in sending you herewith three more of the entozoon, and, should any others be found, will gladly send you the recent specimens. The eight entozoa, of which you now have four, were passed early in this month, after a few days of diarrhœa and fretfulness, by a child thirteen months old, the son of a respectable merchant in this town. I have made careful inquiries respecting the child's food, &c., and have every reason to believe that the following account is correct. The child, though suckled to the age of seven months, had also been fed with milk-and-water, sweetened with loaf sugar. At the age of eleven months, flour, oatmeal, or 'rusk' was added to this, and subsequently a little bread, farinaceous puddings, potato with gravy, soup and broth. The water used was that supplied from the Leeds waterworks. It was not filtered, but was always boiled before adding it to the milk. The child very rarely drank water by itself; if he ever did, it was filtered water, as used by the rest of the family. During the last two months or more he occasionally sucked a piece of meat, but it was always taken from the cooked joint eaten by the family; he never had raw meat or uncooked ham. During the last two or three months or more the nurse had frequently given him a piece of celery to chew; of this he was very fond. He had not been from home for some months. . . . The child's general health had been good; no worms had been seen in the evacuations previously. After the worms were shown to me, I gave a dose of castor oil, and examined the fæces. I found in them several white filaments, which proved to be bundles of vegetable vascular tissue and spiral vessels—evidently from the stalks of celery. After this the diarrhœa ceased, and though the evacuations have been frequently examined since, no other entozoa have been found."

Nothing could be more explicit or better to the point than this information; but having observed the extreme incredulity of foreign parasitologists (especially Dr. Kuchenmeister) in regard to other equally well ascertained facts, I resolved, at the risk of proving troublesome, to make certainty doubly certain, by suggesting to Mr. Scattergood the possibility of deception having been practised upon him. His reply to my second letter is equally satisfactory, and runs as follows:—

"The possibility of fraud or of mistake was not overlooked in my inquiries. The proof of the presence of the parasites in the child's evacuations depends, not on the evidence of the nurse, but of the mother, who is an intelligent person, and the daughter of a medical man. . . . The celery was probably the means of introducing the entozoa. The market gardens about large towns are often watered from ponds or streams which may contain all manner of abomination."

The opinion here enunciated by Mr. Scattergood is one with which I am fully disposed to agree, seeing that it accords in the main with the conclusions deducible from numerous recent experiments, made with the view of ascertaining the development and migrations of the Nematoda. Thus, for example (as I have elsewhere remarked), in the case of the closely allied *Ascaris lumbricoides*, the independent investigations of Richter and Davaine, with fresh eggs, "only go to prove that after the ova have escaped passively, *per vias naturales*, they complete their embryonic development whilst free in open waters. In Richter's experiment none of the embryos had emerged from the eggs, although they had been in water eleven months; whilst the previous investigations of Verloren with the eggs of *Ascaris marginata* of the dog showed that the young embryos can retain their vitality for more than a year after their worm-like condition has been attained." After a similar manner the escaped ova of *Trichocephalus dispar* require a period of six months after their expulsion before the embryonic condition is fully attained; but in the case of *Ascaris osculata* infesting the

seal, my own recent experiments go to prove that the embryonic development may be completed a few days after the eggs have escaped into open waters. On the whole, therefore, it has become evident that some round worms pass through their early development much quicker than others; and in the case of those which do not produce their young viviparously, it is necessary that the ova become immersed in water for a longer or shorter interval; and it is chiefly through this aqueous medium that they gain access to our bodies. Before very long we hope to be able to give a complete record of the history of the development of each individual species which infests the human body; but those who have not practically attended to these inquiries can scarcely be aware of the numerous difficulties which our investigations in this direction have to encounter.

Leaving now, therefore, the question as to the mode of immigration to the human host, it remains for me to direct more particular attention to the specific characters of *Ascaris mystax*. The accompanying figures, with their explanatory references below, will indicate the leading points to be observed; but I may especially remark upon the circumstance, that the so-called "wings" of the head vary considerably in different individuals. This occurs without relation to sex, the *alæ* being strongly pronounced and broad in some, whilst in others they are attenuated and inconspicuous. The stress, therefore, which Bellingham and others lay upon these appendages, in view of determining specific differentiations, is utterly valueless, at least in so far as mere size and conspicuity are concerned; but when variations of outline—constant within certain limits—are found associated with other peculiarities, either of structure or habit, then the question of specificity is fairly raised. In the present case I entertain no shadow of doubt as to the identity of Bellingham's *Ascaris alata* with Dr. Pickells' nematode, "similar to the supposed *Ascaris felis*," and with Mr. Scattergood's round worms, which I have here carefully figured; they are all examples of the ordinary *Ascaris mystax* of the cat, with which helminthologists are perfectly familiar.

In executing the magnified views which I have given above (Figs. 6, 8, 9, 10), I was careful to employ a camera to ensure accuracy; but this plan was evidently not pursued in the amplified representations given by Drs. Bellingham and Pickells. I mention this, not to cast a slur upon their extremely interesting communications, but to caution systematists against relying upon comparative differences of outline, when these would not have been so strongly indicated if the same method had been pursued by these authors in delineating the ascarides which came under their observation. On this subject I might say much more, but having, as I think, fairly proved that the *Ascaris mystax* should henceforth be numbered among the human entozoa, I venture, before concluding, to offer a complete list of all the helminths liable to infest the human body, and finally to furnish a few general remarks which the occasion legitimately suggests. This list is similar to the one I recently exhibited at the Cambridge meeting of the British Association; but to render it more useful to professional readers, I have added in most instances one synonym, lest the titles here adopted (on more modern principles of entozoological classification) should embarrass those who have not kept pace with our rapidly advancing science:—

1. *Fasciola hepatica*, Linnæus. (*Distoma hepaticum*, Abildgaard.)
2. *Distoma crassum*, Busk. (*D. Buskii*, Lankester.)
3. *Distoma lanceolatum*, Mehlis. (*Fasciola hepatica*, Bloch.)
4. *Distoma ophthalmobium*, Diesing. (*D. oculi humani*, Gescheidt.)
5. *Distoma heterophyes*, Siebold. (*Dicrocoelium heterophyes*, Weinland.)
6. *Bilharzia hæmatobia*, Cobbold. (*Distoma hæmatobium*, Bilharz.)
7. *Tetrastoma renale*, Delle Chiaje.
8. *Hexathyridium Pinguicola*, Treutler. (*Polystoma Pinguicola*, Zeder.)
9. *Hexathyridium venarum*, Treutler. (*Linguatula venarum*, Lamarck.)
10. *Ascaris lumbricoides*, Linnæus. (*Lumbricus teres hominis*, Tyson.)
11. *Ascaris mystax*, Rudolphi. (*Ascaris cati*, Schrank.)
12. *Trichocephalus dispar*, Rudolphi. (*Ascaris trichiura*, Linnæus.)
13. *Trichina spiralis*, Owen.
14. *Filaria Medinensis*, Gmelin. (*Dracunculus Persarum*, Kämpfer.)
15. *Filaria lentis*, Diesing. (*Filaria oculi humani*, Nordmann.)

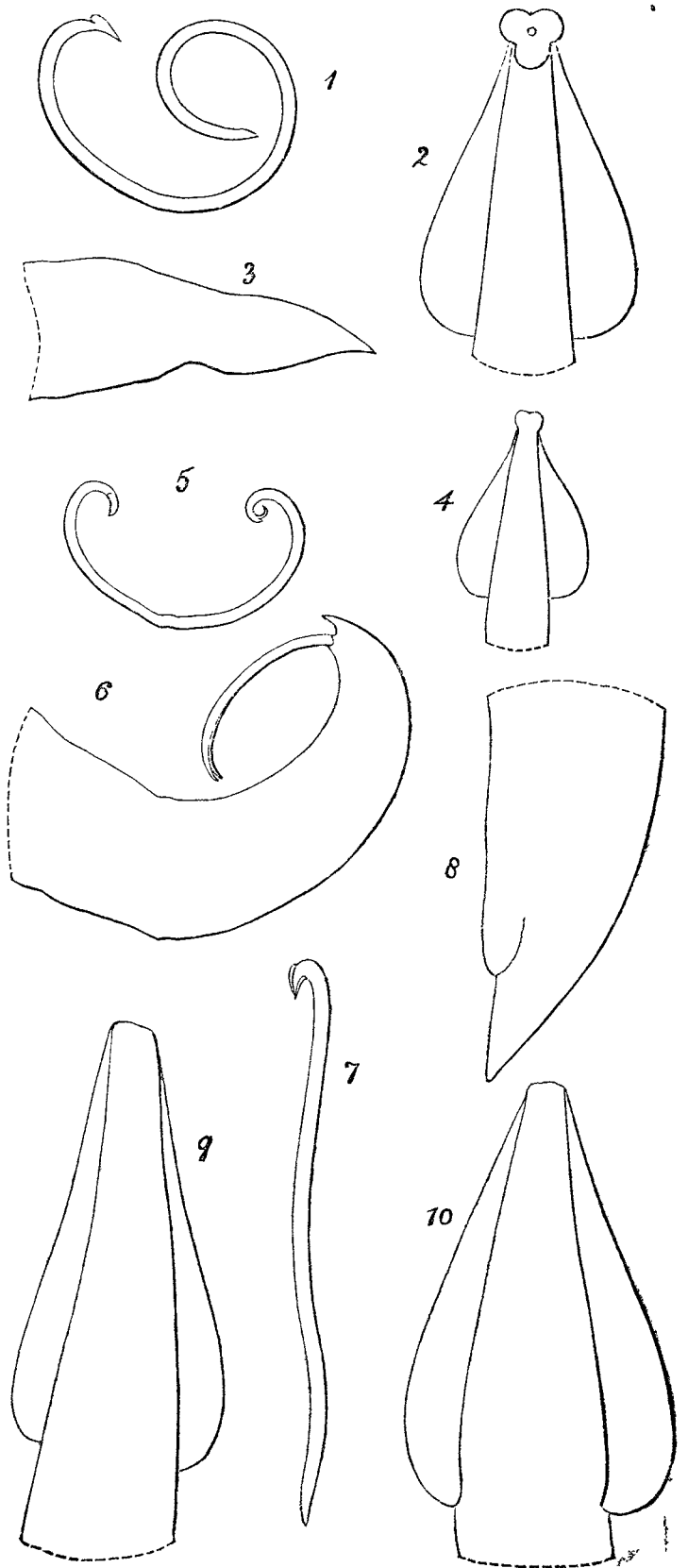


Fig. 1.—Outline of an "ascaris ejected by vomiting." Natural size. Dr. Pickells' case. This was probably a female.
 Fig. 2.—Head of the same magnified, showing the trilobate mouth and alæ. After Pickells.
 Fig. 3.—Lateral view of the tail of the same, magnified, showing the anal cleft. After Pickells.
 Fig. 4.—Outline of the head of the so-called *Ascaris alata*, magnified. After Bellingham.
 Fig. 5.—Male *Ascaris mystax*, naturally coiled upon itself. Mr. Scattergood's case.
 Fig. 6.—Tail of the same, showing its arcuate outline and double spiculum. Magnified 30 diameters.
 Fig. 7.—Female *Ascaris mystax* of the natural size. Mr. Scattergood's case.
 Fig. 8.—Tail of the same, showing the anal cleft and straight ventral border. Magnified 30 diameters.
 Fig. 9.—Head of a female *Ascaris mystax* with inconspicuous alæ. From the same case. Magnified 30 diameters. Viewed from behind.
 Fig. 10.—Head of the *Ascaris* outlined at Fig. 7, in which the alæ are broader. Magnified 30 diameters. Viewed from behind.

16. *Strongylus bronchialis*, Cobbold. (*Filaria bronchialis*, Rudolphi.)
17. *Eustrongylus gigas*, Diesing. (*Lumbricus in renibus*, Blasius.)
18. *Sclerostoma duodenale*, Siebold. (*Anchylostoma duodenale*, Dubini.)
19. *Spiroptera hominis*, Rudolphi. (*Spiroptera Rudolphii*, Chiaje.)
20. *Oxyuris vermicularis*, Bremser. (*Ascaris vermicularis*, Linnæus.)
21. *Tænia solium*, Linnæus. (*Tænia humana armata*, Brera.)
22. *Tænia mediocanellata*, Küchenmeister. (*Tænia cucurbitina grandis*, saginata, Goetze.)
23. *Tænia acanthotrias*, Weinland.
24. *Tænia flavopuncta*, Weinland.
25. *Tænia marginata*, Batsch. (*Tænia ex cysticerci tenuicollis*, Küchenmeister.)
26. *Tænia echinococcus*, Siebold. (*Tænia granulosa*, Gmelin.)
27. *Tænia nana*, Siebold. (*Tænia Ægyptica*, Bilharz.)
28. *Tænia elliptica*, Batsch. (*Tænia canina*, Pallas.)
29. *Bothryocephalus latus*, Bremser. (*Tænia humana inermis*, Brera.)
30. *Bothryocephalus cordatus*, Leuckart.

Into details regarding any of the above thirty species I do not now propose to enter; but I may be permitted to remark, that I have recently given elsewhere a *resumé* of most of the more important facts which have lately been brought to light by the combined researches of modern investigators, and in this memoir (which will shortly be published in the Zoological Society's Proceedings*) I have also given a complete synonymy of every species, allocating all the larval forms under their respective adult titles. The novelty and utility of this plan will, it is conceived, render it useful as a medium of reference, whilst at the same time it will, in some measure, explain the reasons of our altered nomenclature.

In regard to one of the above-named species, however, it is incumbent upon me to say a few words. I allude to the little *Oxyuris vermicularis*, respecting which an astounding statement not long ago appeared in the pages of the very same journal to which we are so deeply indebted for Dr. Bellingham's communication. The passage to which I refer (*Dublin Medical Press* for Jan. 15th, 1862, p. 76) is headed "Ascarides in Children," and runs as follows:—

"Dr. Kidd, finding chloroform useful in destroying these pests of infant life, was led to examine them and give his opinion, held for several years, that they are the larvæ of house flies. Dr. Brinton and Dr. Lionel Beale, on continuing the subject, have microscopically examined the worms, and have discovered that Dr. Kidd's opinion is correct."

The absurdity of the view here promulgated is so gross that I am at a loss to understand how any member of the profession could advance it, especially since it has been known for ages that these so-called *ascarides* are sexually mature animals, the females displaying in their interior multitudes of characteristic nematoid ova—a feature certainly not exhibited by any dipterous larva. I am happy, however, to be able to add that Prof. Beale, F.R.S., has informed me that the above statement has been published without his knowledge or concurrence.

In conclusion, I may perhaps be permitted to tender my thanks to those members of the profession and others who, by the transmission of specimens and works, have materially aided me in my investigations, the results of which have been recorded in the "Linnæan Transactions" and elsewhere. In particular I may mention Prof. Leuckart, of Giessen; Dr. Diesing, of Vienna; Dr. Weinland, of Frankfurt; Dr. Claparede, of Geneva; Dr. Pagenstecher, of Heidelberg; Professor Lawson, of Kingston, Canada; Prof. Busk; Dr. Baird; Prof. Simonds, of the Veterinary College; Mr. Canton; Dr. Leared; Mr. Flower; Dr. Sanderson; Mr. Hulke; Mr. F. Buckland; Dr. Hughlings Jackson; Drs. Haldane and W. Turner, of Edinburgh; Mr. Frederick Turner, of Sheffield; Mr. Murray, of Brighton; Dr. Lowe, of Lynn; Dr. McIntosh, of Perth; Mr. Bartlett, of the Zoological Gardens; and especially Dr. Lankester, and Mr. Scattergood of Leeds who by their valuable contribution have most kindly enabled me not only to establish the truth of certain previously recorded facts (which Dr. Küchenmeister and others almost, if not entirely, regarded as mere myths), but also to extend in some degree the borders of helminthological science.

Norland-square, Notting-hill, Jan. 1863.

LITHOTOMY IN THE FEMALE.

By JAMES R. LANE, Esq., F.R.C.S.,
SURGEON TO ST. MARY'S HOSPITAL.

CALCULUS in the bladder is a complaint concerning which so much has been written, and to the treatment of which so much attention has been devoted by the leading surgical authorities, from the earliest times down to the present period, that there ought, perhaps, to be little room for further dissertation on the subject. Such, however, is far from being the case. It is not so even as regards the male subject, in whom the greater frequency of the disease, and the greater anatomical complication of the parts implicated, have always caused the operation of lithotomy to be regarded as one of the most important in the whole range of surgery. But still less is it the case as regards the female, in whom, I think, no one will assert that anything approaching to finality in the treatment of this complaint has yet been reached. Various plans of operation have been at different times proposed, have been adopted with more or less unanimity, have after a time been laid aside, and again after a time been reintroduced. But there has been hitherto, and there is now, no consent on the part of authorities as to which of these various methods is the best, or which of them may be best adapted to one, and which to another class of cases.

My object in the present communication is, in the first instance, to call attention to what I believe to be, in appropriate cases, a greatly improved plan of operation; and, in addition to this, to inquire how far we can determine—1st, whether some of the various operations proposed may not now with advantage be discarded altogether; 2nd, which of them are worthy of being retained; and 3rd, whether, amongst these latter, we can find good grounds for allotting to each its own appropriate class of cases. If we can advance a step in the determination of these questions, I cannot help thinking that something will have been gained.

With these objects in view, I set aside the question of the comparative merits of lithotomy and lithotripsy, although freely admitting the superior excellence of the crushing operation in appropriate cases, and believing it to be, to say the least, quite as applicable to the female as to the male, and probably in children considerably more so. Nevertheless, cases will occur in which the bladder will not tolerate the irritation of the lithotriptic instruments and of the prolonged presence of the sharp fragments of stone which result from their employment; and I believe this intolerance will be met with more frequently in the female than in the male, in consequence of the later period at which, as a general rule, they can be brought to submit themselves to examination and treatment. Furthermore, there need not be the same hesitation in advising a resort to a cutting operation in the female as in the male, inasmuch as the greater accessibility of the female bladder much diminishes the immediate risk of the proceeding.

I have been led to consider the subject of lithotomy in the female in consequence of a case which was under my care in St. Mary's Hospital about a year ago, in which I adopted a plan which, though I cannot claim for it any originality of idea, is nevertheless not altogether devoid of interest and novelty. The operation to which I allude consisted in the extraction of the stone by means of an incision into the base of the bladder through the vesico-vaginal septum, immediately followed by closure of the wound with metallic sutures. I will not now enter upon the details of this case, as they have recently been recorded in THE LANCET (the "Mirror," Oct. 4th, 1862). I will merely state briefly that the patient, whose age was thirty-eight, had suffered from stone for many years, and that an attempt which I made to crush it so greatly aggravated her symptoms that its immediate removal became a matter of imperative necessity.

The operation was performed in the following manner:—The patient being placed in the lithotomy position, Bozeman's speculum was introduced into the vagina, and held so as to expose its anterior wall, and a straight grooved staff was passed into the bladder by the urethra. An incision was then made into the groove of the staff, commencing just behind the neck of the bladder, and extending backwards in the median line for about an inch and three quarters—to within a short distance, in fact, of the attachment of the vagina to the cervix

* Part iii. for 1862, Vol. xxx., which will appear in February next, and may be had of Longmans and Co., or of Mr. Fage, Assistant-Secretary of the Zoological Society, 11, Hanover-square.