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3. On Indian Earthworms.—Part I. Preliminary Notice of Earthworms from the Nilgiris and Shevaroys.

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[Received November 16, 1886.]

When I commenced to find out what Earthworms were to be found here for the purposes of class-study, I was totally unprepared for the immense variety of forms which seem to occur in the country. I have at present examined a very few localities only, and as every locality yields new forms and I have already found more than twenty different species, all of which were hitherto unknown, the field may be pronounced to be fairly extensive.

I came across very few worms in my garden in Madras during the hot weather, but then I made no special search for them; those I did find belonged to the genus *Perichæta*, but seemed to be new species (I have since determined that they are new); I have found up to the present at least three species of *Perichæta* in Madras town, but have reserved them for subsequent description.

In May I went up to the Nilgiris for some weeks, and there I found numerous forms, and these always differed in different localities. In October I spent about a week on the Shevaroy Hills, and found in that short time five different forms, all markedly differing from those from the Nilgiris.

I regret that in some cases I was unable to render my observations complete, owing to want of sufficient material. It seems, however, desirable to publish this preliminary note even though it is in some cases incomplete, as more thorough investigations in any particular locality may be considerably delayed. The greater number of forms belong to the genera *Perichæta* and *Moniligaster*, and for the present I deal with these only. I have found, in addition to these, two species of *Lumbricus* at great elevations at Ootacamund and Coonoor. One of these presents a clitellum extending over somites xxvii.–xxxiv., and the other over somites xxx.–xxxiv. I refrain from naming these until I can characterize them more fully. I have also some worms belonging to other genera, but with the scanty literature to which I have access I cannot say whether they are new genera or not.

Had it not been for Mr. Benham's[1] most useful *résumé* of known Earthworms, I should have been able to do far less than I have done. Where I have given measurements or counted the somites I have chosen the largest individual I could find.

Perichætidæ.

The Perichætidæ are characterized by the fact that each somite bears numerous setæ arranged in a more or less complete ring.

The genera which are at present included in the group are:— *Perichæta*, Schm.; *Megascolex*, Temp. (*Pleurochæta*, Bedd.); *Perionyx*, E.P.; and *Rhodopis*, Kinb.

These genera are at present distinguished one from the others, thus:—

Perichæta presents a clitellum in somites xiv., xv., and xvi., a pair of laterally-placed male pores in somite xviii., and very numerous equidistant setæ.

Megascolex presents 100 setæ arranged in a ring, but with a dorsal break.

Perionyx presents a clitellum in somites xiii., xiv., xv., xvi., and xvii., a pair of male pores placed in a median pit in somite xviii., and 30 equidistant setæ.

Rhodopis presents a clitellum in somites xii. and xiii., a pair of male pores between somites xiv. and xv., and 50 to 60 equidistant setæ.

Now let us consider these characters in relation to the worms described below. Among these we find that there are numerous intermediate conditions, in respect to the arrangement of the setæ, between an *almost* equidistant series and a series presenting considerable dorsal and ventral gaps[2]. Secondly, in one form there are two pairs of male pores (*P. stuarti*). Lastly, with regard to the extent of the clitellum, in the form which I have referred to Perrier's genus *Perionyx* it extends over three somites instead of five, while among the

[1] Quart. Journ. Microsc. Sci. vol. xxvi. n. s.

[2] By the terms ventral and dorsal gaps I mean the space between the two most ventral and dorsal setæ respectively. An ordinary gap is the space between any other two contiguous setæ.

numerous forms which I have called *Perichæta* it extends in many forms (as in *P. armata*, Bedd.) over four somites, and in one form over five somites instead of three.

So, as they stand, these generic distinctions seem to me to be of little value. I am, however, inclined to hope that a careful anatomical study in the fresh state of the large variety of forms which I have already discovered (I have, moreover, every reason to believe that the field is as yet by no means exhausted[1]) will enable me to group these very interesting forms in a more rational manner. I do not think that the classification suggested by Benham[2] will turn out to be a very natural one. I refrain, however, from making any suggestions myself in this preliminary note, as I expect that the natural classification will have to be based upon the result of very careful examination of a very large number of fresh forms. I shall doubtless be able ere long to go to Ceylon, Burmah, Java, and other places, and compare fresh specimens of the forms which have been described from these regions with my Indian species.

I have in the present note spoken of all the forms as *Perichæta*, with the exception of *Perionyx saltans*, although I believe that the differences have in many cases a full generic value. A glance at my tabular statement (p. 665) will show what great differences exist.

PERICHÆTA LAWSONI, sp. n.

The clitellum extends over somites xiv., xv., xvi., and xvii., but is very slightly marked. Even in adult specimens it requires careful examination to detect any external difference between these somites and the ordinary somites of the body. There is, however, no doubt as to its existence and extent in either this or the following species, *P. bivaginata*.

The male pores are placed on somite xviii. There are no papillæ. The oviducts open separately, although very near the median line, in somite xiv. There are two pairs of spermathecæ; these are placed in somites viii. and ix. The spermathecal pores open between somites vii. and viii., and viii. and ix., respectively. I have found no nephridia. The gizzard is situated in somite x. Intestinal cæca are present in somite xxvi. and run forward to somite xxiii.

There are from 30–35 setæ in each somite, which are arranged so as to leave small gaps in the median, dorsal, and ventral line. The ventral gap is equivalent to about two ordinary gaps, and the dorsal gap to about three ordinary gaps. The setæ are present on the clitellar somites and are arranged as in the other somites. No modified genital setæ were observed.

Length 250 millim., circumference 7 mm.; number of somites 119.

Hab. Ootacamund, Nilgiris, at an elevation of about 7000 feet.

[1] In the one week which I recently spent in the Salem and Yercaud district, it will be seen that I discovered three new species of *Perichæta*, besides other forms.

[2] Quart. Journ. Microsc. Sci. vol. xxvi. n. s. p. 225.

Characters of the Species of *Perichæta* and *Perionyx* here described.

Species.	Clitellar Somites.	Male pores.	Female pore.	Position of Spermathecæ.	Character of Spermathecæ.	Copulatory setæ.	Gizzard.	Intestinal cæca.	Number of setæ per somite.	Arrangement of setæ.	Number of somites.	Length and circumference.	Habitat.	Elevation.
												mm.		ft.
Perichæta lawsoni.	xiv., xv., xvi., xvii., very slightly marked.	xviii.; no papillæ.	xiv., paired.	viii., ix.	?	Not seen.	x.	xxvi.	30–35	Present on clitellum; small dorsal and ventral gaps.	119	250 7	Nilgiris (Ootacamund and Naduvatam).	6500 to 7500
P. bivaginata ...	xiv., xv., xvi., xvii., very slightly marked.	xviii.	xiv., paired.	vii., viii., ix.	With two minute appendices.	At least three pairs in xviii.	vi.	Absent.	56	Present on clitellum; small dorsal and ventral gaps.	162	140 8	Salem.	1000
P. gracilis	xiv., xv., xvi., xvii., xviii.	xviii., in clitellum.	xiv., paired.	viii., ix. (?)	Not seen.	Not seen.	vii.?	?	?	Present on clitellum; large dorsal and ventral gaps.	332	400 8	Nilgiris (Naduvatam).	6000
P. stuarti	xiv., xv., xvi.	xvii., xix., four in number.	xiv., single.	vii., viii.	Frill at base.	Special setæ in viii.	x.	4 pairs, about xxiii. to xxvi.	52	Present on clitellum; small gaps.	111	140 15	Shevaroys (Salem and Yercaud).	1000 to 5000
P. burliarensis	xiv., xv., xvi., xvii.	xviii.	xiv., single.	vi., vii., viii., ix.	With a long small appendix.	Special setæ in vii. & in viii.	x.	xxvi.	38–40	Absent on clitellum; ventral gaps unequal.	123	100 9	Nilgiris (Burliar).	2000 to 3000
P. hulikalensis	xiv., xv., xvi., xvii.	xviii.	xiv., single.	vii., viii.	With long thin appendix.	Absent.	?	I think present in xxvi.	42	Present on clitellum; large gaps.	209	200 9	Nilgiris (Hulikal-drug).	6000
P. mirabilis ...	xiv., xv., xvi.	xviii.	xiv., single.	vi., vii., viii., ix.	With long pouch-like appendix.	No observation.	x.	xxvi.	39	No gaps.	114	130 8	Nilgiris (Naduvatam).	6000
P. salettensis ...	xiv., xv., xvi., xvii.	xviii.	xiv., single.	vii., viii., ix.	Two small appendices.	Absent.	vi.	No observation.	?	?	112	70 9	Salem.	1000
Perionyx saltans.	xiv., xv., xvi.	xviii., in median pit.	xiv., single.	vi., vii., viii.	Two small appendices. Apert. near median line.	Absent.	?	No observation.	45–54	Present on clitellum; no gaps.	61	60 6	Nilgiris (Ootacamund, Naduvatam).	6500 to 7500

PERICHÆTA BIVAGINATA, sp. n.

This species resembles *P. lawsoni* in the condition of the clitellum and in having separate oviducal pores.

The clitellum extends over somites xiv., xv., xvi., and xvii., but is very slightly marked.

The male pores are placed on somite xviii., they are inconspicuous; there are no papillæ, although special penial setæ are present.

The oviducts open separately, very near together, in somite xiv., ventrad of the ventral setæ.

There are three pairs of spermathecæ; these are placed in somites vii., viii., and ix. The spermathecal pores open between somites vi. and vii., vii. and viii., viii. and ix., respectively. Each spermatheca possesses a pair of small diverticula at its base. Nephridia are present in most somites, if not all, and are very large and present rosettes of tubules in certain anterior somites, I think in v., vii., and ix. The nephridiopores I have not observed.

The gizzard is situated in somite vi. Intestinal cæca are absent.

There are about 56 setæ in each somite, which are arranged so as to leave small dorsal and ventral gaps, as in *P. lawsoni*. The setæ are also present on the clitellar somites.

There are a pair of small sacs in somite xviii. containing long, thin, curved, ornamented setæ, as in *P. armata*, Beddard [1]. Each sac contains at least 3 setæ.

Length 140 millim., circumference 8 mm.; number of somites 162.

Hab. Salem (about 1000 ft.), in wet ground.

PERICHÆTA (PLEUROCHÆTA?) GRACILIS, sp. n.

The clitellum extends over somites xiv., xv., xvi., xvii., and xviii., and is very well marked.

The male pores are placed in xviii.; there are no papillæ.

The oviducts open separately, very near together, in somite xiv.

I think that there are two pairs of spermathecæ in somites viii. and ix., respectively, but am a little doubtful about it.

The gizzard seemed to be in somite vii., but possibly this is a mistake for vi.

There are two pairs of groups of small nephridia opening on the posterior edges of somites vii. and viii., respectively, a little nearer the ventral line than the spermathecal pores, which occur between somites vii. and viii., and viii. and ix., respectively. I have not ascertained the number of setæ per somite, but there are large dorsal and ventral gaps.

I have found no specially modified genital setæ.

Length 400 millim., circumference 8 mm.; number of somites 332.

Hab. Naduvatam, at an elevation of about 6000 feet, in very wet ground.

I only obtained a single specimen of this very interesting worm, for which I shall make a special search on a future occasion.

[1] Ann. & Mag. Nat. Hist., Oct. 1883, p. 217.

PERICHÆTA STUARTI, sp. n.

The clitellum extends over somites xiv., xv., and xvi.; it is very well marked.

There are two pairs of male pores in somites xvii. and xix., respectively; these are all four placed upon a whitish, slightly depressed patch, which thus extends over the greater portion of somite xvii., the whole of somite xviii., and the greater portion of somite xix. Connected with each of these pores is a large coiled prostatic gland, which extends backwards in each case through some 8 or 9 somites.

There is a single median oviducal pore in the anterior portion of somite xiv.

There are two pairs of spermathecæ, situated in somites vii. and viii., respectively. They do not possess any appendages, but present a sort of frilled appearance around the base.

The gizzard is situated in somite x.

In somites xxiii.–xxvi. (?) there are four pairs of special diverticula on the dorso-lateral portions of the intestine.

I have not observed any nephridia.

There are about 52 setæ in each somite arranged with small dorsal and ventral gaps; setæ are present on the clitellum.

There are no special setæ in somite xviii., but in the anterior portion of somite viii. (*i. e.* between the anterior and posterior pair of spermathecæ) there are two groups of large modified setæ. Where these project on the surface, there is a papilla which in some specimens becomes very well marked.

Length 148 millim., circumference 15 mm.; number of somites 111.

Hab. Yercaud, at an elevation of about 5000 feet, and also down the ghaut as low as Salem (1000 ft.). I have specimens from Salem.

This is an exceedingly common worm in this region. It occurs in dry ground, and often under large stones.

PERICHÆTA BURLIARENSIS, sp. n.

The clitellum extends over somites xiv., xv., xvi., and xvii., and is well marked.

The male pores are situated in somite xviii.; segments xix., xx., xxi., and xxii. bear papillæ (apertures ?).

The oviducts open in somite xiv. by a single median pore.

The spermathecæ are placed in somites vi., vii., viii., and ix.; they present a single appendage. I am unable at present to say anything about nephridia.

The gizzard is situated in somite x. There are a single pair of intestinal cæca in somite xxvi., reaching forwards to somite xxiv. There are 38 to 40 setæ per somite. Setæ are entirely absent from the clitellum. I find no special setæ in somite xviii., but there are two pairs of groups of enlarged setæ in somites vii. and viii., respectively.

There is a large ventral gap, especially in the somites immediately following the male pores, where the most ventrally placed setæ are larger than the others.

Length 100 millim., circumference 9 mm.; number of somites 123.
Hab. Burliar, 2000–3000 ft.

PERICHÆTA HULIKALENSIS, sp. n.

The clitellum extends over somites xiv., xv., xvi., and xvii., and is well marked.

The male pores are situated in somite xviii., and are rather near together, and placed upon slight papillæ.

The oviducts open by a single median pore in somite xiv.

The spermathecæ are placed in somites vii. and viii.; they present a single filiform appendage.

No nephridia were observed.

I believe intestinal diverticula are present in the usual position.

There are about 42 setæ per somite. The ventral gap is equal to 4 ordinary gaps, and the dorsal gap to 7 ordinary gaps. Setæ are present on the clitellum.

No special setæ were observed.

Length 200 millim., circumference 9 mm.; number of somites 209.
Hab. Hulikal-drug, Nilgiris. Elevation about 6000 ft.

PERICHÆTA MIRABILIS, sp. n.

The clitellum extends over somites xiv., xv., and xvi., and is well marked.

The male pores are widely separated, and situated on low papillæ in somite xviii.

The oviducts open by a median pore in somite xiv.

The spermathecæ are situated in somites vi., vii., viii., and ix.; they present a single appendage. They open, as is usually the case, exactly between the somite in which they lie and the preceding somite.

The gizzard is situated in somite x.

Intestinal cæca are present in somite xxvi., and run forwards.

Nephridia seem to be present in certain anterior somites only, as in *P. gracilis*.

There are four pairs of groups of small nephridia in the posterior portions of somites v., vi., vii., and viii., respectively, and these open on minute circular papillæ which are placed in diamond-shaped depressions lying in the posterior portion of the somites, in which the nephridial groups lie, and just ventrad of the nephridiopore which lies between each of the somites and the succeeding somite.

There are further two pairs of groups of nephridia lying in somites vii. and viii., respectively, and opening on similar papillæ placed ventrad of those above described, and just anterior to the seta-ring in each somite. The further details with regard to this remarkable arrangement I hope to work out on a future occasion. I may mention here that I at first mistook these nephridiopore-bearing papillæ for the pores of the spermathecæ, and it is quite possible that previous observers have done the same thing in other species of *Perichæta*. It needs the most careful and repeated observation to make out the exact arrangement. There 39 setæ per somite, with no gap either dorsally or ventrally. It is always possible, however, to recognize the median ventral or dorsal lines, as both ventral and dorsal

setæ point forwards and away from the middle line, while the lateral setæ point straight forwards. I lay no stress on this arrangement at present; it may be caused by my method of flattening out the body-wall after a median dorsal incision. I have no observations with regard to penial setæ.

Length 130 millim., circumference 8 mm.; number of somites about 114.

Hab. Naduvatam, Nilgiris. Found along with *P. gracilis*.

I hope to make some special observations at a later period with regard to the distribution of these worms, but I may point out now that the only two species presenting this remarkable arrangement of nephridia, while differing in almost all other essentials, were found together.

PERICHÆTA SALETTENSIS, sp. n.

The clitellum extends over somites xiv., xv., xvi., and xvii., and is well marked.

The male pores are situated on somite xviii., without much ridge around them.

The oviducts open by a median pore in somite xiv.

The spermathecæ lie in somites vii., viii., and ix.; they present a pair of small appendages.

The gizzard is situated in somite vi.

I have no observation regarding intestinal cæca.

The nephridia occur in, at any rate, most of the somites; they are very large and present rosettes of tubules in certain anterior somites.

The setæ present a dorsal gap equal to about three ordinary gaps, and a ventral gap equal to about five ordinary gaps. There seem to be no modified penial setæ.

Length 70 millim., circumference 9 mm.; number of somites 112.

Hab. Salem, elevation about 1000 feet, in wet ground together with *P. bivaginata*; I only found two specimens.

PERIONYX SALTANS, sp. n.

The clitellum extends over somites xiv., xv., and xvi. In the hitherto known species of *Perionyx*, *P. excavatus*, E. P.[1], and *P. macintoshii*, Bedd.[2], the clitellum extends over somites xiii., xiv., xv., xvi., and xvii.

The male pores are situated on papillæ in a median pit in somite xviii.

The oviducts open by a single median pore in somite xiv.

There are three pairs of spermathecæ; these are placed in somites vi., vii., and viii. The spermathecal pores are placed between somites vi., and vii., vii. and viii., viii. and ix. This is an unusual arrangement, the spermatheca generally opens between the somite in which it lies and the somite in front. Each spermatheca presents two minute appendices. The spermathecal pores are placed very near the median line; in all the *Perichæta* species they are very lateral in position.

[1] Nouv. Arch. d. Muséum, t. viii. 1872, p. 126.
[2] Ann. & Mag. Nat. Hist., Oct. 1883, p. 217.

The nephridia are small and present a unique arrangement. The nephridiopores are all placed on the anterior edge of a somite. They are placed in two rows on each side, an inner and an outer row. The inner row is about in a line with the 11th setæ. Counting from the median ventral line, the outer row is about in a line with the 17th setæ, while the spermathecal pores are in a line with the 4th setæ.

In somite iv. there is a single nephridiopore on the left-hand side, in somite v. there is a single pore on the right-hand side, in somite vi. there is a single pore on the left-hand side; these three pores all belong to the inner rows. In somite vii. I found no pore. The remaining somites each present two pores. In somites viii., x., xii., xiv., &c. the pore on the right side belongs to the outer row, and the pore on the left side to the inner row. In somites ix., xi., xiii., xv., &c. the reverse arrangement obtains, viz., the left-hand pore belongs to the outer row and the right-hand pore to the inner row.

In too many cases we do not, unfortunately, know the position of the nephridiopore: I have not access out here to the description of *Plutellus* [1], but the nephridiopores are there said to alternate in position; with this exception the arrangement is unique and bears a most interesting relation to the theory that the spermathecæ are modified nephridia. It will be noted that the distances between the outer and inner rows of nephridiopores, between the inner row of nephridiopores and the row of spermathecal pores, and, lastly, between the rows of spermathecal pores, are almost exactly equal, and the pores have exactly similar positions in the somite.

I have made no observations on the alimentary canal.

There are 45–54 setæ in each somite arranged in an almost continuous ring.

Setæ are present on the clitellum. No modified genital setæ were observed.

Length 60 millim., circumference 6 mm.; number of somites 61.

Hab. Ootacamund; Naduvatam, Nilgiris. Elevation about 6500–7500 feet.

It is a very strong little worm, and the name refers to its power of leaping into the air when touched.

Moniligastridæ.

The huge worm which is mentioned in Darwin's book as occurring on the Nilgiris turned out to be a *Moniligaster*, a form then known from Perrier's description of a single specimen which he called *M. deshayesii*. I have since received information that Mr. Beddard has described another species from Ceylon as *M. barwelli* [2].

I found, in addition to the large worm, four smaller species of *Moniligaster* on the Nilgiris, and two others on the Shevaroys or rather at Salem, at the foot of the ghaut.

I have thus recognized seven species altogether, but it is exceedingly difficult to characterize these accurately until we know their general organization better, so that I regard the following very scanty descriptions as preliminary.

[1] Arch. de Zool. Exp. t. ii. (1873).
[2] Ann. & Mag. Nat. Hist., Feb. 1886, p. 940.

Moniligaster has been described as being devoid of any clitellum. In, at any rate, one of my species the clitellum is, however, very well marked, so that this cannot be taken as a generic character.

The genus is, however, sufficiently characterized by the four pores situated in pairs between somites vii. and viii., and x. and xi., respectively, by the peculiar arrangement of the generative organs, and by the monilated gizzard. It is often exceedingly difficult to determine the exact position of the gizzard, and I believe that its position may vary by a somite in different individuals of the same species; still there is no doubt that in some cases it will serve as a specific character—e. g. *M. sapphirinaoïdes* and *M. robustus*, which resemble one another in most respects, differ markedly in the position of the gizzard.

There is a great difference in size among the species; *M. grandis* is quite as large as *Microchæta rappi*, while *M. minutus* is one of the smallest of Earthworms.

MONILIGASTER GRANDIS, sp. n.

There is no trace of clitellum.

The distance between the ventral seta rows is greater than that between the ventral rows and the lateral rows.

The gizzard extends through somites xvii.–xxi. inclusive.

The septa between v.–vi., vi.–vii., vii.–viii., and viii.–ix. are very strong and thick.

The septum between ix. and x. is absent.

I obtained this worm in May and June. In May, before the rains, I only found it deep down: I have made coolies dig pits as much as 9-10 feet deep before coming upon a single worm, although their burrows were quite obvious; then one would suddenly come upon a specimen lying in a hollow which seemed to exactly fit its body, all rolled up together in a mass nearly the size of one's fist, and upon the surface of the body, crawling about in the mucous, were young individuals which in one instance were less than half an inch long, but from larger specimens I easily determined them to be young *Moniligasters*. I expect that there is something very interesting about this, and probably it is connected with the absence of clitellum and consequently of cocoons, but it seemed to be too late in the year to make any further observations.

In June at Naduvatam, after there had been some rain, I found these worms quite near the surface, even in some cases crawling about, but I never then found young ones. I never found these worms at a lower elevation than 6500 feet; at Coonoor, which is just below that altitude, and much warmer than Ootacamund, I could not find a single specimen.

MONILIGASTER UNIQUUS, sp. n.

So called because for some time I had only a single specimen, but I subsequently found a few others.

There is no clitellum.

The gizzard occupies somites xv.–xix.

The ventral seta rows are very near together, there is less distance

between them than between a ventral row and the lateral row of the same side.

It is a small weak-looking worm.

I found specimens at Ootacamund and at Naduvatam.

MONILIGASTER SAPPHIRINAOÏDES, sp. n.

This worm presents a well-marked clitellum extending over somites x., xi., xii., and xiii.

The gizzard occupies somites xvii.–xxi.

This is a very strong active worm, rather larger than a big English *Lumbricus agricola,* and presents most exquisite iridescent colours, among which a metallic bluish-green is the most marked.

I found it in immense numbers in some very wet black mud under turf near the Pykarah Waterfalls, at, I believe, an elevation of about 6000 feet. When placed in spirit it becomes olive-green in colour, while the clitellum becomes almost pinkish.

MONILIGASTER ROBUSTUS, sp. n.

The gizzard occupies somites xi.–xv.

This worm is easily recognized by its very pointed posterior extremity, just the anal somites being bright pink, while the rest of the worm is dull in colour. In other respects it resembles *M. sapphirinaoïdes.*

I found a few specimens only, crawling across a path on a drenching day, on top of one of the hills at Ootacamund.

MONILIGASTER PAPILLATUS, sp. n.

This species is characterized by long tubular papillæ in connection with the pores between somites x. and xi.

The gizzard occupies somites xvi.–xx.

I found this at Ootacamund and Coonoor.

This is a much longer worm than any of the other species, with the exception of *M. grandis.*

MONILIGASTER RUBER, sp. n.

The gizzard seemed to occupy only somites xiii. and xiv. In somites x., xi., and xii. there were soft-walled swellings of the intestine looking like gizzard, only not muscular. The worm had a thin body-wall, and the organs showing through give it a blood-red appearance. It is a small worm about 100 millim. long.

I obtained only a single specimen from Salem.

MONILIGASTER MINUTUS, sp. n.

The gizzard occupies somites xii., xiii., and xiv.

This is a small worm resembling *Perionyx saltans* in appearance, but not very active. The ovaries, or at any rate sacs containing ripe ova, occupy somites xii.–xv. at least.

I found numerous specimens in wet ground at Salem.

When I have determined more accurately the structure of the generative organs in this genus, this species will probably prove an interesting one.