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Publisher: Taylor & Francis
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Annals and Magazine of Natural History: Series 5

Publication details, including instructions for authors and subscription information:
<http://www.tandfonline.com/loi/tnah11>

XLV.—Trachelius ovum

Sara Gwendolen Foulke

Published online: 07 Oct 2009.

To cite this article: Sara Gwendolen Foulke (1885) XLV.—Trachelius ovum , Annals and Magazine of Natural History: Series 5, 16:96, 477-478, DOI: [10.1080/00222938509459914](https://doi.org/10.1080/00222938509459914)

To link to this article: <http://dx.doi.org/10.1080/00222938509459914>

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Maxwelltown, Dumfries, on account of "its bifurcated tail;" this specimen was dead, and was unfortunately sent dry.

The only specimen known to me which presents a similar arrangement of the hinder end of the body is in the Anatomical Department of the University Museum at Oxford, a short notice of which was published by Mr. Charles Robertson in 1867*.

The specimen having died after losing its "tails," and the portions having been lost during my absence from London, there has been no opportunity of making an anatomical investigation; had I done so I should, I am sure, have found the dorsal blood-vessel dividing into equal branches at the point of bifurcation, and I should, I think, have found the enteric tract in the right half a little larger than that in the left.

My primary object in this notice is to put on record an occurrence which, it is possible, is not very rare, but which has, at least, escaped general observation. It can be but matter of guesswork what was the nature of the accident that preceded the appearance of the bifurcated end; it is almost as hard to see exactly what the phenomenon does teach us:—

1. It makes it quite certain that, like lizards with their tails, earthworms may reproduce bilaterally what is ordinarily only produced terminally. But this is only another way of saying that earthworms are subject to a well-known and widely diffused "law."

2. The fact that the clitellum only became apparent a few days before the loss of the hinder end is positive; but the events may or may not have any relation to one another. If they have, they only show that when the earthworm is reproducing parts of its body it is, *pro tanto*, comparable to a form reproducing itself asexually, a phenomenon which, so high in the scale of organization, is, we know, not compatible or contemporaneous with sexual reproduction.

XLV.—*Trachelius ovum*. By SARA GWENDOLEN FOULKE†.

IN first describing this Infusorian, Ehrenberg attributed to it the possession of a much ramified œsophageal canal; but his view, subsequently upheld by Claparède and Lachmann, has been strongly opposed by W. Saville Kent, who claims that the so-called alimentary canal is merely the granular protoplasm

* Quarterly Journal Microsc. Sci. vii. (1867), p. 157. I am indebted to Mr. Robertson for this reference.

† From the 'Journal of the New York Microscopical Society.'

highly vacuolate. My own observations had coincided with those of Mr. Kent, and recently strong confirmation of his opinion was obtained from the following phenomena:—

I had taken from a *Chara*-bog numbers of *Trachelii*. Their unusually large size—one fortieth of an inch—afforded special advantages for observation. In colour the specimens were a transparent creamy yellow. When first removed to the live-box they uniformly showed the ventral side to be flattened and deeply indented longitudinally, so that a transverse section would be kidney-shaped. After a confinement of some minutes they became globose in contour, and thus they remained during captivity; but when they were set free the indentation soon reappeared. In one specimen the granular reticulation, at first finely shown, seemed to become less profusely ramified, and a current of the protoplasm towards the central mass was noticed. This flow continued until all the smaller branches were massed at a subcentral point, leaving the rest of the body apparently hollow. One pseudopodium-like process was now sent to a more posterior point in the periphery, and the flow was resumed, this time outwards, until the protoplasm was collected into a nodule attached to the cell-wall, along which a small portion flowed, afterwards remaining motionless. No nucleus could be detected in this specimen, though present in all others examined.

The above condition remained unchanged for nearly an hour, when, wishing to test the apparent hollowness of the cell, I removed from the live-box all but a small portion of the water, and pressed the *Trachelius* with a blunt knife-blade. Complete collapse ensued, and the animal now resembled a twisted rag.

It seemed, however, nowise injured by the operation, as, after about six hours passed at the edge of the water, it resumed its globose shape, and free motion about the live-box again began.

An accident prevented further investigation, but, from the diffused condition of the nucleus, incipient reproductive phenomena were suspected.

In this connexion I should like to draw attention to a form described by me in a communication to the Academy of Natural Sciences of Philadelphia, March 4th, 1884, under the name of *Trachelius Leidyi*. The distinction then made with regard to shape having been rendered invalid by the observations above noted, colour and the more profuse vacuolation of the periphery alone remain, and, regarding these as insufficient differences, I have decided to withdraw the species.