

aber unter die äußere Haut und bleiben zwischen dem Dotter und der Dotterhaut liegen. Bildet sich nun die Eiweißschicht, so bleibt dieser Theil der Samenfäden unbeweglich in dem Eiweiß liegen und wird resorbirt. Bei *Aulostomum* dringen eine Anzahl — etwa acht — Samenfäden in den Dotter ein und rollen sich schraubenförmig. Wenn die Eiweißschicht sich gebildet hat, sind weder im Dotter noch im Eiweiß Samenfäden sichtbar.

4) Nach dem Eindringen der Spermatozoen macht das Keimbläschen von *Nepheleis* noch während des Aufenthaltes im Eierstock amoeboiden Bewegungen, auch treten 2—3 Sterne daran auf. Darauf drängen sich die dunkeln Körnchen, welche im Protoplasma zerstreut lagen, um das Keimbläschen und machen es unsichtbar. Die Eier von *Clepsine* haben ein ähnliches Stadium, sie lassen sich wegen ihrer bedeutenderen Größe sprengen, die dunkle Masse enthält dann ein Keimbläschen. Später, noch vor dem Eintritt in den Cocon bilden sich in dem Ei von *Nepheleis* Lecithinkugeln, die dunkeln Körnchen vertheilen sich wieder und ein Amphiaster wird sichtbar.

5) Bei *Aulostomum* ist das Keimbläschen noch sichtbar, wenn das Ei von dem Ovarium sich ablöst, darauf verwandelt es sich in einen Amphiaster, welcher bald durch die Anhäufung der dunkeln Körnchen verdeckt wird, aber durch Essigsäure wieder hervortritt.

6) Bei *Aulostomum* und *Nepheleis* ist die äußere Haut während der Eiweißbildung gefaltet.

Gießen, 10. April 1880.

3. On the Rot in Sheep¹.

By T. Spencer Cobbold, M. D., F. R. S.

Dr. John Harley's statements are so utterly contrary to all the deductions of Leuckart, Van Beneden, La Valette, Pagenstecher, and others who have experimentally worked at the development of these parasites that I ask you to permit me to contradict his views in every essential particular.

No fluke can arrive at sexual maturity unless it passes through the cercarian stage, and this tailed-larval state is only acquired by passing through an intermediate molluscan bearer. The investigations of the lamented Willemoes-Suhm render it almost certain that *Cercaria cystophora* infesting *Planorbis marginata* is the higher larval state of the small fluke (*Distoma lanceolatum*), and the still later researches of Leuckart point to the mollusc called *Lymnaea truncatula* as the bearer

¹ »The Times«, of Wednesday, April 7, 1880.

of the cercarian stage of *Fasciola hepatica* or the common fluke. A change of hosts is essential.

Scientific Club, April 5, 1880.

4. On the Rot in Sheep¹.

By Prof. G. Rolleston in Oxford.

The English Lake District presents us with as simple a case for the investigation of the cause of rot in sheep as any other portion of the wide area over which that disease has spread, with, perhaps, the exception of such isolated localities as the Faroe Islands.

Having occasion to visit the district in question last week, I used the opportunity for making a few inquiries of the farmers and shepherds there as to the natural history of this plague. These inquiries were of the simplest kind, anybody can repeat them, and I cannot but think that the answers he will receive will incline such an inquirer to think that a strong a priori case is made out in favour of the view put forward in »The Times« of April 7, to the effect of identifying the black slug (*Arion ater*) or the gray slug (*Limax agrestis*) as one necessary link in the chain of causes concerned. I found the natives as intelligent and observant as I have found them to be any time during the last 34 years upon natural history questions; and I very rapidly got the following facts deposed to by them without any prompting on my part: —

1) The fluke disease is a disease of low grounds, and notably of pastures liable to be flooded.

2) But not exclusively of pastures liable to be flooded; for, what is of special consequence as going some way towards eliminating the pond snails (*Limnaeus pereger*) and others from the charge of sharing in the causation of fluke disease, the pasturing of sheep in a stubble rich in the »melancholic poisonous green,« which a wet autumn often produces, is a very sure way for producing the disease.

3) The words just given in inverted commas are not the exact words employed by my informants; those which follow are, or pretty nearly so— »a single bellyful will give the disease.«

4) »A pasture will give the disease at the back-end of the year which won't give it after Candlemas.« This means that the winter cold and rains destroy or wash away the larval or other forms of flukes which the slugs brought with them in the autumn.

The first of these observations is confirmatory, as are all accurate observations on the subject, of the view which asserts that the presence

¹ »The Times«, of Wednesday, April 14, 1880.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Zoologischer Anzeiger](#)

Jahr/Year: 1880

Band/Volume: [3](#)

Autor(en)/Author(s): Cobbold T. Spencer

Artikel/Article: [On the Rot in Sheep 257-258](#)