# Development

# of

# Entozoa.

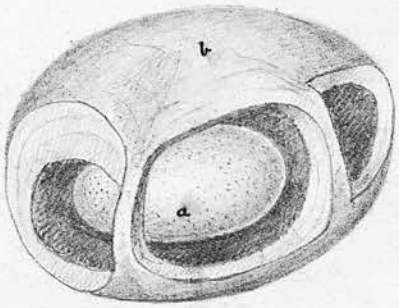
## Vol. III

By

Henry Nelson

Plates

Edinburgh 28 March 1850.

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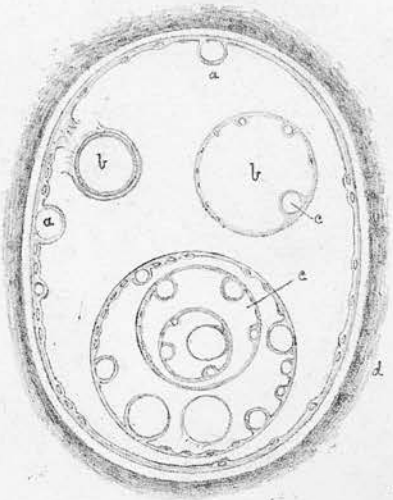


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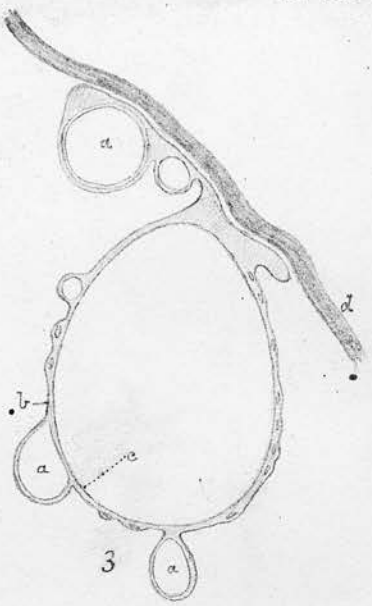


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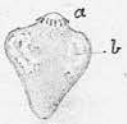


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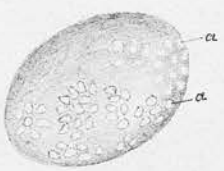


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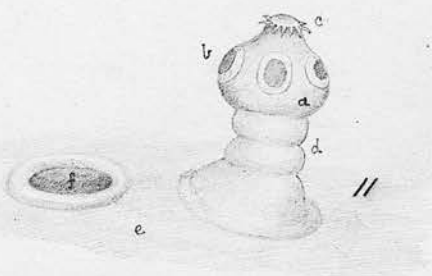


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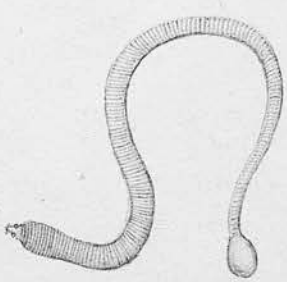

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# Plate I

Fig 1. Acephalocystis Simplex. a: The Cyst.
b: The Capsule. (Copied)

" 2. A. — Endogena. a,a: Young still attached.
b,b: Young separated from parent cyst.
c,c: Third generation. d: capsules.
(Diagramatic)

3 A. Exogena. a,a: Attached young.
b: External membrane of cyst.
c: Internal membrane. d: Peritoneum.
(Diagramatic)

4 to 9. Animalcula of Echinococcus. a,a: The circle of spines. b,b: The Suckers. (Copied)

10. Cœnurus Cerebralis. a,a: Heads of the natural size. (Copied)

11. A head of the Cœnurus magnified. a: The head.
b: The Suckers. c: The Spines. d: The Neck.
e: Portion of the Parent cyst. f: Cavity left by the inversion of a head. (Copied)

12. Cysticercus Fasciolaris, Nat. Size (after Dujardin)

13. Ib. Nat. Size (after Rudolphi)

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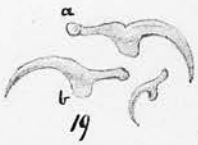


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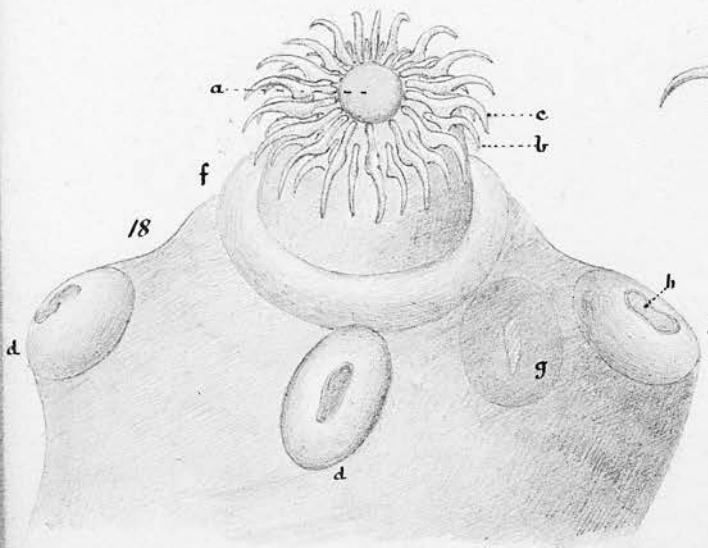


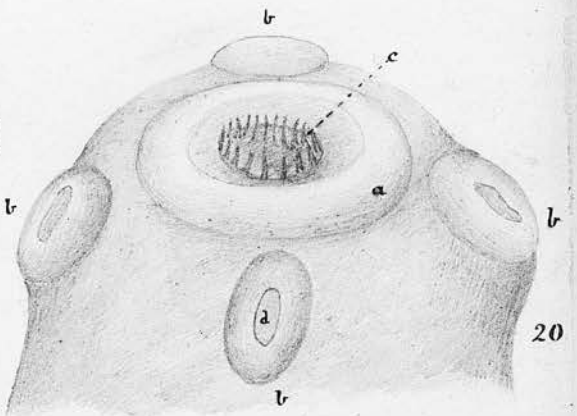


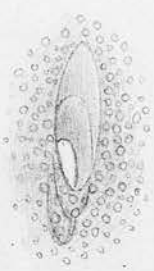

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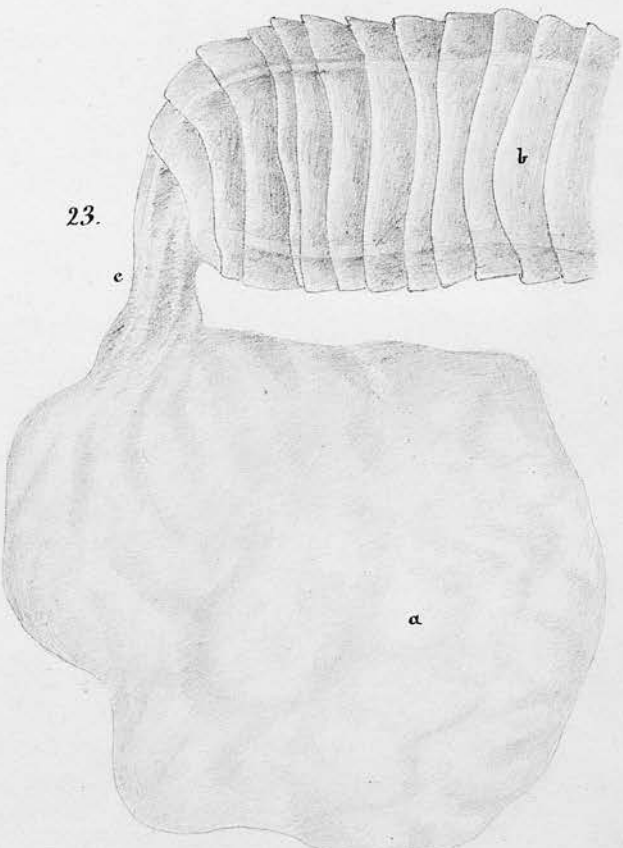
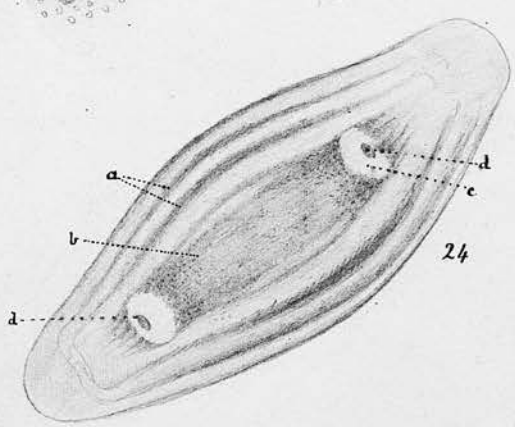


# Plate II

Fig. 14. Liver of a Mouse: Nat. Size: Containing a Cyst.

15. Internal membrane of the Cyst. Magnified

16. The Cyst ruptured: Nat. Size

17. Cysticercus Fasciolaris contained within.
a: The head. b: Caudal vesicle. C: The Body: Nat. Size.

18. Head magnified. a: Cartilaginous disc. b: Lesser, or outer circle of teeth. C: Inner Circle. d: Suckers, or Oscula. f: Circular fibres. g: Fourth sucker, seen through the body. h. Opening of sucker. Mag. 20

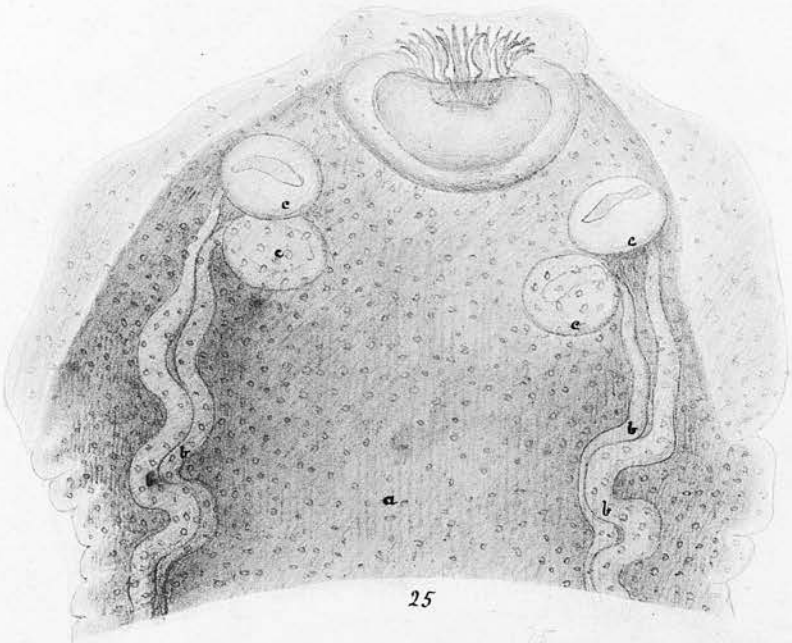
19. Teeth. a: articular extremity. b. The point of muscular attachment. Magnified

20. Head, proboscis retracted. a: circular fibres. b: The Suckers. c: The Teeth. Magnified.

21, 22. Sections of Intestinal Canals. Magnified

23. Posterior Extremity. a: Caudal vesicle. b: Segments of Body. c: Uniting portion. Mag. 20

24. Cross section of the Body. a, a: Bands of circular fibres. b: Longitudinal fibres. c: Cellular substance, surrounding the longitudinal canals. d: Longitudinal canals. Mag.

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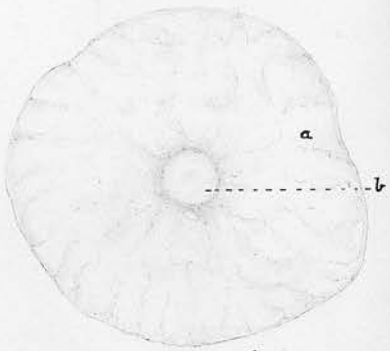


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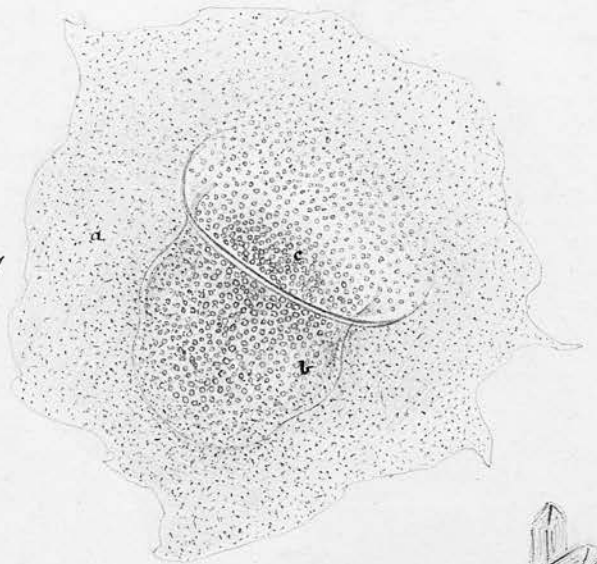


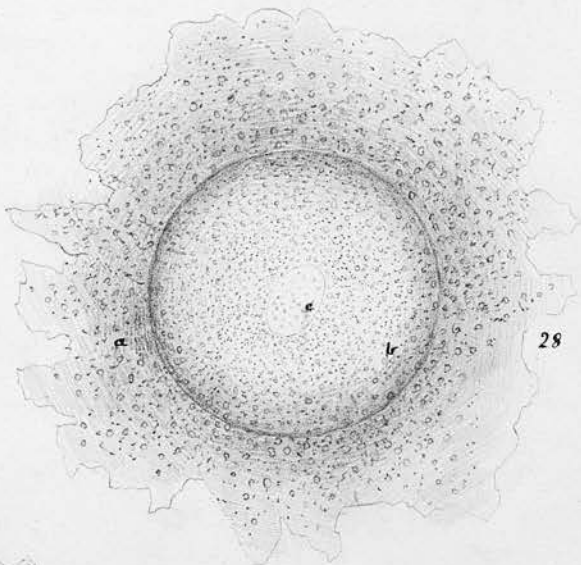


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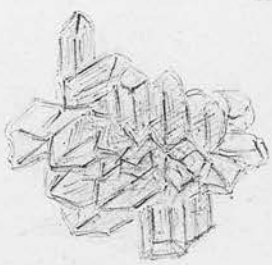

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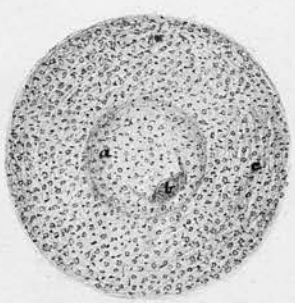


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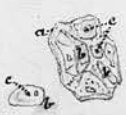


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# Plate III

Fig. 25. Head. a: Commencement of body. b: The four tubes. c: Suckers. Mag. 30 diameters.

26. Very young individual. a: Caudal vesicle. b: central clear space. Mag. 15. D.

27. First Stage. a: Caudal vesicle. b: The inverted portion. c: Granules filling it. Mag. 100. D.

28. Slightly advanced. a: Caudal vesicle. b: The Spherical mass. c: The central clear space. Mag 100. D.

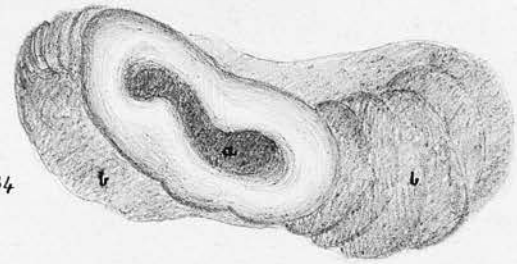
29. Cells found within the Spherical body.

30. Spherical body isolated. a: The Secondary, or included Sphere. b: dark Spot in same. c: External or primitive Sphere.

31. Secondary Sphere. a: The dark Spot.

32. Cells of the dark Spot. a: the cells. b: the nuclei. c, c: The nucleoli.

33. Part of Secondary Sphere, with its Spot. a: Cells forming the Sphere. b: The dark portion of the Spot. c: The margins surrounding the Spot. d: Its free surface; showing the columnar cells.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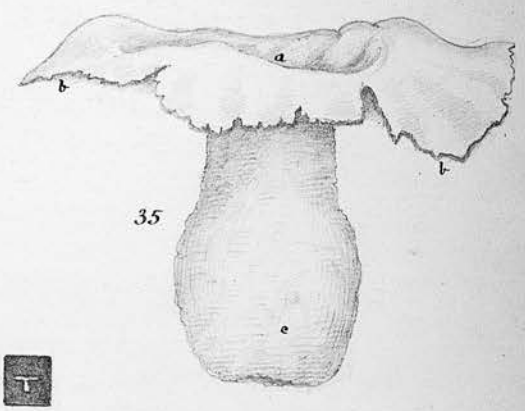
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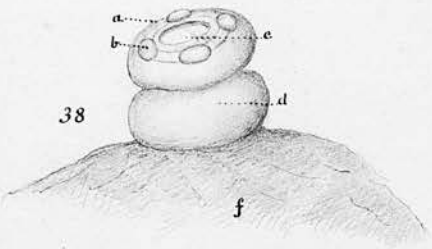
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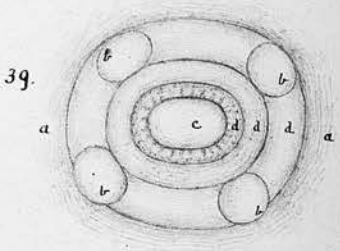
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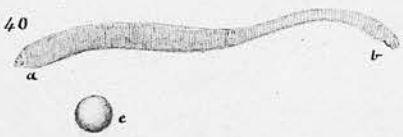
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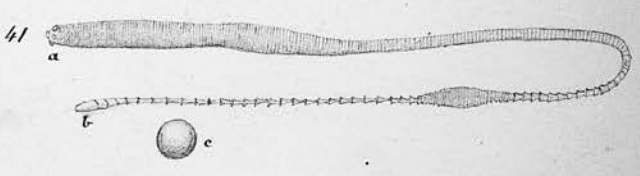
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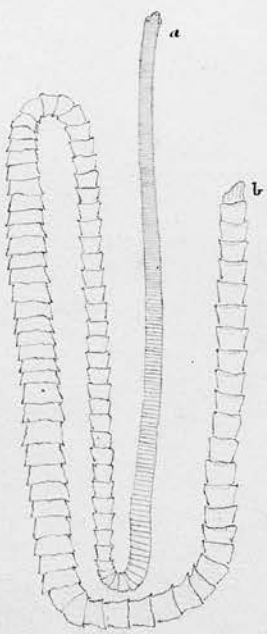
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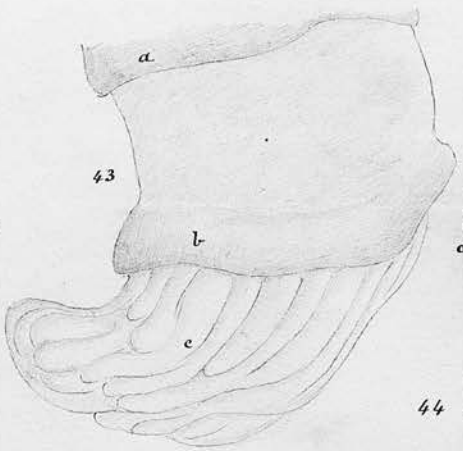
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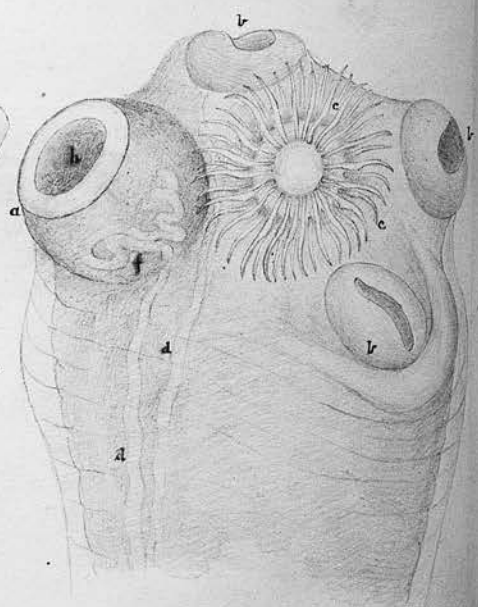
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# Plate IV

Fig. 34. Cysticercus Fasciolaris, head retracted. a: cavity caused by its inversion. b: caudal vesicle. Mag. 30.

35. Cys. Fas. a: cavity. b: part of caudal vesicle, the rest removed. c: inverted head. Mag. 30.

36. Cyst, with worm, shown in Fig 34. Nat. Size.

37. Head & portion of caud. ves. in Fig 35. Nat. Size.

38. Cys. Fas. a: Head. b: unopened suckers. c: cartilaginous disc. d: a segment. Mag. 30.

39. Head of last, seen from above. a: head. b: suckers. c: disc. d: circular bands. Mag. 90.

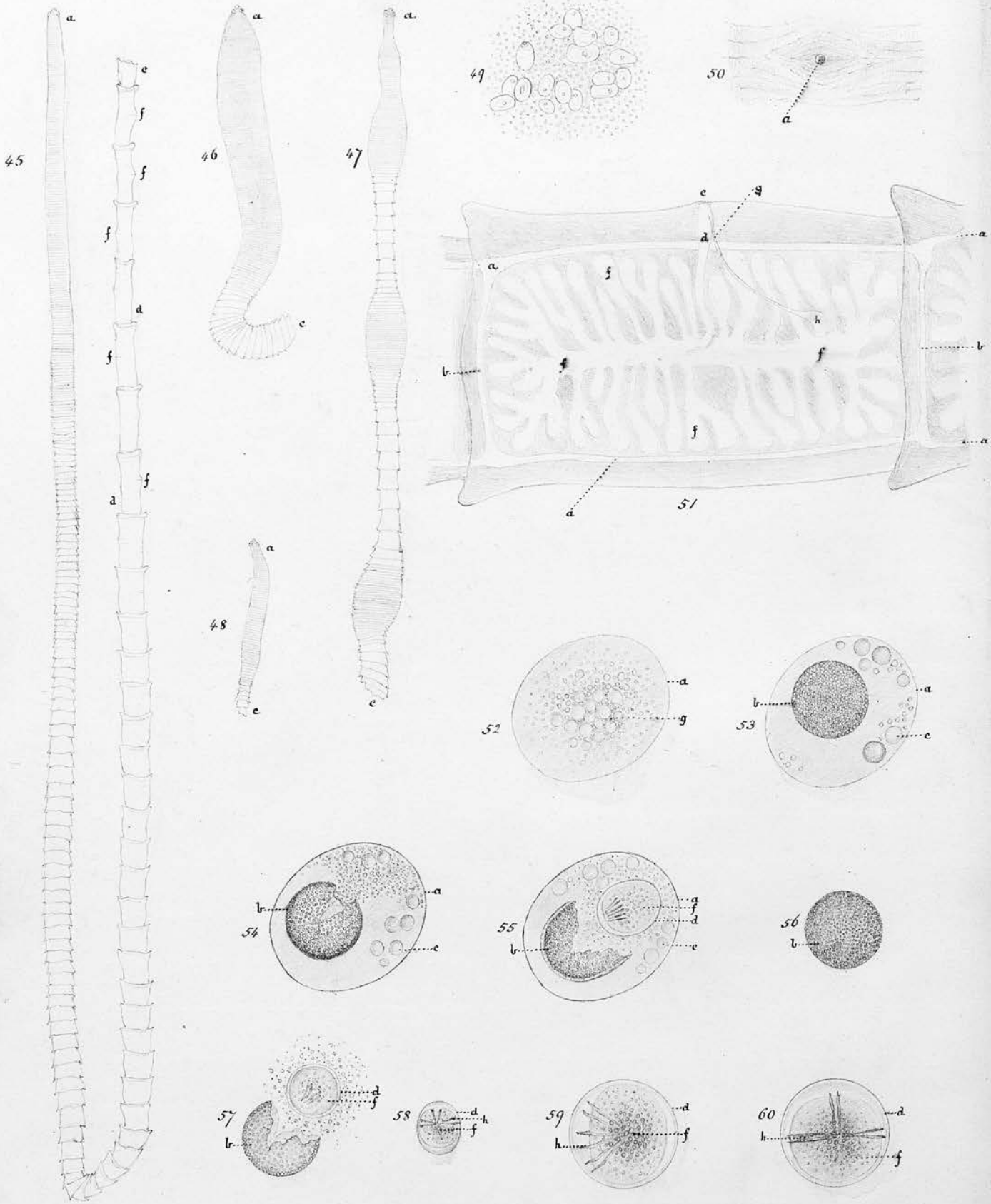
40. Cys. Fas. a: Head. b: rest of caud. ves. c: Cyst, in which ~~the~~ worm was contained. Nat. Size.

41. Cys. Fas. a: Head. b: caud. ves. c: Cyst. Nat. Size.

42. Tænia Crassicollis. a: Head. b: caud. ves. Nat. Size.

43. Posterior extremity of last. a, b: the last two segments. c: caudal vesicle. Mag. 20.

44. Head of Tænia Crassicollis. a: one of the suckers dilated for action. b: the other suckers collapsed. c: the teeth. d: two tubes leading from the suckers. f: contorted portion of the tube, leading to the dilated sucker. Mag. 20.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# Plate V.

Fig. 45 to 48. Tænia Crassicollis, of various sizes. a: Head. c: The ragged extremity. d: last segments f: genital pores. Nat. Size.

49 Portion of cuticle Mag. 500.

50 Margin of a segment. a: genital pore. Mag. 20.

51 An entire Segment. a: Intestinal canals b: transverse communicating tubes. c: genital pore. d: oviduct. f Ovary. g: Vas deferens. h: vesicula seminalis. Mag. 20.

52—60. Ova of Tænia Crassicollis. a: external envelope. b: middle. c: globules found between the two membranes. d: internal envelope. f: the embryo. g: yolk globules. h: the spines of the embryo. 52 to 58 Mag. 400. 59 & 60 Mag. 500.

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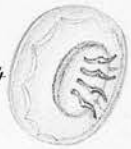

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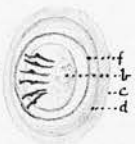


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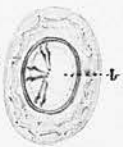


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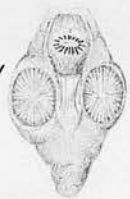

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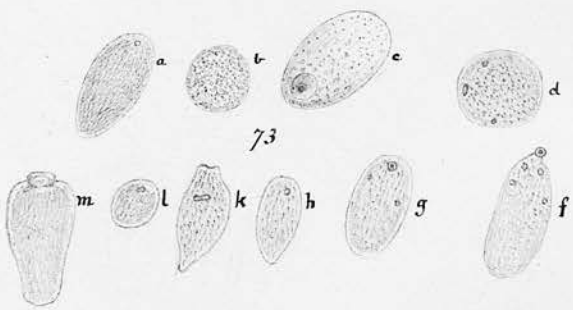


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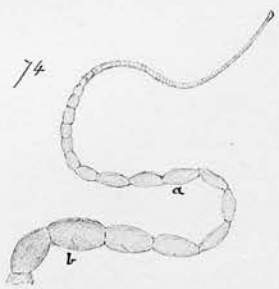


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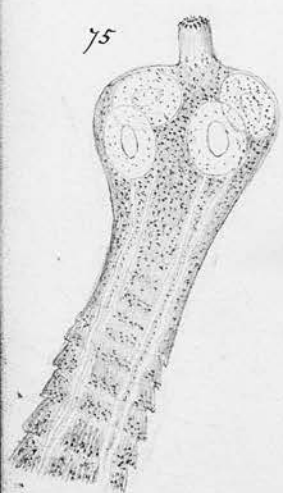

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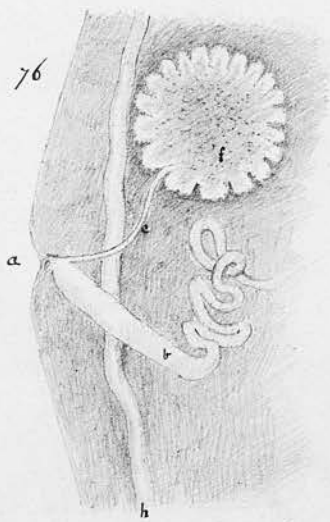


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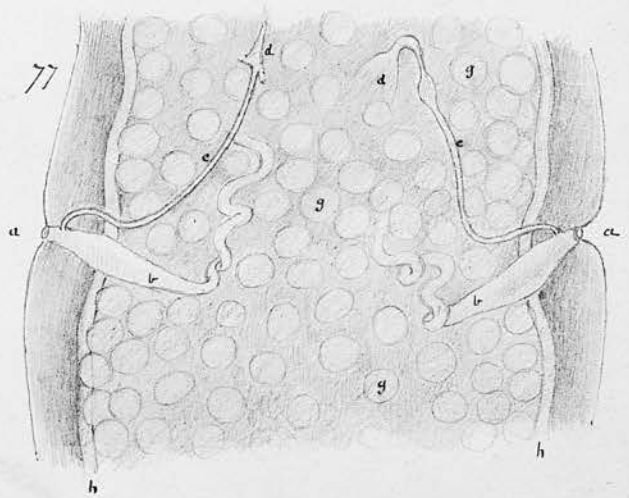

# Plate VI

Fig. 61, 62. Ova of Tænia found in the Duck.
(Dujardin) Mag 200.

63, 64. Ova of Tænias found in the Pig. Mag 200.
copied from Dujardin.

65 Embryo of last. a: the spines. b: the vesicle
Mag. 240. (Dujardin)

67–72 Embryo of Tænia Pistillum, in various degrees of development. a: supposed suckers. b: embryo. c: external envelope of egg. d: middle. f: internal. Mag 200. Dujardin.

73 a — m. Entozoa, found in the blood of the Mouse. Mag. 30.

74 Tænia Elliptica. a: segments without ova. b: with mature ova. Nat Size.

75 Tænia Elliptica. The head. Mag. 100.

76. 77. The same. Portions of segments. a: the genital pore. b: oviduct. c: vas deferens. d: vesicula seminalis. f: testicle. g: masses of ova. h: the intestinal canal. Mag. 100.

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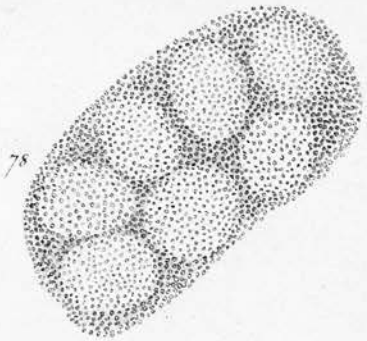

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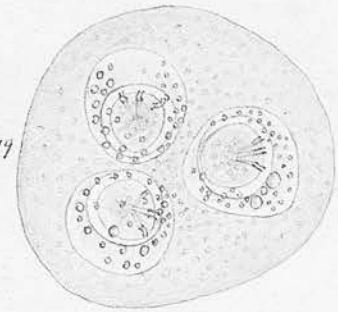

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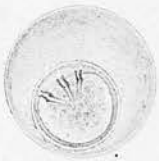

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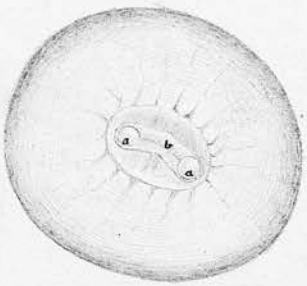


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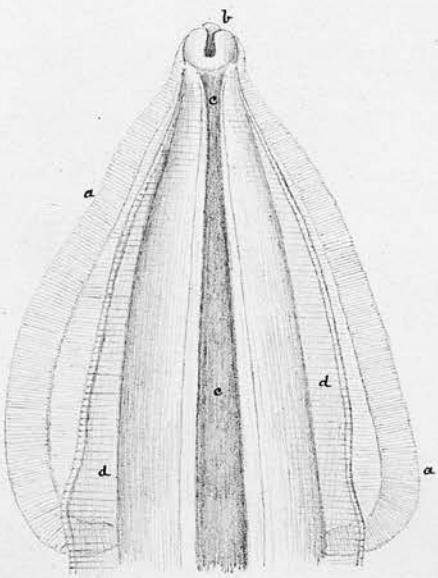


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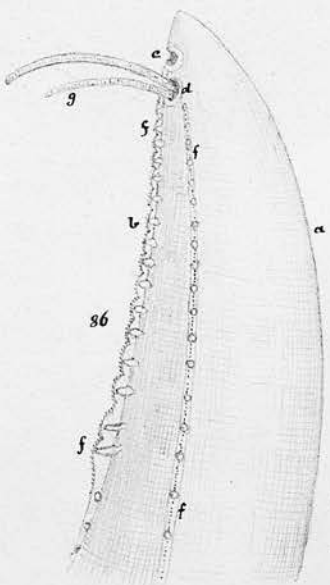


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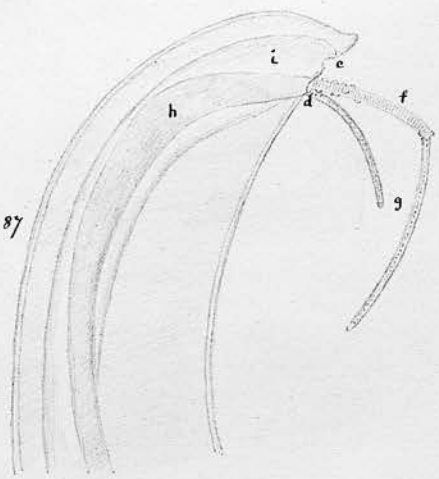


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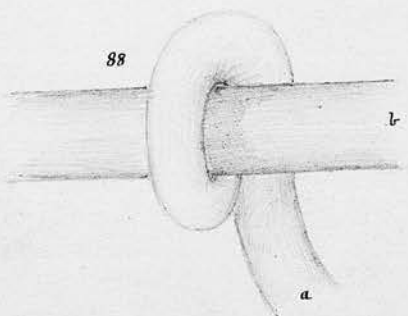


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# Plate VII

Fig 78 80 Ova of Tænia Elliptica Mag 330.

81 Embryo of Same, covered only by the internal membrane. Mag 700.

82 Detached segment. Proglottis? a: the intestinal canals. b: transverse canal Mag. 30.

83 Ascaris Mystax: male. a: the Tail

84 Ascaris Mystax: female. a: the Tail.

85 Head of Same. a: lateral ala. b: mouth. c: intestinal canal. d: cuticle of body.

86 87 Tail of male. a: the dorsum: b: the ventral aspect. c: anus. d: genital orifice. f: membranous projections. g: Spiculæ. h: sheath of Spiculæ. i: intestinal canal

88 Fecundation. a: male. b: female

89 Spiculum. a: tubular cavity. b: the upper part. c: the part not protruded d: cartilaginous projections.


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# Plate VIII.

Fig. 90 Cæcal end of testicular tube. a: secreting portion. b: membranous part. c: seminal particles. d: nucleated particles.

91 Upper portion of testicular tube. a: the spermatic cells. b: the tube.

92 Striated portion of the same.

93 Constricted portion

94 a: seminal particles. b: nucleated sem^l. cells.

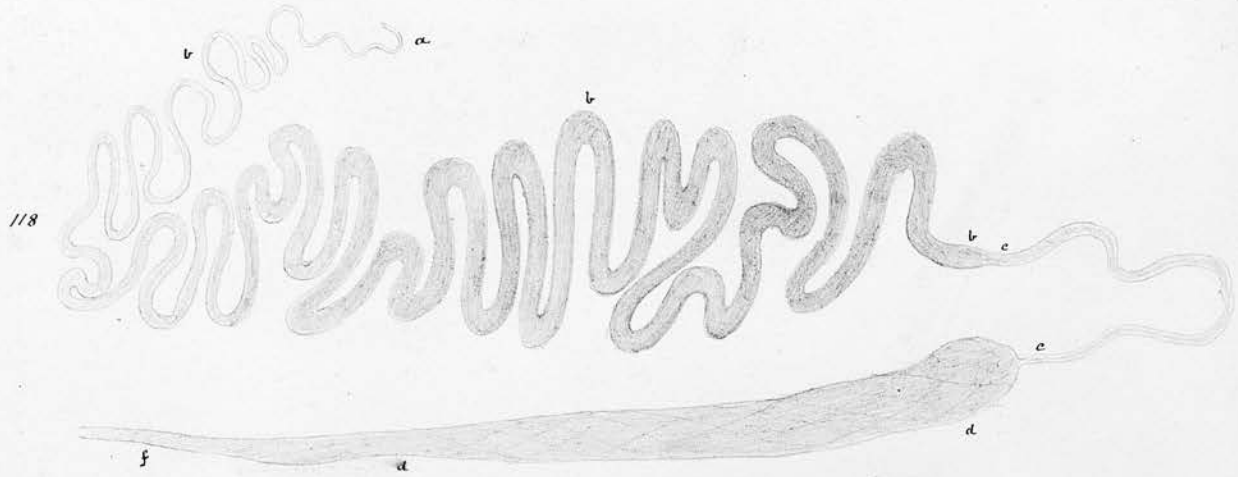
95, 96. a: granular seminal mass. b: Same, showing seminal cell. c: Spermatic cells.

97–114. Spermatic cells fully developed. a: the cell wall. b: the nucleus. c: the nucleolus. d: internal limiting membrane of nucleus. f: nuclear membrane. g: protrusion of cell wall.

115 Spermatic particles. a: nuclei.

116, 117 Spermatic particles, fully developed. a: nucleolus. b: openings.

The whole of these figures were drawn by means of the Camera Lucida, & magnified 330 diameters.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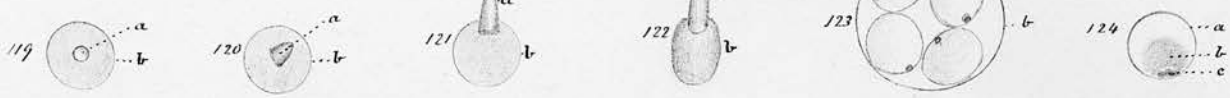
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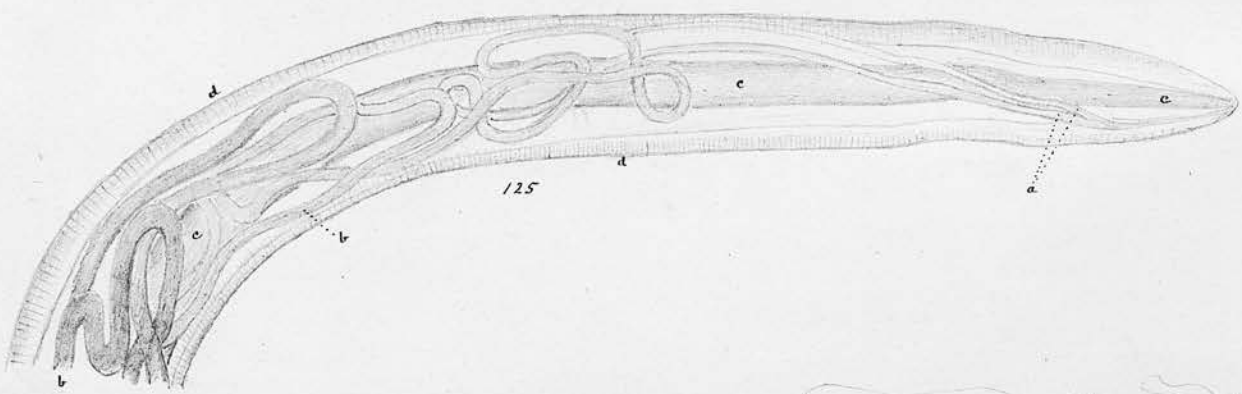
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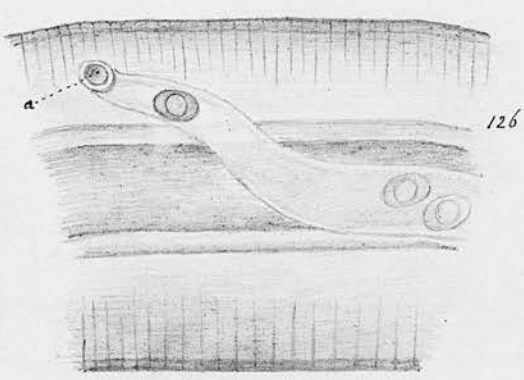
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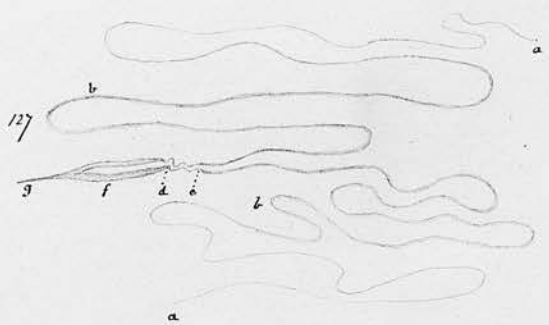
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# Plate IX

Fig. 118 Male reproductive apparatus: a: cæcal extremity. b: testicular portion. c: muscular portion. d: seminal vesicle. f: sheath of spicules. By Cam. Luc. Mag 20.

119 to 122. Spermatic cells in different states of development. Mag. 300. after Wagner.

123, 124. The same. Mag 300. after Reichert. Kölli.

125 Tail of female Ascaris Mystax, a: the commencement of ovaries. b: convolutions of the same. c: intestinal canal. d: cuticle. Mag. 30.

126 Part of female. a: orifice of vagina. Mag. 60.

127 Female reproductive apparatus entire. a: cæcal ends. b: ovaries. c: commencement of oviduct. d: termination of same. f: uteri. g: vagina. Nat. Size


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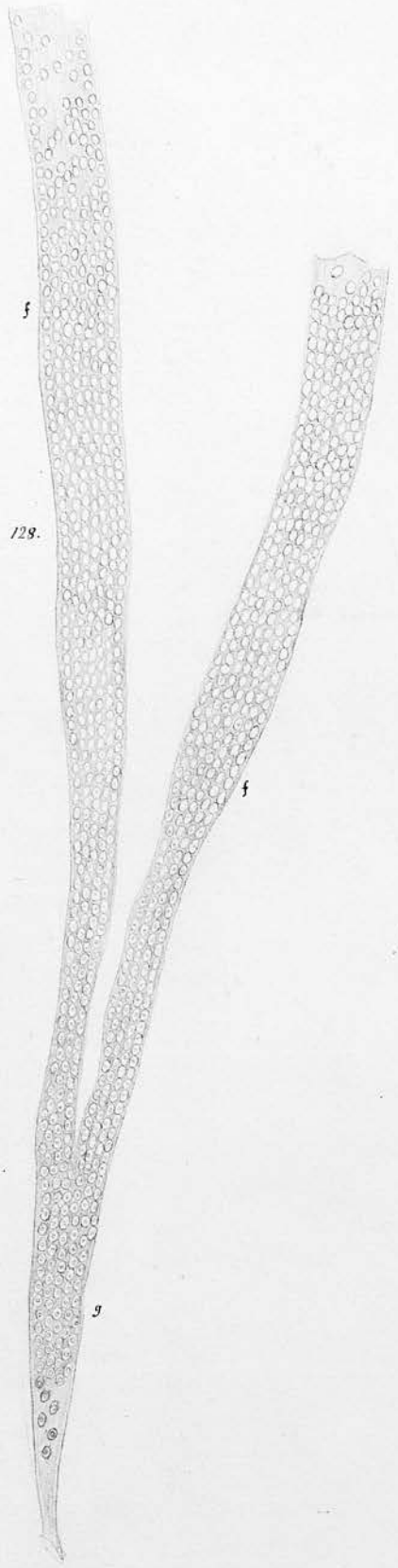


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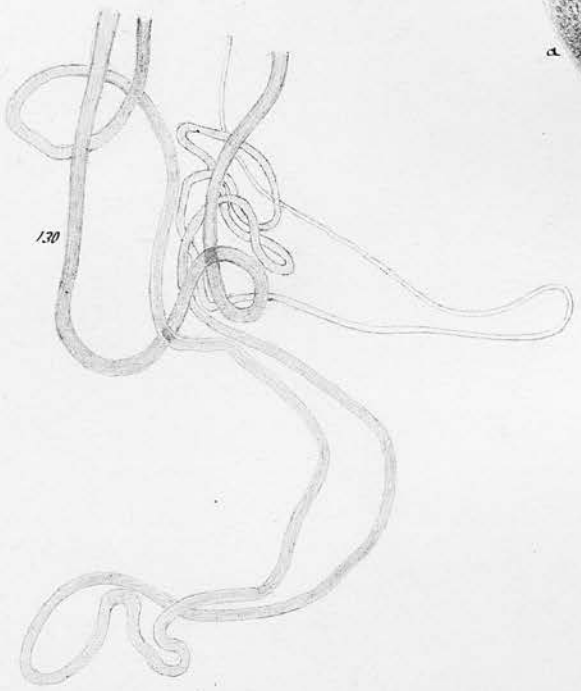

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# Plate X

Fig 128 f: the Uteri. g: the Vagina

129 a: the ovary. b: first constriction.
c: oviduct. d: second constriction
f: uterus.

130 Convolutions of Ovary.

131 Cæcal extremity of ovary

All these figures drawn by means of the Camera Lucida, & magnified 40 diameters.

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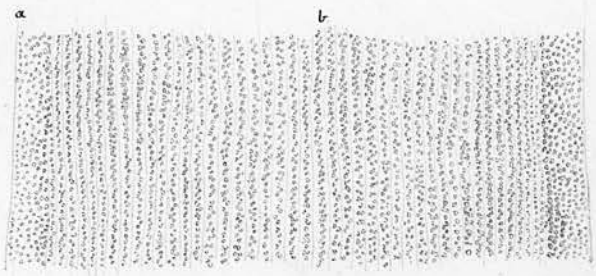


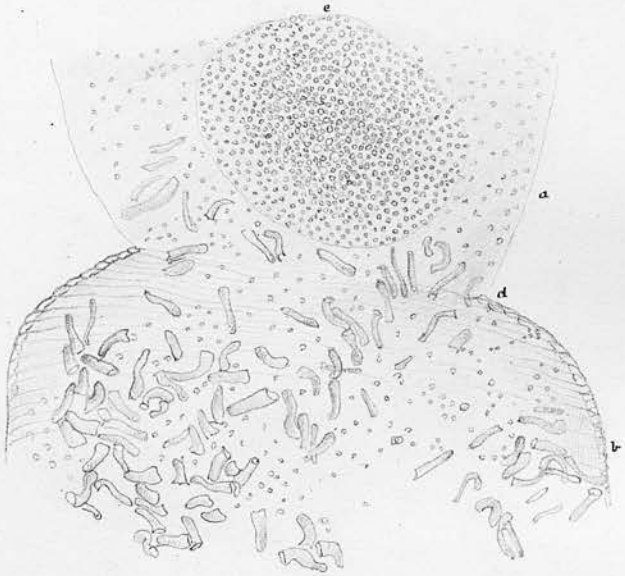


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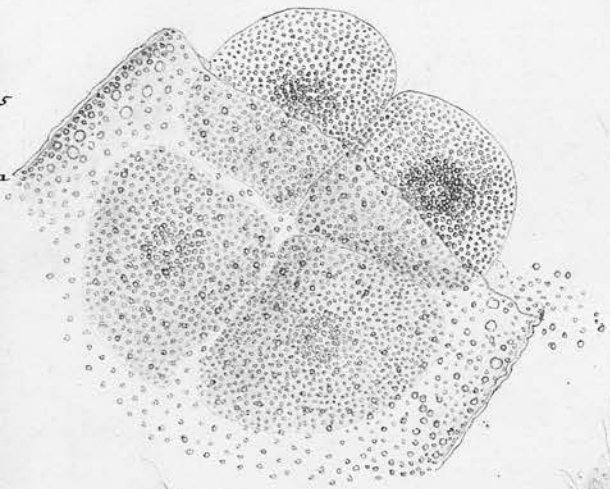


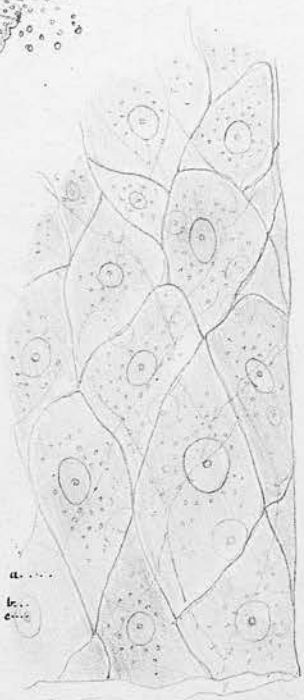


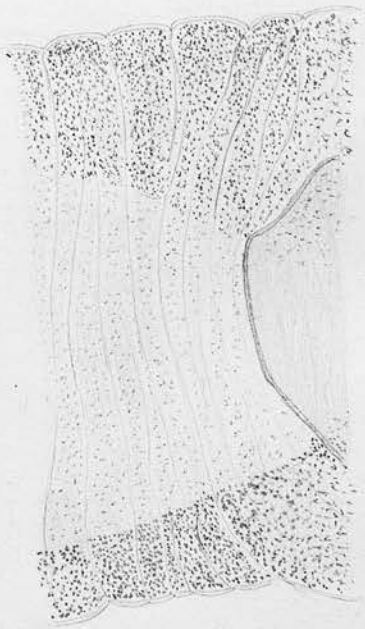

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# Plate XI

Fig. 132 Cecal extremity of Ovary. a: secreting portion. b: apparent invagination. c: germinal particle. d: germinal vesicle. f: germinal spot. g: granules.

133 Upper portion of ovary. a: membranous portion. b: mass of germinal vesicles & granules.

134 Middle portion of Ovary. a: external homogeneous membrane. b: stroma, containing granules.

135 Lower portion of Ovary, containing four ovules. a: external membrane.

136 Junction of Ovary with Oviduct. a: ovary. b: oviduct. c: an ovule. d: the upper constriction.

137 The lower constriction, separating the oviduct & uterus.

138 Portion of Uterus. a: one of the flattened cells. b: the nucleus. c: the nucleolus.

139 Lower extremity of Vagina.

Taken by Camera Lucida. Magnified 330 diameters.


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# Plate XII

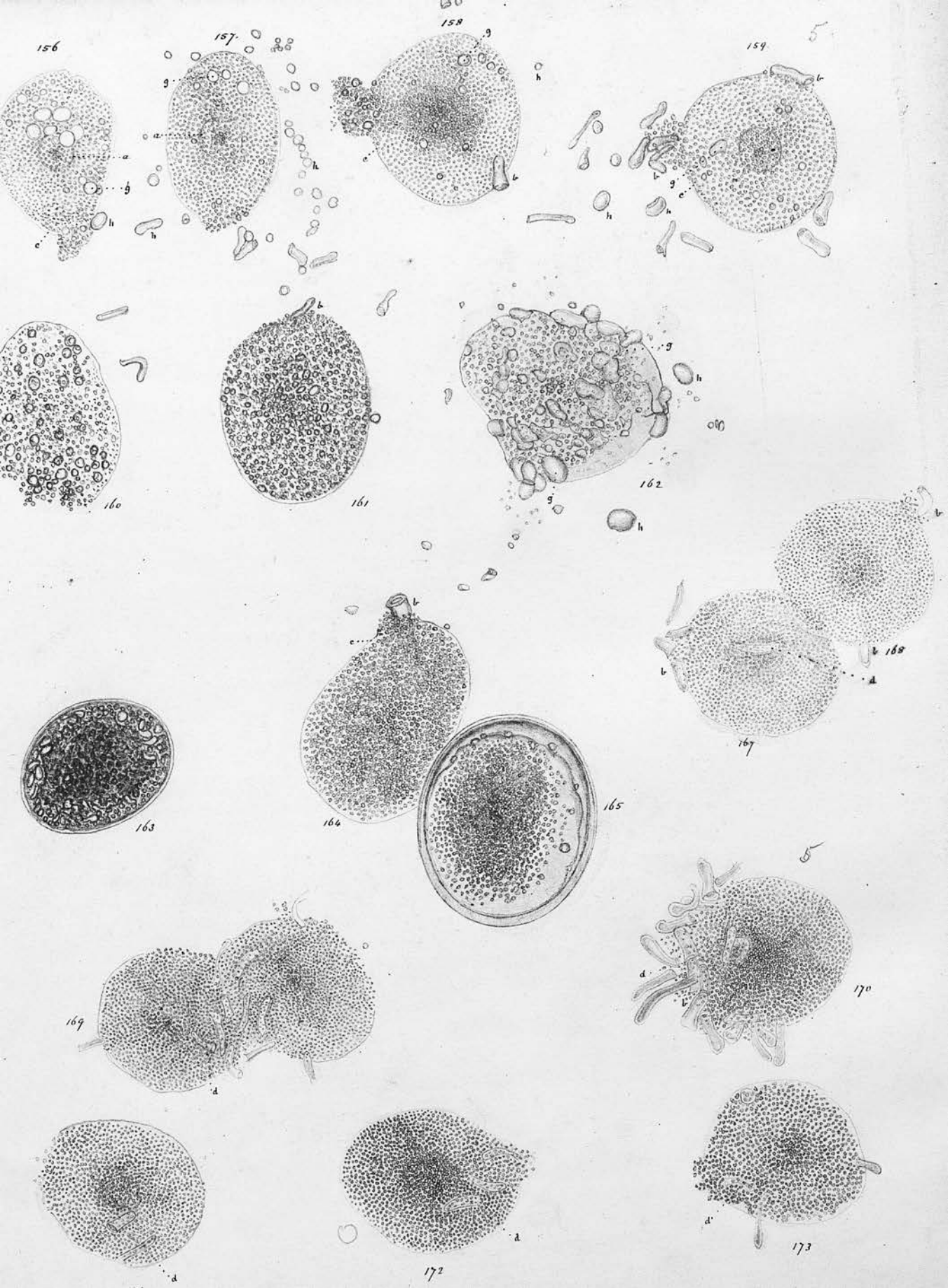
Fig. 140 c: Germinal particle. d: germinal vesicle. f: germinal spot.

141 to 145 Ovula. a: germinal spot. b: germinal vesicle. c: vitellus. d: vitelline membrane.

146 to 149 Ovula. a: seen in profile. b: seen on the side. d: loose vitelline granules.

150 to 155 Ovula, undergoing transformation into false ova. a: granular chorion. b: vitelline membrane. c: oil globules. d: transformed vitelline substance. f: false yolk.

Taken by Camera Lucida. Mag. 330 diameters.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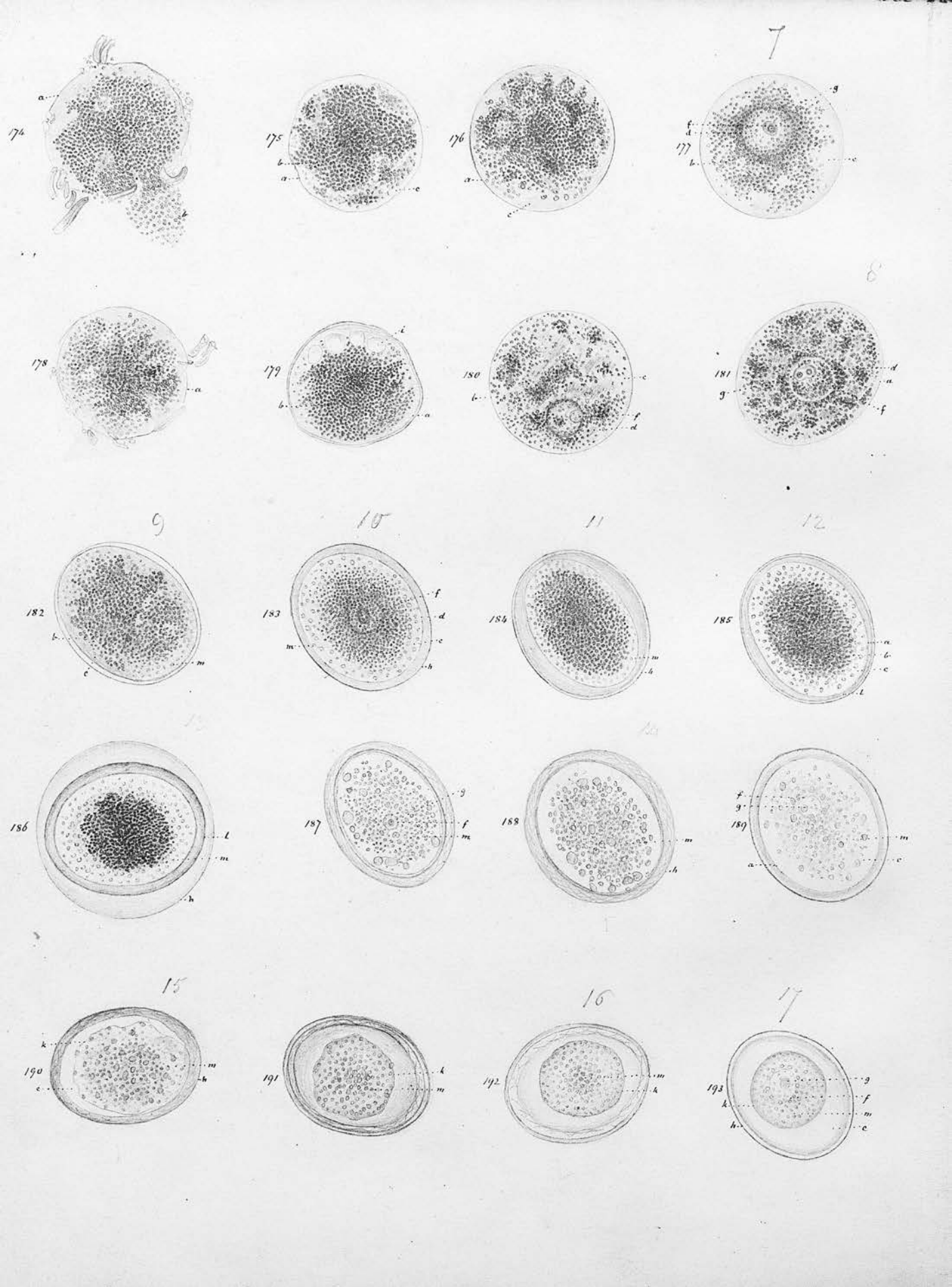
# Plate XIII

Fig. 156 to 173. Ovula. a: germinal vesicle. b: spermatic particles applied against the ovula. c: vitelline membrane. d: spermatic particles within the ovule. g: transformed spermatic particles. h: same, undergoing change.

Taken by Camera Lucida. Mag. 330 diameters.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# Plate XIV

Fig. 174 to 193. Ova after fecundation.

a: The chorion & vitelline membrane combined.

b: Vitelline granules.

c: Fluid resulting from solution of latter.

d: Germinal vesicle.

f: Germinal spot, nucleus, or embryonic vesicle.

g: Germinal nucleoli, or embryonic spots.

h: External chorion

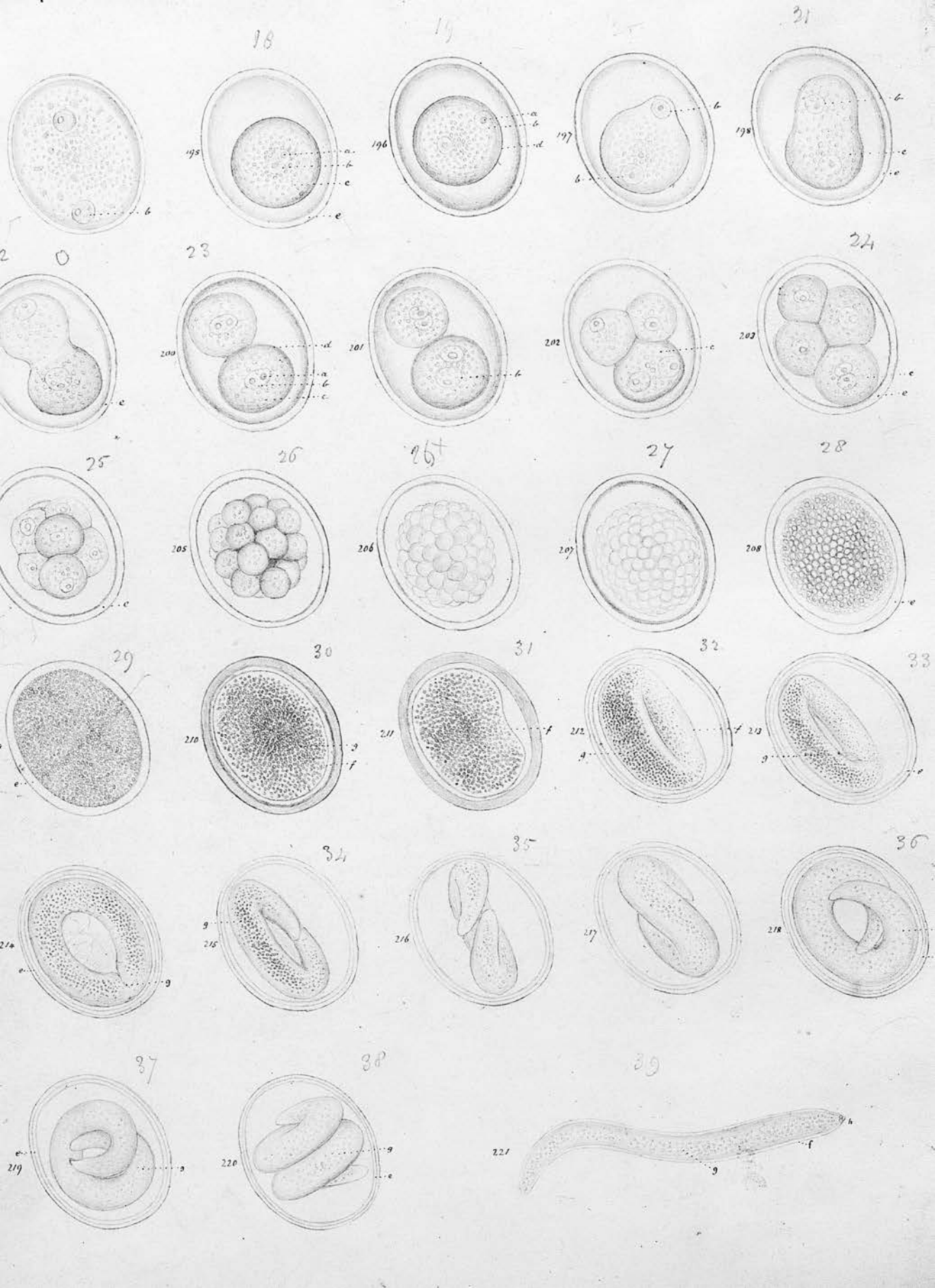
i: Clear particles, transformed spermatic particles.

k: Vitelline membrane

l: Middle chorion

m: Embryonic granules.

Taken by Camera Lucida, Mag. 330 diameters.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# Plate XV

Fig. 194 to 209. Division of the Embryonic Yolk in the Ovum.

a: Embryonic Spot.

b: " Vesicle

c: " Yolk

d: " Yolk membrane

e: Shell composed of layers of the Chorion

210 to 220 Development of Embryo within the ovum.

e: The Shell formed by layers of the chorion.

f: Cuticular membrane.

g: Opake mass, formed by the subdivisions of the embryonic yolk, become the body of the Embryo.

221 Young Ascaris Mystax escaped from the shell. f: the cuticle. g: semitransformed granules. h: the mouth.

Taken by Camera Lucida, Magnified 330 Diameters.