A NEW SPECIES OF CESTODE (*OOCHORISTICA ERINACEI*) FROM THE HEDGEHOG.

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(With Plate XVII, Figs. 12–13.)

A number of Cestodes collected from a hedgehog in Mesopotamia by Dr Boulenger were handed to me for identification. Examination showed them to belong to the genus *Oochoristica*. Five Cestodes [*Hymenolepis erinacei* (Gm.), *Hymenolepis steudeneri* v. Janicki, *Davainea parva* v. Janicki, *Taenia voluta* v. Linstow, and a *Bothriocephalus* larva v. Janicki] have up to the present been recorded from this host. From all these, the present species is distinguished by its possession of numerous testes, situated posteriorly to the female organs. I therefore propose to form a new species for its reception and suggest for it the name *Oochoristica erinacei*. The key attached to the following description will serve to distinguish this new species from others of the same genus. I wish here to express my indebtedness to Dr Boulenger for placing his material at my disposal.

The length of the largest specimen is 15 mm. and the width 1 mm. The scolex (Pl. XVII, fig. 12) is 0·33 mm. diameter, provided with four suckers 0·165 mm. long × 0·12 mm. broad, arranged in pairs, the members of each pair having their margins touching and being widely separated from the opposite pair. Anteriorly each sucker has a small opening leading to a slight furrow on the apex of the scolex, the whole having a similar appearance to that figured by Cohn (1903, p. 61, Text-fig. 6) for *O. surinamensis*. There is neither rostellum nor hooks. A neck is absent, segmentation starting immediately posteriorly to the suckers.

As figured by Beddard for *O. marmosae* (1914, Text-fig. 149) the strobilus swells out into a collar immediately posteriorly to the scolex. The musculature consists of an inner layer of transverse muscles, externally a layer of comparatively strong longitudinal ones, and externally to those a very weak layer of scattered fibres, only present in the more anterior segments and disappearing in those with fully developed genital organs.

There are the usual four longitudinal canals, two ventral and two dorsal, communicating by a circular commissure at the posterior end of each proglottis. The two dorsal are small, and the two ventral relatively large, the commissures connecting the latter being often one-third the dorso-ventral diameter of the proglottis. Besides these four vessels there is an extensive irregular meshwork of ill-defined vessels and lacunae. Of the additional longitudinal vessels described by investigators and stated to be characteristic of the genus I have been unable to find any trace. The network referred to above is of far too vague a character to correspond in any way with a definite system such as is to be found in the other species, *e.g. O. tetragonocephala* (Bremser).

The genital pore (Pl. XVII, fig. 13) irregularly alternates and is situated near the anterior extremity of the proglottis. It leads into a well-developed genital cloaca into which the vagina and cirrus open in the usual manner. The genital ducts pass between the dorsal and ventral excretory vessels and dorsal to the nerve. The male organs are fully developed in proglottides slightly broader than long, the female in those longer than broad. The cirrus-sac (*c.s.*) opens into the genital cloaca dorsally to the vagina. Lying diagonally, it extends well past the ventral longitudinal vessel, in some cases half-way across the segment. The cirrus is unarmed, has a small terminal knob, and coils slightly in the cirrus-sac. The vas deferens inside the sac is also coiled. It leaves the cirrus-pouch at the inner extremity on the ventral side, and, coiling once or twice, proceeds half-way across the proglottis near the dorsal surface, immediately dorsal to the uterus but not passing between the lobes of the ovary. At the level of the anterior extremity of the vitelline gland it breaks up into a number of vasa efferentia. The testes (*t.*) are between 30–50 in number and lie posteriorly and laterally to the female glands, not extending anteriorly further than the ovary. They form one layer dorso-ventrally and do not extend laterally beyond the longitudinal excretory vessels.

The vagina (*v.*) opens at the posterior limit of the genital cloaca and runs transversely to half-way between the two ventral longitudinal vessels. After coiling once or twice it opens into the oviduct in the centre of the proglottis. A receptaculum seminis is not present. The bilobed ovary (*ov.*) is situated in the anterior third of the proglottis, the basal portion being dorsal and the two lobes reaching the ventral side. Between these two lobes lie the greater part of the courses of the vagina, uterus, and oviduct. The latter springs from the ventral surface of the common basal portion of the ovary and proceeds in a straight line posteriorly to meet the vagina. From this meeting place the oviduct curves first posteriorly, then anteriorly to the ventral surface of the proglottis, receiving at the posterior limit of its course the vitelline duct. On the ventral surface it runs anteriorly past the level of the vaginal pore, then bends at right angles to run across the segment to the dorsal surface where it opens into the uterus. The yolk-gland (*y.g.*) lies

posteriorly to the centre of the proglottis, half-way between dorsal and ventral surfaces. It is bilobed, the lobes being directed anteriorly. The vitelline duct arises from the common posterior basal portion and runs anteriorly, at first on the ventral surface, later crossing the segment to open in the centre into the oviduct.

At its first appearance the uterus is an amorphous sac situated anteriorly and, in a transverse section through that region, occupying the whole of the proglottis. As it develops it extends posteriorly and sends out numbers of branches which ramify in all directions. This process continues, the whole uterus resolving itself into a meshwork of tubes; these ultimately form capsules containing at first several, but later only a single egg.

Key to Species of Oochoristica.

1.	Egg-capsules contain several eggs	*O. megastoma* (Dies.)
	Egg-capsules contain only one egg	(2)
2.	Testes extend anteriorly to ovary	(3)
	Testes posterior, or lateral and posterior to ovary ...	(4)
3.	Host, *Amphisbaena alba*	*O. amphisbaena* (Rud.)
	Host, *Zonurus tropidosternum*	*O. zonuri* Bayliss
4.	Vagina opens anteriorly to cirrus	(5)
	Vagina opens posteriorly to cirrus	(6)
5.	Genital ducts pass between longitudinal excretory vessels	*O. tetragonocephala* (Brem.)
	Genital ducts pass dorsally to longitudinal excretory vessels	*O. didelphydis* (Rud.)
6.	Testes lateral and posterior to ovary	(7)
	Testes posterior to ovary	(11)
7.	Rostellum absent	*O. cryptobothrium* (v. Linstow)
	Rostellum present	(8)
8.	Testes 50	*O. incisa* Marotel
	Testes 100 or more	(9)
9.	Cirrus-sac not reaching outer longitudinal excretory vessel	*O. marmosae* Bedd.
	Cirrus-sac reaching or passing outer longitudinal excretory vessel...	(10)
10.	Genital ducts pass between longitudinal excretory vessels	*O. rostellata* Zsch.
	Genital ducts pass dorsally to longitudinal excretory vessels	*O. surinamensis* Cohn
11.	Eggs absent from centre of proglottis	*O. bivittata* v. Jan.
	Eggs present in centre of proglottis...	(12)
12.	Testes 15–20	*O. tuberculata* (Krabbe)
	Testes 20–30	*O. truncata* (Rud.)
	Testes over 30	(13)
13.	Receptaculum seminis present	(14)
	Receptaculum seminis absent	(15)
14.	Testes 39–46	*O. agamae* Bayliss
	Testes 70–80	*O. wagneri* v. Jan.
15.	Eight longitudinal excretory vessels	*O. sp* Beddard
	Four „ „ „	*O. erinacei* n. sp.

(*Oochoristica pseudopodia* (Krabbe), *O. murina* (Rud.), and *O. sp*? von Janicki 1906, are not included in the above key, their anatomy not having been sufficiently investigated.)

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Cohn, L. (1903). Helminthologische Mittheilungen. *Arch. f. Naturgeschichte*, 69, 48–68.

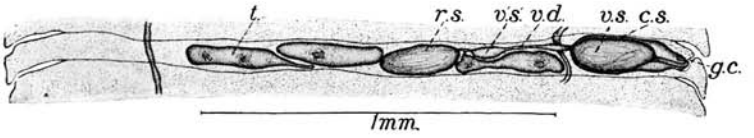

Fig. 1

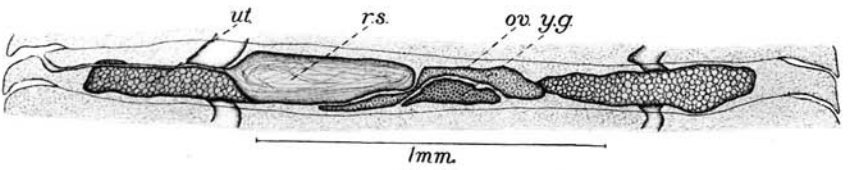

Fig. 2

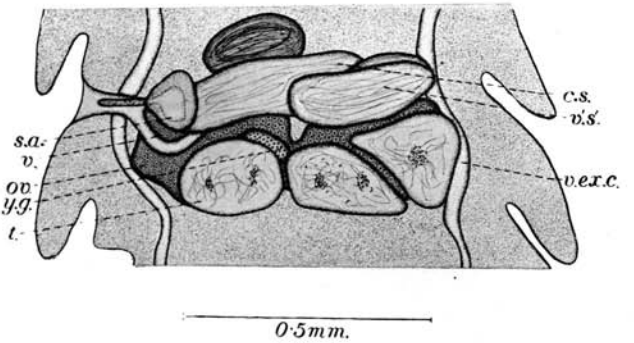

Fig. 3

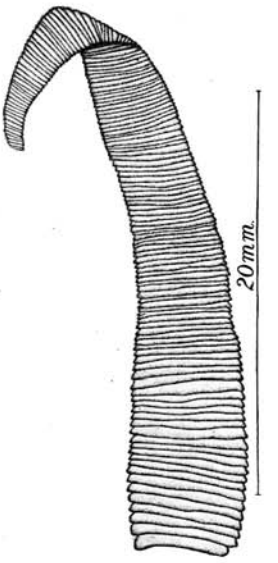

Fig. 4

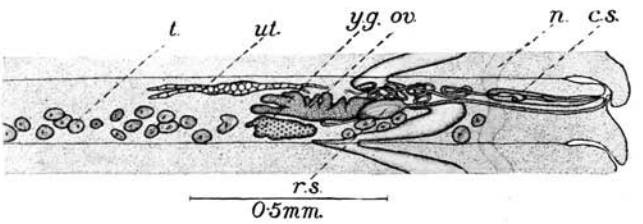

Fig. 5

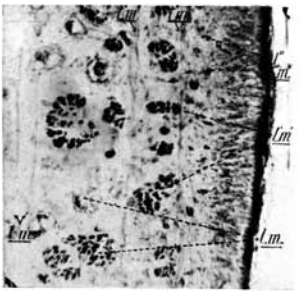

Fig. 6

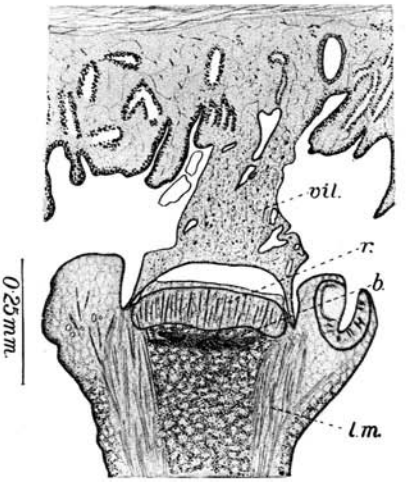

Fig. 7

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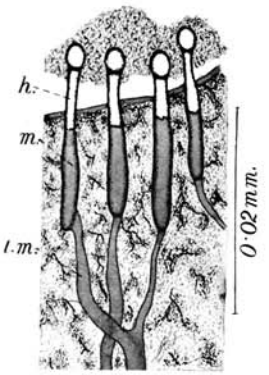

Fig. 8

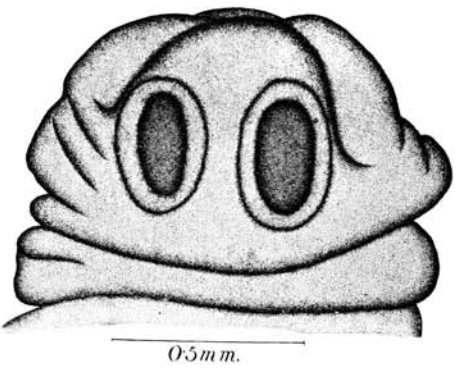

Fig. 9

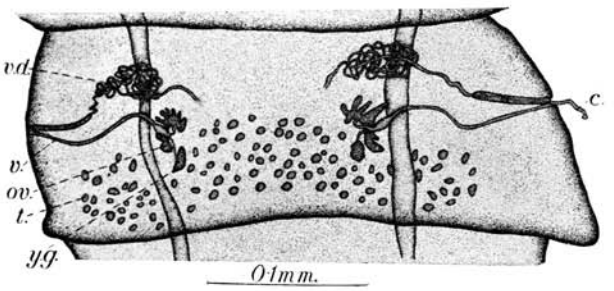

Fig. 10

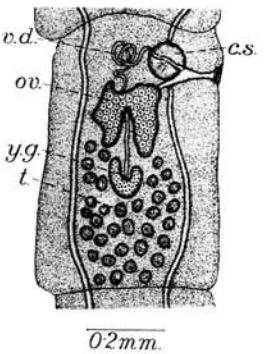

Fig. 13

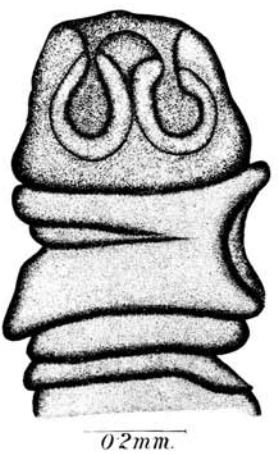

Fig. 12

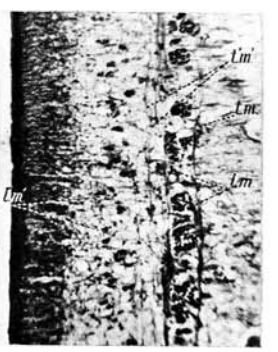

Fig. 11

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DESCRIPTION OF PLATES XVI AND XVII.

The following letters apply to all the figures:

b., central nerve mass; *c.*, cirrus; *cl.*, genital cloaca; *c.s.*, cirrus-sac; *h.*, hooks; *l.m.*, *l'.m'.*, *l''.m''.*, longitudinal muscles; *m.*, musculature of hooks; *n.*, longitudinal nerve; *ov.*, ovary; *r.*, rostellum; *r.s.*, receptaculum seminis; *s.a.*, sacculus accessorius; *t.*, testes; *t.m.*, *t'.m'.*, transverse muscles; *v.*, vagina; *v.d.*, vas deferens; *v.ex.c*, ventral excretory canal; *vil.*, fused villi of intestine; *v.s.*, internal vesicula seminalis; *v'.s'.*, external vesicula seminalis; *ut.*, uterus; *y.g.*, yolk-gland.

PLATE XVI.

Figs. 1–2. *Hymenolepis coronula* (Duj.).
- Fig. 1. Proglottis showing male organs.
- Fig. 2. Older proglottis showing female organs.

Fig. 3. *Hymenolepis gracilis* (Zed.). Mature proglottis.

Figs. 4–7. *Cotugnia fastigata* n. sp.
- Fig. 4. Strobilus without scolex.
- Fig. 5. Half a mature proglottis.
- Fig. 6. Transverse section through musculature of proglottis.
- Fig. 7. Scolex attached to intestine of host.

PLATE XVII.

Fig. 8. *Cotugnia fastigata* n. sp. Hooks from rostellum.

Figs. 9–11. *Cotugnia digonophora* (Pasq.).
- Fig. 9. Scolex.
- Fig. 10. Mature proglottis.
- Fig. 11. Transverse section through musculature of proglottis.

Figs. 12–13. *Oochoristica erinacei* n. sp.
- Fig. 12. Scolex.
- Fig. 13. Mature proglottis.