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A REPORT ON A COLLECTION OF AQUATIC OLIGOCHAETA DEPOSITED AT THE UNIVERSITY OF NEUCHÂTEL BY D^r E. PIGUET

by

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With plate VII

This report was made possible by the loan of the Piguet collection of slides of aquatic Oligochaeta deposited in the Department of Zoology, Neuchâtel. We are indebted to Dr. Dottrens and Professor Baer for their assistance and the loan of the collection.

1. THE COLLECTION

The slides consist of whole mounts and sections of *Tubificidae*, *Lumbriculidae*, *Haplotaxidae* and *Enchytraeidae*. Most of the slides bear a number, and most have either a locality label or a date, and, less often, the name of the species concerned. The slide trays are also labelled, but many slides have apparently been moved from one tray to another and so this does not always give a clue to the identity of the worms. We now give a list of the number, locality, date and name of the species where these facts are available and, finally, the current name of the species concerned. A revision of the taxonomy of the *Tubificidae* is in the press (BRINKHURST 1962) and further details of the changes in nomenclature will be found therein.

2. COMMENTS ON THE COLLECTION

a) Specimens numbered 53, 64. BRETSCHER (1901) described *Limnodrilus longus*. Later this species was regarded by that author as a synonym of *L. claparedeanus* Ratzel, 1868. Up to the present time the identity of these species has been established solely on the length of the chitinous penis sheath, but in our studies we have found that the

Number	Date	Name	Current name and notes
13	15th Dec. 1896	<i>Psammoryctes barbatus</i>	<i>P. barbata</i> : few rather poor sections. <i>Peloscolex velutinus</i> : transverse sections (5 slides). <i>P. velutinus</i> t. s. (4 slides). <i>P. velutinus</i> t. s. (4 slides). <i>P. velutinus</i> t. s. (5 slides). <i>P. velutinus</i> t. s. (4 slides). <i>P. velutinus</i> l. s. (3 slides).
13c-d	—	<i>Psammoryctes barbatus</i>	
13e-f	16th Dec. 1896	<i>Psammoryctes barbatus</i>	
13g	16th Dec. 1896	<i>Psammoryctes barbatus</i>	
14-14i	21st Jan. 1897	<i>Embolocephalus velutinus</i>	
15-15g	21st Jan. 1897	<i>Embolocephalus velutinus</i>	
19-19j	3rd Feb. 1897	<i>Embolocephalus</i>	The slide trays containing <i>Peloscolex</i> slides are labelled <i>Tubifex velutinus</i> and bear the signature of E. Piguet. The handwriting is that observed on all the labels on the slides and serves to identify the material as that belonging to Dr Piguet.
22-22n	5th Feb. 1897	<i>Embolocephalus</i>	
23-23k	5th Feb. 1897	<i>Embolocephalus</i>	
24-24e	5th Feb. 1897	<i>Embolocephalus</i>	
29-29b	22nd Feb. 1897	<i>Tubifex rivulorum</i>	
32	23rd Feb. 1897	<i>Lumbriculus variegatus</i>	}
35	25th Feb. 1897	<i>Lumbriculus variegatus</i>	
37-37b	9th Mar. 1897	<i>Limnodrilus</i>	

Number	Locality	Name	Current name and notes
47	Léman	<i>(Emblocephalus plicatus)</i>	<i>Pelosclex ferox</i> : 2 specimens.
47a	Lac de Neuchâtel	<i>Pelosclex ferox</i>	Name corrected on slide at later date.
53-53c	Seime	<i>Limnodrilus claparedeanus</i> in P. and B. 1913	<i>L. longus</i> : 7 specimens on two slides (see below).
54-54c	Seime	<i>Limnodrilus udekemianus</i> in P. and B. 1913	<i>L. udekemianus</i> : 10 specimens on 2 slides.
56	Lac de Neuchâtel	<i>Tubifex velutinus</i>	5 specimens of <i>Pelosclex velutinus</i> on 1 slide.
56a	Léman	<i>(on slide tray only)</i>	4 specimens of <i>Dorydrilus michaelsoni</i> (see HRABE 1936).
57	Lac de Neuchâtel	<i>Trichodrilus?</i> (in pencil)	Transverse and longitudinal sections.
58b, c	Lac de Neuchâtel	<i>Stylodrilus heringianus</i> (on slide tray only)	—
64, 64a	Lac de Neuchâtel	<i>Limnodrilus claparedeanus</i> in P. and B. 1913	<i>L. longus</i> : several specimens and dissected genital regions (see below).
64d, 64e	Lac de Neuchâtel	<i>Limnodrilus helveticus</i>	5 specimens and 3 anterior ends dissected,
68	Lac de Neuchâtel	<i>(on slide tray only)</i>	<i>L. helveticus</i> .
68a	Lac Vättern (Suède)	<i>Limnodrilus helveticus</i>	see note below.
68b	Petit ruisseau près d'Oerlikon	<i>(on slide tray only)</i>	<i>Tubifex</i> sp. 1 specimen has dried up, the other has the same fine chaetae, a <i>Tubifex</i> type of atrium and a penis sheath like <i>T. tubifex</i> .
76, 76a	Riveau de la Ferme (Royan)	—	A dried specimen, as 76.
79	Riveau de la Ferme (Royan)	—	<i>Eulyodrilus? heuschleri</i> .
79a	Riveau de la Ferme (Royan)	—	Two specimens of <i>Haplotaxis gordioides</i> .
91, 91a	Rhône	—	Whole mounts of <i>S. heringianus</i> .
93, 93a	Lac Vättern (Suède)	<i>Stylodrilus heringianus</i>	Material from S. Ekman.
93b	Lac Torne Träsk (Laponie)	<i>Stylodrilus heringianus</i>	—
93c	Lünersee	<i>Stylodrilus heringianus</i>	—
93d	Lac Torne Träsk (Torne Lappmark)	<i>Stylodrilus heringianus</i>	—

Number	Locality	Name	Current name and notes
93e-f	Lac Torne Träsk (Torne Lappmark)	} <i>Stylodrilus heringianus</i>	9 slides of transverse and longitudinal sections.
93g-o	Lac Torne Träsk (Torne Lappmark)	} <i>Stylodrilus heringianus</i>	8 specimens together with cocoons.
95	Environs de Båle	} <i>Rhynchelmis limosella</i>	<i>R. limosella</i> .
95a-c	Lac Vättern (Suède)	} (on tray or (95d) on slide	<i>Eulyodrilus bedoti</i> , several specimens, only 1 mature.
95d	Dans un puits (Sodbrunnen) Båle	} <i>Tubifex (I) bedoti</i>	This slide has dried up and the worm is unidentifiable.
96b-c	Lac de Bret	} —	Serial sections. For identity see note below.
115	Tronchet	} —	Serial sections. For identity see note below.
121 I. S. a	Lac Vättern (Suède)	} <i>Rhyacodrilus palustris</i> (deleted)	Serial sections. For identity see note below.
121 II. S. a	Dr. S. Ekman	} <i>coccineus</i> (deleted)	Serial sections. For identity see note below.
121 *b	Dr. Piguet	} <i>ekmani</i> Piguet 1928	Serial sections. For identity see note below.
121 Ic	Lac de Morat	} <i>Tubifex (Peloscolex) ferox</i> (Eisen)	<i>P. ferox</i> —dried up slides.
121 IIc	Lac Vättern (Suède)	} <i>Tubifex ferox</i>	<i>P. ferox</i> —dried up slides.
121 IIIc	Lac Saggat (Sarekgebirge, Suède)	} <i>Tubifex ferox</i>	<i>P. ferox</i> . Canada balsm mounts.
123a	Lac de Morat	} <i>Tubifex (Peloscolex) ferox</i> (Eisen)	Several slides signed by Dr Piguet.
123b	Lac Vättern (Suède)	} <i>Tubifex ferox</i>	<i>Psammaryctes barbata</i> . Dried up slides but chaetae still recognisable.
123c	Lac Saggat (Sarekgebirge, Suède)	} <i>Tubifex ferox</i>	<i>Bichaeta sanguinea</i> . HRABE (1936) saw a specimen from Piguet labelled 138 b.
123d	Lünersee	} <i>Tubifex (Peloscolex) ferox</i> (Eisen)	<i>Psammaryctes barbata</i> . Dried up slides but chaetae still recognisable.
123e	Lac de Sils	} <i>Tubifex (Peloscolex) ferox</i> (Eisen)	<i>Bichaeta sanguinea</i> . HRABE (1936) saw a specimen from Piguet labelled 138 b.
124	Lac de Bienne	} <i>Tubifex barbata</i>	<i>Psammaryctes barbata</i> . Dried up slides but chaetae still recognisable.
124a	Lac de Lugano	} (on slide tray)	<i>Bichaeta sanguinea</i> . HRABE (1936) saw a specimen from Piguet labelled 138 b.
138gI, gII	Petit ruisseau près d'Oerlikon (Zurich)	} <i>Trichodrilus sanguineus</i> original de Bretscher Dr Piguet	<i>Psammaryctes barbata</i> . Dried up slides but chaetae still recognisable.

Number	Locality	Name	Current name and notes
139b	Seyon	—	8 immature specimens of <i>Aulodrilus plurisetus</i> .
140	Fürstenalp	<i>Hydrenchytraeus stibleri</i>	10 individuals } Neither species listed by
141	Fürstenalp	<i>Hydrenchytraeus nematooides</i>	8 individuals } NIELSEN and CHRISTENSEN (1959).
145	Lünersee	—	<i>Mesenchytraeus setosus</i> (1 specimen).
146	3 Tumpel beim Altjaure Sarekgebirge	<i>Lumbriculus variegatus</i> (on slide tray)	2 specimens of <i>L. variegatus</i> .
149	Léman	<i>Haplotaxis gordioides</i>	2 specimens of this sp. on 1 slide.
149a	Lac de Sils	<i>Haplotaxis gordioides</i>	1 specimen of <i>H. gordioides</i> .
149b	Un ruisseau de Banyuls-sur-Mer (Pyrénées orientales) A. Vandel leg.	<i>Haplotaxis gordioides</i>	
157b, c	La Limmat près de Baden	<i>Tubifex (Ilyodrilus) moldaviensis</i> Dr Piguet	8 specimens of <i>Euilyodrilus moldaviensis</i> .
157d	La Limmat près de Baden	<i>Tubifex (Ilyodrilus) moldaviensis</i> Dr Piguet	3 specimens of <i>Euilyodrilus moldaviensis</i> .
157eI, II	La Limmat près de Baden	par P. Steinmann	longitudinal sections } <i>E. moldaviensis</i> .
157fI, IV	La Limmat près de Baden	par P. Steinmann	transverse sections }
166-167	Récolte Robert Müller dans lacs périodiques d'Eichen près de Schopfheim (Forêt-Noire)	<i>Enchytréidés</i> (in pencil) Dr Piguet	<i>Enchytraeidae</i> sp. indet.

form of the distal expansion of the sheath and the thickness of its wall provide reliable characters. These points are dealt with in detail elsewhere (BRINKHURST 1962) but perhaps we should indicate that *L. longus* Bretscher has a thinwalled sheath with a pear-shaped distal expansion with a single, forward, projection. The second species, *L. claparedeanus*, has a very thick-walled penis sheath with a triangular tip with a long forward projection and also a long backward projection as figured in BRINKHURST (1960).

b) Specimen 68b. These specimens of *Limnodrilus helveticus* are from a riverine habitat. FIGUET and BRETSCHER (1913) mentioned that specimens from such habitats had different chaetae from those found in lakes, but no riverine locality was named. These specimens include one which is clearly that employed for figure 20b and thus we believe that the riverine locality concerned is that detailed above (specimen 68b). However, we are unable to find any difference in the form of the chaetae between these and other lacustrine specimens of the same species.

c) Specimens 121—serial sections only. *Rhyacodrilus ekmani* Piguet, 1928 differs only very slightly from *R. palustris* and *R. coccineus* (see BRINKHURST 1962). It is of interest to note that the original author was also in some doubt about the identity of this material. On some of the slides it is noticeable that the spermathecal walls appear to join together (pl. VII a) and to the dorsal side of the gut wall (pl. VII b), but we can find no evidence of any actual communication between any of the three cavities concerned. The other character upon which these three species are separated concerns the abundance of the hair chaetae and the presence or absence of pectinate chaetae in the dorsal bundles. These variations may lead to the recognition of species (*Tubifex tubifexbergi-blanchardi*) or of varieties (*Psammoryctes ochridanus* f. *typica*—f. *variabilis*). There is as yet insufficient evidence on which to base decision in these cases.

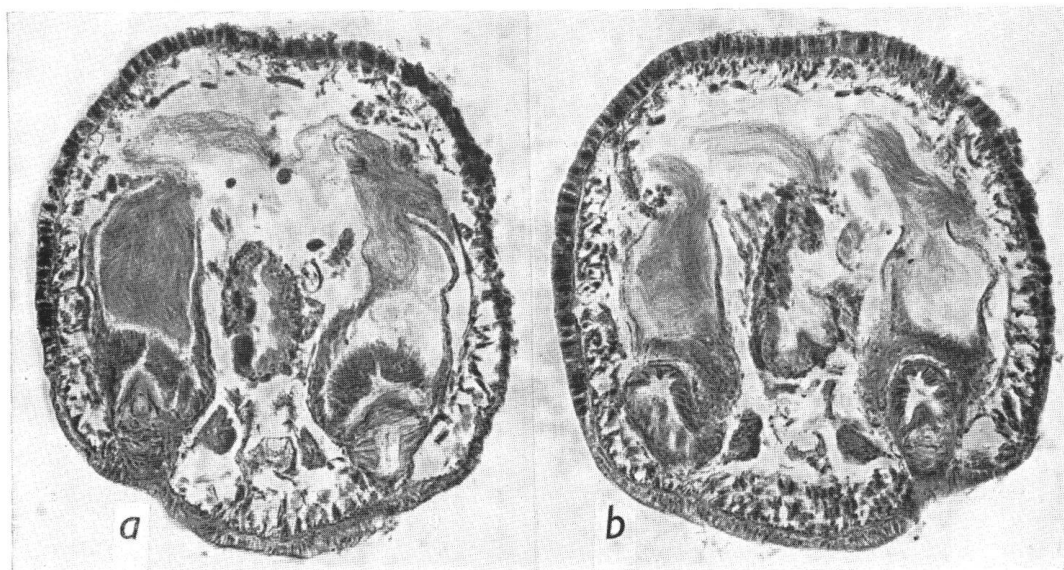


Plate VII

Transverse sections of *Rhyacodrilus ekmani* by Dr. Piguët showing the spermathecae on each side of the gut. Fig. *a* shows strands of tissue joining the two spermathecae dorsally. In fig. *b* the junction with the dorsal wall of the gut can be seen.

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