

MEDDELELSER OM GRØNLAND

UDGIVNE AF

KOMMISSIONEN FOR VIDENSKABELIGE UNDERSØGELSER I GRØNLAND

Bd. 125 · Nr. 2.

---

---

THE GREENLAND VARIETY OF  
*THEROMYZON GARJAEWI* (LIVANOW)

BY

S. A. BOISEN BENNIKE

---

WITH 2 FIGURES IN THE TEXT

KØBENHAVN

C. A. REITZELS FORLAG

BIANCO LUNOS BOGTRYKKERI A/S

1939



## INTRODUCTION

---

In *Conspectus Faunæ Groenlandicæ* E. WESENBERG-LUND (1926) in her survey of the Hirudinea and Oligochæta gives one single species of a freshwater leech; on the authority of Dr. L. JOHANSSON of Göteborg it is identified as *Proclepsis garjaewi* LIV. var. *groenlandica* JOHANSS.

The new subspecific name is given without further details which were to have been given in a future paper, but unfortunately Dr. JOHANSSON died before this could be done and his var. *groenlandica* thus remains a *nomen nudum*.

The occurrence of *Theromyzon garjaewi* in West Greenland is of considerable zoogeographic interest because the species hitherto was known only from the type-locality, the Baikal Sea in Siberia. Recently the same species has been recorded from Iceland (BRUUN 1938), which makes it still more desirable to know whether the characters of the West Greenland specimens warrant subspecific rank.

The specimens seen by JOHANSSON had been borrowed by him from the Zoological Museum of the University of Copenhagen, and have been returned after his death. Further material is referred to in the following list.

### Material.

1. Inland lake behind Søndre Strømfjord, collected by Mr. N. L. NIELSEN, Kangamiut, 17-7-1915. (See E. WESENBERG-LUND 1926). 2 specimens, much contracted, of a light brownish colour.

Measurements of the larger animal: length 14 mm., width 8.5 mm., diameter of posterior sucker 3 mm., smaller animal: length 7 mm., width 4.5 mm., diameter of posterior sucker 1.5 mm.

2. Same locality, same collector, July 1917. (See E. WESENBERG-LUND 1926). 2 specimens, state of preservation and colour is like the specimens above.

First animal: length 16 mm., width 6 mm., diameter of posterior sucker 3.5 mm., second animal: length 16 mm., width 11.5 mm., diameter of posterior sucker 5 mm.

3. Same locality, collected by Dr. O. HAGERUP, 27-7-1925. 2 specimens, beautifully preserved, well extended, of a greyish brown colour, somewhat lighter on the ventral side. Selected as type and cotype.

Larger animal: length 31.5 mm., width 7.5 mm., diameter of posterior sucker 4 mm., smaller animal: length 27.5 mm., width 7 mm., diameter of posterior sucker 4.3 mm.

4. From Kapisigdlit in Godthaabsfjorddistrict found in a mallard's (*Anas*) nest in high grass, by Mr. M. PORSILD, 20-8-1931. 1 specimen.

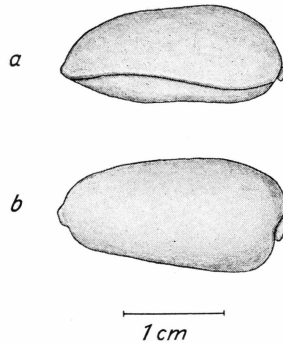


Fig. 1. The specimen from Kapisigdlit. *a*. Lateral view. *b*. Dorsal view.

Length 23 mm., width 11.5 mm., thickness 9.5 mm., diameter of posterior sucker 2.5 mm. (the edge of the sucker somewhat contracted); this specimen was heavily distended with blood, which makes the animal appear reddish brown, with a quite smooth skin without any trace of warts and segmentation (see fig. 1).

### Description.

Form rather robust, greatest width about one fourth of the length in extended specimen. The body is convex above and flattened below. The dorsal surface is traversed by six longitudinal rows of conspicuous papillæ or warts, in each somite all placed on the middle or sensory ring. The warts lie 1) on the inner paramedian lines in direct continuation of the eyes, 2) on the intermediate lines and 3) on the inner paramarginal lines. The warts are uniform in size in all six longitudinal rows (see fig. 2).

Fig. 2. Diagram of the type-specimen. *a*. Dorsal view. *b*. Ventral view. *an*. Anus. *c*<sub>1</sub>, *c*<sub>2</sub>, *c*<sub>3</sub>, *c*<sub>4</sub>. The left eye of the first, second, third and fourth pair of eyes. *int*. Wart in the intermediate line. *ipmd*. Wart in the inner paramedian line. *ipmg*. Wart in the inner paramarginal line. *mt*. Mouth-opening. ♂. Male genital opening. ♀. Female genital opening. Roman numerals I—XXVII refer to somites. Arabic numerals 1—74 refer to rings.

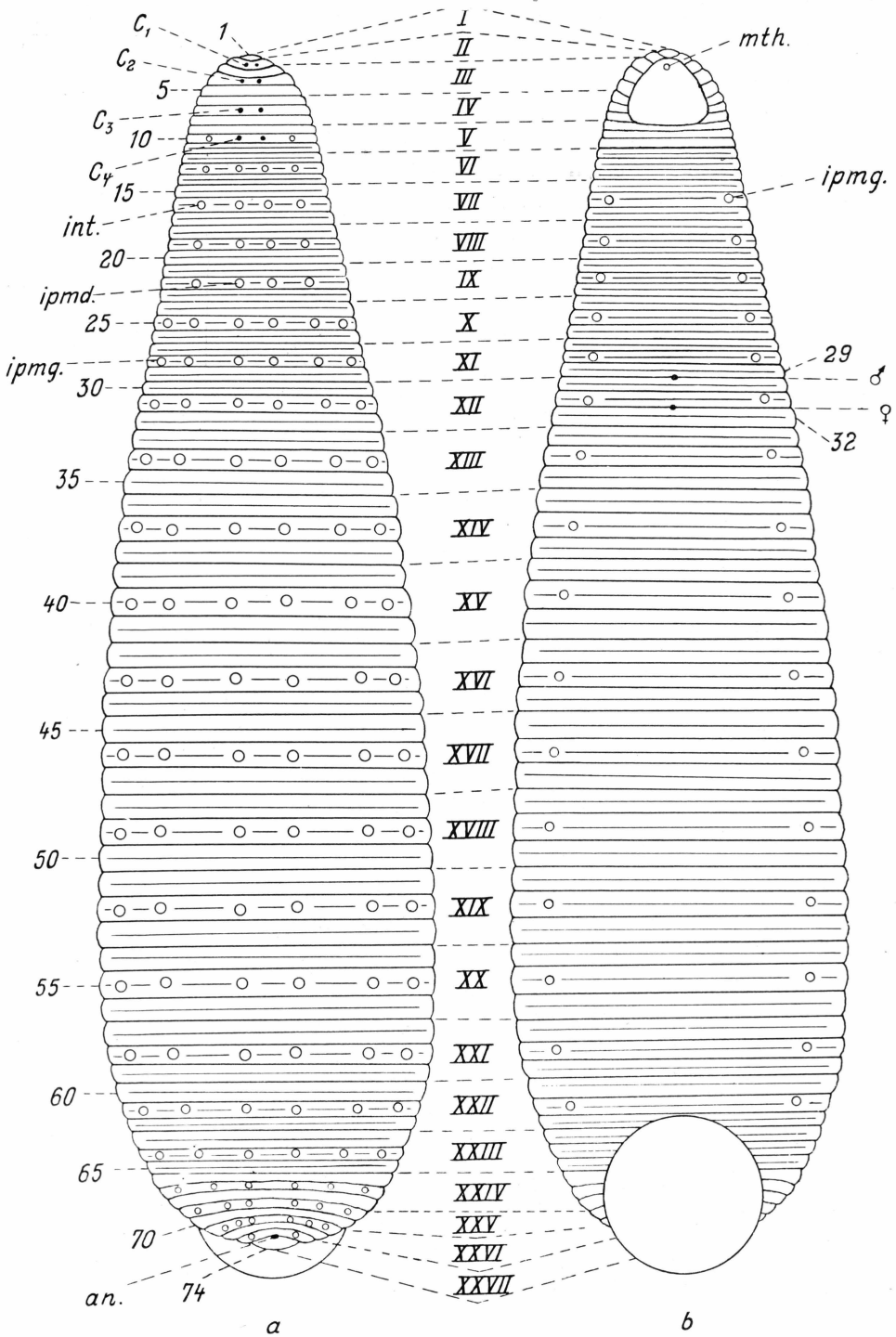


Fig. 2.

If present the warts on the ventral side lie on the inner paramarginal lines, more rarely also on the outer paramedian lines; they may be absent altogether.

The posterior sucker is relatively large, its diameter being a little larger than half of the largest width of the body.

Especially characteristic of this species is, that each ring is divided in two by a secondary furrow; these secondary furrows are very easily seen in the middle part of the body, on both dorsal and ventral side.

The colour varies between greyish and light yellowish-brown in the preserved material.

The specimen of 31.5 mm. in total length from the locality behind the Strømfjord is figured diagrammatically in fig. 2. It has been selected as the type-specimen of the Greenland form.

#### Annulation.

On the dorsal side 74 rings can be counted, which may be referred to the somites as follows:

Somites I and II are uniannulate; somites III—XXIV complete with 3 rings (the furrows between the rings 3 and 4, 4 and 5, 6 and 7 and the rings 9 and 10 are rather weak).

Somites XXV—XXVII are biannulate. The four pairs of eyes are placed with one pair on the only ring of somite II; second, third, and fourth pair lie on the middle ring of somites III, IV, and V; counting by rings instead of somites the eyes are found on numbers 2, 4, 7 and 10. The last pair of eyes may be situated on small warts.

The last wart of the inner paramedian lines is found on ring 71, the foremost of the two rings of somite XXVI. The warts of the intermediate lines are feebly developed on rings 10 and 13, the middle rings of somites V and VI; ring 16, the middle ring of somite VII, has always conspicuous warts of these lines, which terminate with a wart on ring 73, the first ring of the biannulate somite XXVII. The warts of the inner paramarginal lines cannot be seen until ring 25, the middle ring of somite X, and the last warts of these lines are seen on ring 71, the first ring of the biannulate somite XXVI.

Anus lies in somite XXVII in the furrow between rings 73 and 74.

In the posterior end of the body the situation of the warts may be summarized as follows:

Ring 71, foremost ring of somite XXVI, has all six warts.

Ring 72 is devoid of warts.

Ring 73 have 2 warts, namely of the two intermediate lines.

Ring 74 has no warts.

On the ventral side the anterior sucker is seen, comprising the somites I—V, somite V forming the posterior rim of the sucker. The buccal orifice is found in the anterior part between rings 2 and 3.

The warts of the inner paramarginal lines are generally found between the anterior and posterior suckers, but the foremost and hindmost ones are very small and may even be absent; in some specimens small warts have been observed in the outer paramedian lines.

The male genital opening is found between rings 29 and 30, in the furrow between the somites XI and XII.

The female genital opening is separated from the male genital opening by two rings; being found between rings 31 and 32, in the furrow between the middle and posterior ring of somite XII.

### Discussion.

The differences between *Theromyzon garjaewi* as described by LIVANOW and these Greenland forms may be summarized as follows:

	Livanows Baikal specimens	Greenland specimens
Warts on the inner paramarginal lines.	Feebly developed.	Well developed.
Warts on the posterior ring of each somite on the outer paramedian lines.	Present.	Absent.
Warts of the ventral Side.	Generally only on the outer paramedian lines.	Generally only on the inner paramarginal lines.
The secondary furrows of the rings.	Pass behind the warts; divide the ring into an anterior larger part, and a posterior smaller one.	Broken by the warts; divide the ring in two equal sized parts.
Warts on the intermediate lines of somite IV—V.	Well developed.	Feebly developed or absent.
Warts on the inner paramarginal lines of somite IV—IX.	Present.	Absent.
Warts of ring 73.	On the intermediate and paramarginal lines.	Only on the intermediate lines.

It is difficult to tell how important these deviations finally may prove to be; some of them may possibly be ascribed to difficulties of observation, derived from insufficient material or the state of preservation.

It seems, in any case, justifiable to follow JOHANSSON'S (in E. WESENBERG-LUND 1926) opinion, that the Greenland specimens, belong to LIVANOWS *Theromyzon garjaewi*.

Furthermore the description given here also supports his opinion, that they belong to a new subspecies, *groenlandicum*, as given by JOHANSSON as a *nomen nudum*.

Summary of the differences between *Theromyzon garjaewi garjaewi* (LIVANOW) and *Theromyzon garjaewi groenlandicum* n. subsp.:

1) Warts (feebly developed) on the inner paramarginal lines of somites IV—XXVII, small warts on the posterior ring of each somite on the outer paramedian lines, and somites IV—V with well developed warts on the intermediate lines..... *garjaewi* (LIVANOW).

2) Warts (well developed) on the inner paramarginal lines of somites X—XXVI, without warts on the posterior ring of each somite, and somites IV—V with feebly developed or without warts on the intermediate lines..... *groenlandicum* n. subsp.

#### General remarks:

As mentioned above BRUUN (1938) has recorded *Theromyzon garjaewi* from Iceland; I have had the opportunity of examining his material, and I am able to refer his specimens also to the subspecies *groenlandicum*.

One of the Iceland specimens was found on a *Mergus serrator* (L.), the Red-breasted Merganser and, as mentioned above a Greenland specimen was found in a nest of *Anas boscas* L., the wild Duck. The host of the new subspecies is thus found among waterfowl, similar to the host of *Theromyzon tessulatum* (O. F. MÜLLER).

The interest ascribed by BRUUN (1938) to future investigations of the distribution of *Theromyzon garjaewi* appears to be still greater now that we have two established subspecies. In the first place it seems very important to have identifications of North American and North European material.

#### LITERATURE

- BRUUN, ANTON FR., 1938: Freshwater Hirudinea. The Zoology of Iceland, Volume II, Part 22.
- LIVANOW, N., 1903: Die Hirudineen-Gattung *Hemiclepsis* VEJD. Zool. Jahrb. Syst. Bd. 17, pp. 339—362.
- WESENBERG-LUND, ELISE, 1926: Iglar og Oligochæter. Conspectus Faunæ Groenlandicæ. Medd. om Grønland 23. Suppl.