ACTA ICHTHYOLOGICA ET PISCATORIA
Vol. VIII Fasc. 2 Szczecin 1978

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Parasitology

ON THE OCCURRENCE OF JUVENILE ACANTHOCEPHALANS OF THE GENUS *CORYNOSOMA* LÜHE, 1904 IN FISHES OFF SOUTH GEORGIA AND SOUTH SHETLAND ISLANDS (THE ANTARCTIC)

WYSTĘPOWANIE MŁODOCIANYCH POSTACI KOLCOGŁOWÓW Z RODZAJU *CORYNOSOMA* LÜHE, 1904 U RYB W REJONACH POŁUDNIOWEJ GEORGII I POŁUDNIOWYCH SZETLANDÓW (ANTARKTYKA)

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Juveniles of four acanthocephalan species were revealed in cysts found in abdominal cavities of 62 examined fish individuals representing 13 species. *Corynosoma hamanii* (Linstow, 1892) were found to be very common off South Shetlands as opposed to the waters near South Georgia where they occurred in low numbers. Descriptions of *C.hamanni*, *C.bullosum* (Linstow, 1892), and *C.singularis* Skryabin et Nikol'sky, 1971 are given. *C.shackletoni* Zdzitowiecki, 1978 were found in a fish, one adult individual being found in the intestine of a gull, *Larus dominicanus*.

INTRODUCTION

During the Second Polish Antarctic Expedition* in 1977, the author examined 62 fish individuals representing 13 species; out of this first number 46 individuals belonging to 9 species had been caught off King George Island (South Shetlands) and the remaining

* The Expedition was organised jointly by the Polish Academy of Sciences' Institute of Ecology and the Sea Fisheries Institute.

16 individuals of 7 species off South Georgia (Table 1). 38 individuals (61% of the total number) were infested by juvenile acanthocephalans of the genus *Corynosoma* Lühe, 1904. The parasites, confined to cysts in fish abdominal cavities, were found to represent four species, one of them being new for science and described elsewhere (Zdzitowiecki, 1978).

Table 1

List of fish species collected and examined off South Shetlands and South Georgia

Species	South Shetlands	South Georgia	Total
Notothenia corriceps neglecta Nybelin, 1951	11	–	11
Notothenia rossi marmorata Fischer, 1885	11	5	16
Notothenia gibberifrons Lönnberg, 1905	9	1	10
Notothenia nudifrons Lönnberg, 1905	5	–	5
Notothenia larseni Lönnberg, 1905	1	–	1
Trematomus bernacchii Boulenger, 1902	3	–	3
Trematomus hansoni Boulenger, 1902	–	1	1
Pleurogramma antarctica Boulenger, 1902	2	–	2
Parachaenichthys georgianus (Fischer, 1885)	–	2	2
Chaenocephalus aceratus (Lönnberg, 1906)	3	3	6
Champsocephalus gunnari Lönnberg, 1905	–	1	1
Pseudochaenichthys georgianus Norman, 1937	–	3	3
Electrona sp.	1	–	1
Total	46	16	62

METHODS

Having separated them from fish body, cysts containing parasites were placed in fresh water. Some acanthocephalans liberated themselves without any external interference, others had to be taken out with the aid of needles. After 2–3 hours, most individuals were entirely stretched. All the material was then fixed and stored in 75% ethyl alcohol. To render them ready for examination, the acanthocephalans were dehydrated in 96% alcohol and examined in creosote under transmitted light. Since an attempt to obtain Canada balsam permanent mounts gave no successful results, morphologic studies were carried out on temporary creosote mounts, a satisfactory resolution of both external and internal structures being thus obtained. No additional pressure, except that resulting from a cover slip, was applied.

A vast majority of the acanthocephalans studied had their proboscis and necks directed more o or less towards their ventral surfaces. Therefore the total length of a parasite arranged on its lateral plane was measured along the curved axis of the body from the proboscis tip to the posterior end.

MORPHOLOGY

Corynosoma hamanni (Linstow, 1892) *sensu lato*

Hosts and extent of infestation are summarised in Table 2.

Location: cysts in abdominal cavity. Cysts usually on mesentery or freely in abdominal cavity, sometimes on surfaces of various internal internal organs.

The parasites were found throughout the period of study (Feb.– April 1977). The material examined encompasses 1682 individuals found in 35 fishes. Additional 2 acanthocephalans were found in large intestine and cloaca of a cormorant, *Phalacrocorax atriceps*, one of the two of those birds examined on King George Island. Both acanthocephalans were males with reproductive systems developed to the same extent as in the parasites found in fishes. They were not attached to intestine walls. Immature *C.hamanni* had been previously found in intestines of other birds (Jones and Williams, 1969).

Measurements were made on 10 males and 10 females collected on one individual of *Notothenia rossi marmorata* caught off King George. Numerous parasites found both in this and many other fishes were smaller (more juveniles?). Numbers of proboscis hooks were recorded from 100 acanthocephalans from various hosts.

Description. Encysted individuals usually show their proboscis drawn in completely along with neck in the anterior part of the body. When released from a cyst, an acanthocephalan slowly stretches, proboscis and neck being, however, always directed ventrally. No significant external differences occur between males and females, the female proboscis being usually higher. Proboscis cylindrical, slightly narrowing at its base. Out of 100 individuals examined, 83 exhibited 20 rows of hooks, 21, 19, and 22 rows being found in further 13, 3, and 1 individuals, respectively. One row contains usually 14 or 15 hooks (Fig. 1), frequently, however, there being 12 or 13 hooks and seldom 16 ones. Two individuals revealed alternating rows with 11 and 12 hooks and one – 16 and 17, 3–5 (most often 4) hooks showing reduced roots. Dimensions of hooks are presented in Table 3. Thorn lengt is relatively poorly diversified within a row; hooks 3 and 5 (counting from the proboscis tip) are the longest. Apart from the basal ones, the hooks become more stout towards the proboscis base. Roots are slightly longer than thorns, except for the last two hooks (irrespective of the basal ones) in which the relationship is usually (not always, though) reversed.

Naked neck, shaped in the form of an obliquely-cut cone, is ventrally very short and was measured along the body axis. Trunk divided into two parts: the anterior one inflated and the posterior one more or less cylindrical, tapering towards the posterior end. A boundary between the two parts runs obliquely, the inflated part extending posteriorly farther on the dorsal side. When measured dorsally, it takes more than 2/3 of trunk length, while only 1/2 on the ventral side. Trunk is armed with spines reaching dorsally to about half the inflated part and ventrally to the posterior end surrounding genital pore.

Table 2

Invasion of juvenile Corynosoma acanthocephalans in fishes off South Shetlands and South Georgia

Area	Host	No of fish examined	*C. hamanni*			*C. bullosum*			*C. singularis*			*C. shackletoni*	
			No of fish invaded	invasion intensity	Means intensity	No of fish invaded	invasion intensity	Means intensity	No of fish invaded	invasion intensity	Means intensity	No of fish invaded	invasion intensity
South Shetlands	N. corriceps	11	11	3–132	41	2	1	1	–	–	–	–	–
	N. rossi	11	11	15–456	90	2	1	1	1	1	1	–	–
	N. gibberifrons	9	2	1–2	2	–	–	–	–	–	–	–	–
	N. nudifrons	5	1	8	8	–	–	–	–	–	–	–	–
	P. antarctica	2	1	1	1	–	–	–	–	–	–	–	–
	T. bernacchii	3	3	4–6	5	–	–	–	–	–	–	–	–
	Ch. aceratus	3	3	1–210	70	1	23	23	–	–	–	–	–
	Total	44	32	1–456	52	5	1–23	5	1	1	1	–	–
South Georgia	N. rossi	5	2	1–4	3	–	–	–	2	3–10	7	–	–
	Par. georgianus	2	1	1	1	2	2–8	5	2	1–4	3	1	3
	Ch. aceratus	3	–	–	–	1	1	1	–	–	–	–	–
	Total	10	3	1–4	2	3	1–8	4	4	1–10	5	1	3

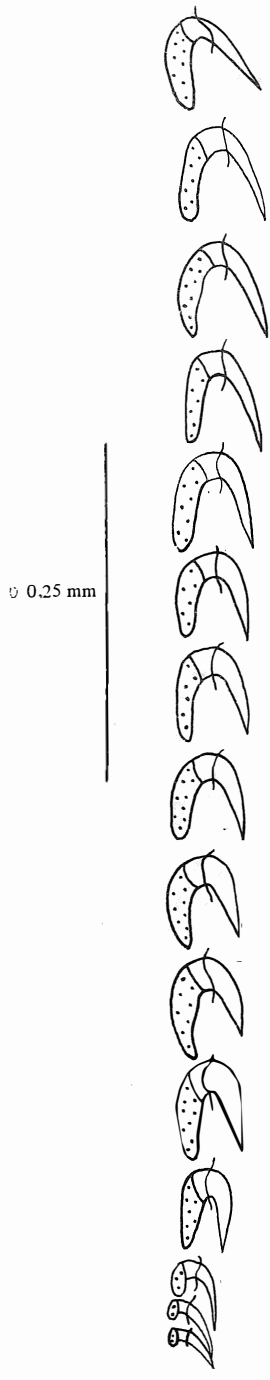

Fig. 1. *Corynosoma hamanni,* a row of proboscis hooks

Table 3

Dimensions (mm) of *C. hamanni* proboscis hooks, based on two rows of hooks measured in various individuals

Hook no.	Thorn length	Basal width	Root length
I	0.065; 0.079	0.015; 0.019	0.057; 0.064
II	0.071; 0.083	0.021; 0.020	0.065; 0.068
III	0.071; 0.085	0.019; 0.020	0.068; 0.074
IV	0.072; 0.085	0.021; 0.020	0.065; 0.074
V	0.072; 0.081	0.022; 0.021	0.065; 0.073
VI	0.071; 0.079	0.020; 0.020	0.065; 0.074
VII	0.070; 0.078	0.020; 0.020	0.060; 0.074
VIII	0.065; 0.077	0.022; 0.022	0.062; 0.076
IX	0.065; 0.077	0.022; 0.024	0.061; 0.073
X	0.067; 0.075	0.024; 0.025	0.070; 0.073
XI	0.064; 0.071	0.023; 0.024	0.070; 0.065
XII	0.051; 0.054	0.012; 0.013	0.023; 0.033
XIII	0.045; 0.054	0.010; 0.012	0.019; 0.026
XIV	0.044; 0.042	0.010; 0.011	0.018; 0.021

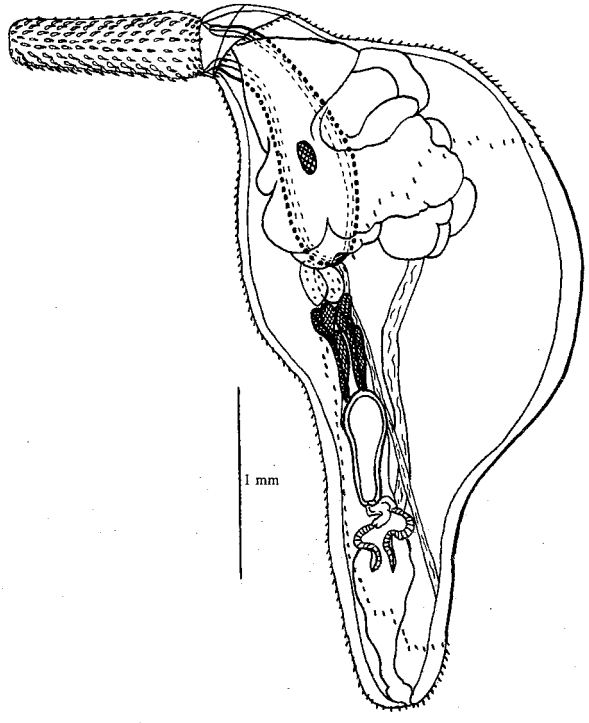

Fig. 2. *Corynosoma hamanni* (Linstow, 1892) sensu lato, a male found in *Notothenia rossi marmorata*

Maximum dimensions of anterior spines 0.062 x 0.019 mm. Spines decrease in size towards the posterior end to about 0.035 x 0.045 mm, their length increasing again in the vicinity of genital pore. Proboscis receptacle curved. Ganglion placed past the half of receptacle's length. Lemnisci broad, irregularly crenulated, as long as, or somewhoat longer than, proboscis receptacle.

Male (Fig. 2). Total length 4.4–4.9 mm. Trunk length 3.1–3.7 mm. Width of the inflated part 1.55–1.74 mm, width of the posterior part (measured at half its length) 0.60–0.69 mm. Neck length 0.22–0.30 mm. Proboscis dimensions 0.99–1.08X0.–0.34 mm. Proboscis receptacle dimensions 1.26–1.51X0.33–0.41 mm. Lemnisci length 1.31–1.64 mm. Testes oval, measuring 0.18–0.25X0.11–0.14 mm, symmetrically situated directly past proboscis receptacle. Cement glands pear-shaped, elongated, in two groups of three, directly behind testes. Säfftingen's pouch club-shaped, well-developed. Genital pore almost terminal.

Female. Total length 4.3–5.0 mm. Trunk length 2.8–3.5 mm. Width of the inflated part 1.54–1.90 mm, width of the posterior part 0.60–0.79 mm. Neck length 0.22–0.35 mm, Proboscis dimensions 1.05–1.17X0.34–0.37 mm. Proboscis receptacle dimensions 1.34–1.49X0.36–0.43 mm. Lemnisci length 1.34–1.64 mm. Length of reproductive system, from uterine bell to genital pore 0.75–1.19 mm, Genital pore sub-terminal.

Remarks. The material examined is morphologically identical with the very detailed description of *C.hamanni* given by Nickol and Holloway (1968) and Holloway and Nickol (1970) as well as with the description of *C.pacifica* Nikol'sky, 1974. The two species differ in sizes of their eggs, 0.088–0.120 mm and 0.192–0.208 mm in *C.hamanni* according to Holloway and Nickol and in *C. pacifica* after Nikol'sky (1974), respectively. The latter size is similar to the data reported by Rennie (1906, after Mayer, 1933), 0.19 mm being the egg length in *C. antarcticus* (Rennie, 1906). According to Meyer, 1933 and Golvan (1959), *C. antarcticus* is identical with *C. hamanni*. The synonymy appears doubtful in the light of finding of the acanthocephalans with body structure corresponding to those in *C.hamanni*, but of a different egg size. The present author's material consists exclusiyely of immature individuals, hence it cannot be used to solve the problem whether the three names, *C.hamanni, C.antarcticus*, and *C.pacifica* designate the same species or three different ones. Due to this fact, the material examined in this study is described as *Corynosoma hamanni sensu lato,* the name covering the three forms mentioned.

Corynosoma bullosum (Linstow, 1892)

Number of host found and the extent of infestation are given in Table 4.

Location: cysts in abdominal cavity, the cysts being placed on mesentery and on liver and large intestine surfaces.

The parasites were found in March and April 1977. The material studied consists of 38 acanthocephalans collected from 8 fish individuals, most of the parasites being post mortem-liberated from their cysts; they are, therefore, unsuitable for measuring. The

Table 4

Dimensions (mm) of *C. bullosum* proboscis hooks, based on two rows of hooks measured in various individuals

Hook no.	Thorn length	Basal width	Root length
I	0.095; 0.105	0.028; 0.032	0.092; 0.096
II	0.089; 0.098	0.025; 0.029	0.077; 0.079
III	0.084; 0.098	0.024; 0.028	0.076; 0.074
IV	0.084; 0.094	0.024; 0.029	0.072: 0.073
V	0.084; 0.091	0.027; 0.030	0.074; 0.071
VI	0.083; 0.084	0.026; 0.030	0.074; 0.074
VII	0.083; 0.082	0.029; 0.032	0.077; 0.074
VIII	0.082; 0.080	0.029; 0.031	0.082; 0.079
IX	0.079; 0.079	0.028; 0.032	0.082; 0.079
X	0.066; 0.066	0.020; 0.019	0.036; 0.054
XI	0.062; 0.067	0.014; 0.017	0.031; 0.043
XII	0.062; 0.061	0.013; 0.015	0.030; 0.037

description of internal morphology is based on 5 males and 9 females examined. The proboscis armature was studied on 14 individuals.

Description. The encysted parasites may be stretched with extruded proboscis, but most often the latter is drawn in. Also a short part of the posterior end may be drawn in. The body inside the cyst can also be coiled, in which case the cyst resembles that of *C. hamanni*. 16 rows of hooks were found in all 14 individuals studied. There are 10–13 (most often 12) hooks in a row (Fig. 5); 2–3 basal hooks with reduced roots, the structure of the third one from the base being usually intermediate between that of a normal and a basal hook. Thorns are longer than roots in all but the last two hooks (irrespective of the basal ones) which are similar in length. The first (distal) hook has always the longest thorn. Proboscis cylindrical, somewhat narrowed at its base. Neck naked, shifted towards the ventral side. In extremal cases, proboscis and neck are perpendicular to the trunk axis.

A short part of trunk past neck is only slightly wider than the latter and inflated farther on. The trunk posterior part cylidrical, at least 1.5 times longer than the preceding part. Trunk covered with spines extending, on the dorsal side, past the widest part and ventrally reaching the posterior, cylindrical trunk part. Maximum dimensions of spines: 0.043X0.015 mm. The external-most spines are smaller. The proximity of genital pores in both sexes covered with spines. Lemnisci broad, extending past the half of proboscis receptacle. Ganglion behind the first half of proboscis receptacle.

Male (Fig. 4). Total length 6.0–6.5 mm, maximum width 1.01–1.25 mm. Trunk length 3.7–4.9 mm. Width of the cylindrical part 0.46–0.54 mm. The anterior part of trunk takes 36–41% of its length. The ventral armature covers 44–48% of trunk length. Dimensions of proboscis: 1.12–1.17X0.28–0.34 mm. Neck length 0.37–0.42 mm.

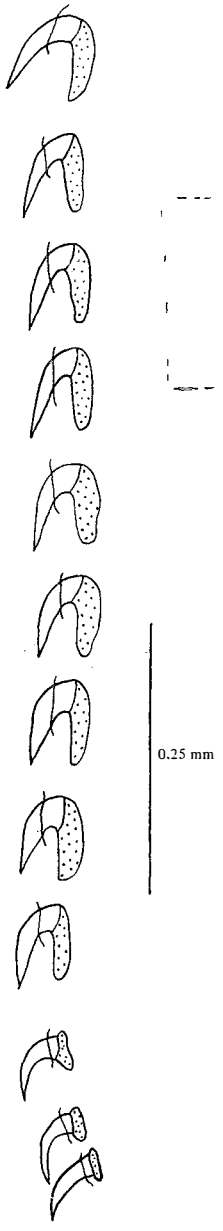

Fig. 3. *Corynosoma bullosum*, a row of proboscis

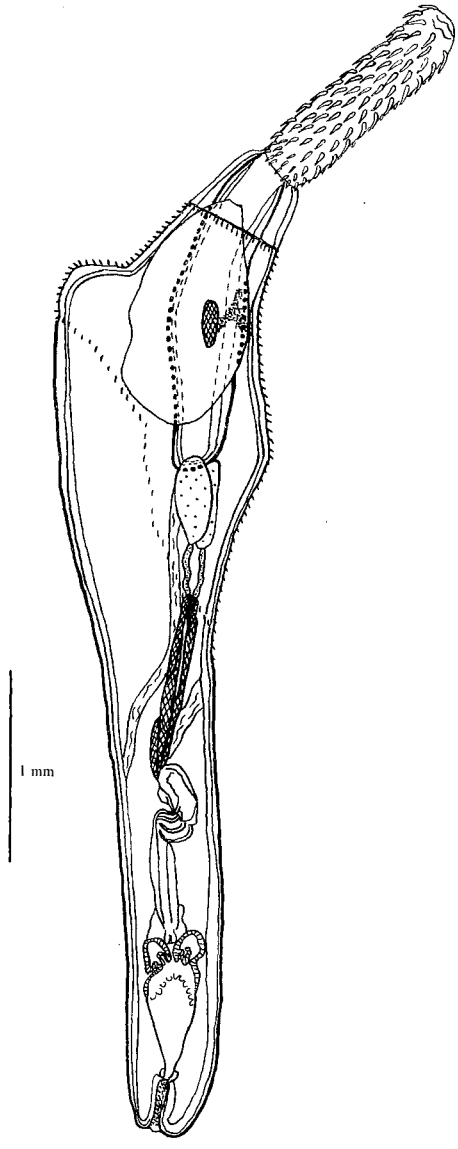

Fig. 4. *Corynosoma bullosum* (Linstow, 1892) a male found in *N. corriceps neglecta*

Proboscis receptacle dimensions 1.36–1.72X0.38–0.42 mm. Lemnisci length 0.75–1.02 mm. Testes oval, elongated, measuring 0.35–0.43X0.17–0.24 mm, situated symmetrically at the end of proboscis receptacle. Cement glands in two groups of three, each group consisting of one pear-shaped and two strongly elongated glands. In fully-stretched individuals, cement glands are at some distance behind the testes. Säfftigen's pouch elongated. About 100 genital spines which are smaller than trunk anterior ones and measure 0.027X0.015 mm.

Female (Fig. 5). Total length 5.4–8.9 mm, maximum width 0.96–1.64 mm. Trunk length 4.2–7.3 mm. Width of the cylindrical part 0.34–0.66 mm. The anterior part of trunk occupies 29–38% of its length. The ventral armature covers 33–41% of trunk length. Proboscis dimensions 0.94–1.12X0.28–0.35 mm. Neck length 0.27–0.51 mm. Proboscis receptacle dimensions 1.19–1.75X0.28–0.51 mm. Lemnisci length 0.68–1.10 mm. Uterus in the distal half of the posterior trunk part. The distance between uterine bell and genital pore 1.27–1.68 mm. Genital pore surrounded by a low number (5–12) of spines (Fig. 6). Genital spines larger than those in males, the largest measuring 0.037–0.021 mm.

Remarks. The morphology of the material examined corresponds to descriptions found in the literature (Linstow, 1892; Edmonds, 1955; Golvan, 1959; Nikol'skij, 1974). Since the above-mentioned descriptions are based on adults and are incomplete, the present author has decided to provide a detailed description of the material at his disposal.

Corynosoma singularis Skrjabin et Nikolskij, 1971

Hosts and the extent of invasion are listed in Table 2. Location: encysted in abdominal cavity, cysts on mesentery and on liver and large intestine surfaces.

The parasites were found in March and April 1977. The material studied consists of 6 males and 13 females found in 5 fish individuals. All the males and 11 females were measured.

Description. Encysted parasites may be stretched out or both their ends may be drawn in, in which case the cyst resembles that of *C.hamanni*. Neck and proboscis of stretched individuals are only slightly curved ventrally. Proboscis possesses 19--22 rows of hooks, 11–14 hooks each, of which 7–10 (most frequently 8) hooks have well-developed roots and 3–5 (most often 4) basal hooks show reduced roots. Roots similar in their length to thorns, the anterior hooks having slightly longer thorns as opposed to the posterior hooks with longer roots. The first (distal) hook is the shortest and thinnest (disregarding the basal hooks); towards the posterior end, hook length and thickness increases by about 15–33% and twice, respectively. The appearance of a typical row of hooks is shown in Fig. 7: dimensions of hooks are given in Table 5.

Proboscis almost cylindrical, the longest width in the area of largest hooks. Neck naked, widening posteriorly. The appearance of trunk is intermediate between *C. hamanni* and *C.bullosum*. The posterior cylindrical part is longer than the anterior, inflated one.

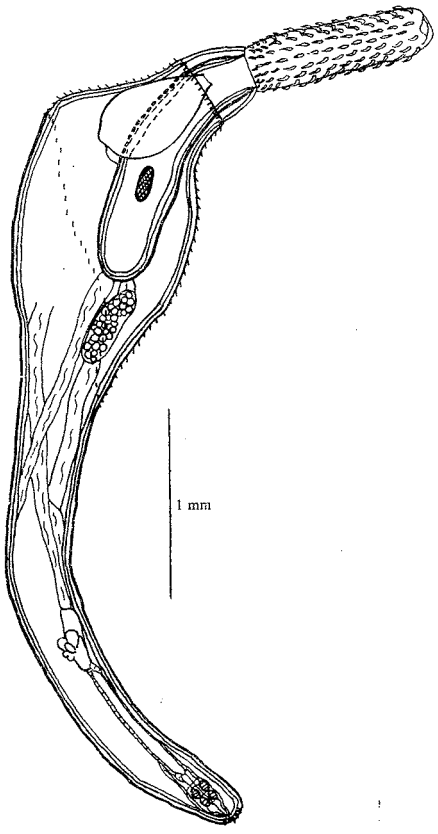

Fig. 5. *Corynosoma bullosum*, a female found in *Parachaenichthys georgianus*

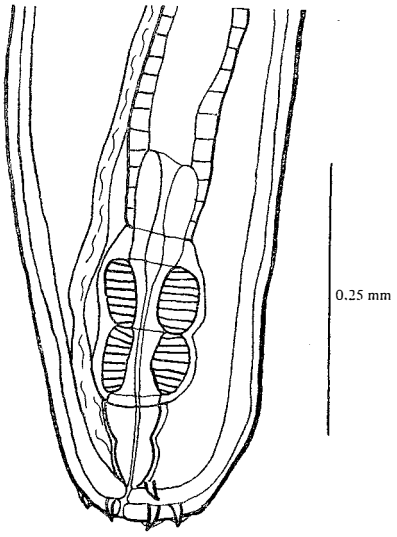

Fig. 6. *Corynosoma bullosum*, a female genital pore region with five genital spines

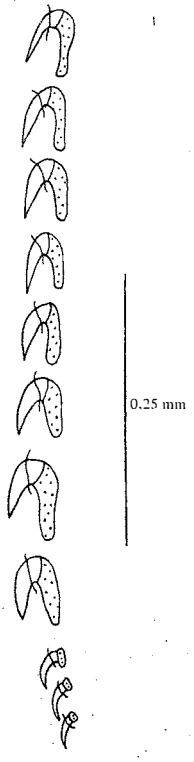

Fig. 7. *Corynosoma singularis*, a row of proboscis hooks

Table 5

Dimensions (mm) of *C. singularis* proboscis hooks, based on two rows of hooks measured in various individuals

Hook no.	Thorn length	Basal width	Root length
I	0.054; 0.055	0.011; 0.014	0.048; 0.055
II	0.054; 0.066	0.011; 0.015	0.048; 0.060
III	0.054; 0.070	0.014; 0.020	0.049; 0.062
IV	0.054; 0.070	0.014; 0.020	0.048; 0.067
V	0.054; 0.070	0.018; 0.021	0.049; 0.070
VI	0.054; 0.070	0.018; 0.023	0.060; 0.070
VII	0.060; 0.073	0.022; 0.026	0.063; 0.077
VIII	0.060; 0.077	0.024; 0.030	0.064; 0.079
IX	0.042; 0.046	0.012; 0.015	0.025; 0.026
X	0.033; 0.039	0.011; 0.013	0.016; 0.018
XI	0.030; 0.039	0.011; 0.012	0.016; 0.018
XII	0.025; 0.039	0.010; 0.012	0.014; 0.014
XIII	– ; 0.034	– ; 0.012	– ; 0.014

The armature extends dorsally to half of the inflated part, while ventral surfaces of males and females are armed along 63–68 and 66–71% of their length, respectively; thus spines reach clearly the cylindrical part of trunk. The smallest spines (0.020 mm) are to be found dorsally at the peripheries of their range, the longest ones (0.055 mm) – on the ventral side. Maximum thickness of spines 0.013 mm. Genital spines found in every male and in some of the females examined. Proboscis receptacle long, terminating in the second half of the trunk inflated part. Ganglion about half the size of proboscis receptacle. Lemnisci broad, relatively short (about half the length of proboscis receptacle).

Male (Fig. 8). Total length 3.5–4.2 mm, maximum width 0.71–1.23 mm. Trunk length 2.5–3.0 mm. Width of the cylindrical part 0.35–0.58 mm. Dimensions of proboscis 0.74–0.81X0.28–0.34 mm. Neck length 0.24–0.31 mm. Dimensions of proboscis receptacle 1.19–1.42X0.27–0.37 mm. Length of lemnisci 0.60–0.79 Dimensions of testes 0.19–0.28X0.17–0.22 mm; testes situated together, at the end of proboscis receptacle. Cement glands elongated, pear-shaped, in two groups of three, directly behind the testes. Säfftigen's pouch club-shaped, well-developed. Genital pore almost terminal. About 120–150 genital spines (Fig. 9) arranged in 8 irregular rows; the first five contain about 20 spines each, the number decreasing in the three terminal rows. Spine length increases towards the posterior from 0.028 to 0.060 mm; maximum thickness 0.025 mm.

Female (Fig. 10). Total length 4.0–4.8 mm, maximum width 0.87–1.52 mm. Trunk length 2.9–3.6 mm. Width of the cylindrical part 0.32–0.54 mm. Dimensions of proboscis 0.85–0.96 x 0.30–0.34 mm. Neck length 0.22–0.32 mm. Dimensions of proboscis receptacle 1.26–1.61 x 0.31–0.43 mm. Length of lemnisci 0.60–0.72 mm.

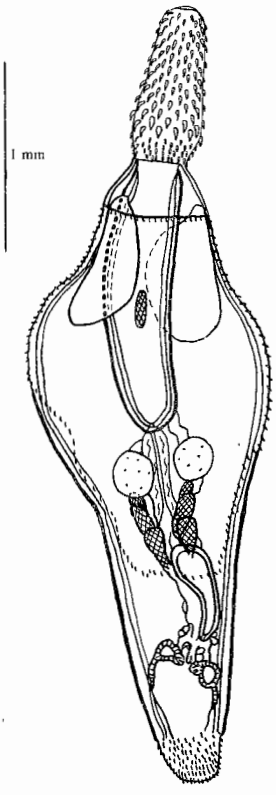

Fig. 8. *Corynosoma singularis* Skrjabin et Nikolskij, 1971, a male found in *N. rossi marmorata*

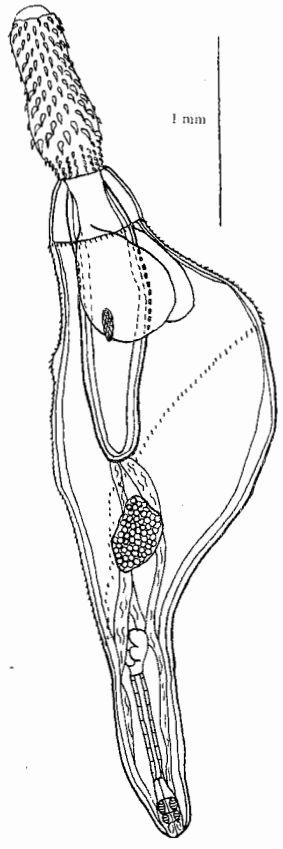

Fig. 10. *Corynosoma singularis*, a female found in *N.rossi marmorata*

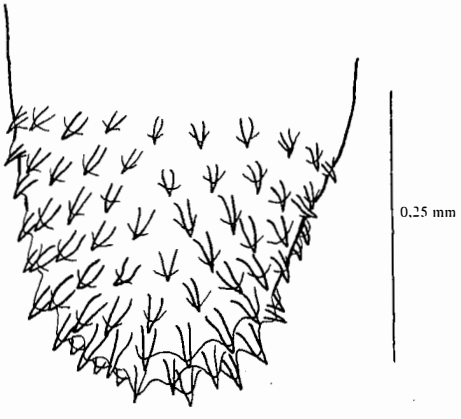

Fig. 9. *Corynosoma singularis*, a male genital armature

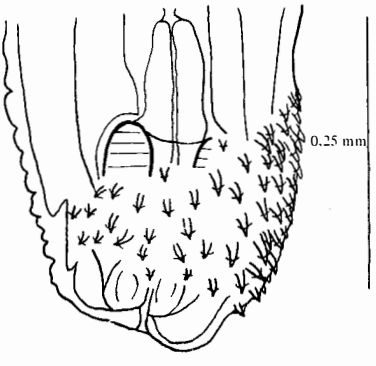

Fig. 11. *Corynosoma singularis*, a female genital pore region with densely-packed spines

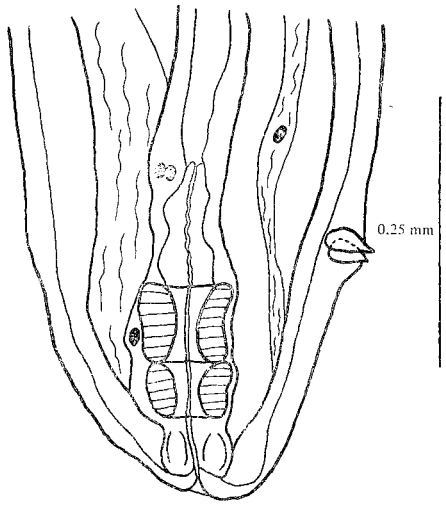

Fig. 12. *Corynosoma singularis,* a female genital pore region with two genital spines

Uterine bell situated directly beyond the region of ventral termination of trunk armature. The distance from uterine bell to genital pore 0.91–1.11 mm. Genital pore somewhat shifted towards the dorsal side. As many as 6 females out of 11 examined missed genital spines (Fig. 8), the number of spines exceeding 100 in two females (Fig. 11) and amounting to 2 (Fig. 12), 6, and 15 in the remaining three. Length of spines 0.024–0.054 mm; longer spines less numerous. Maximum width of spines 0.027 mm.

Remarks. Skryabin and Nikol'skij (1971) described *Corynosoma singularis* from 2 males nad 3 females found in seal, *Hydrurga leptonyx,* and from 1 immature female found in sperm whale, *Physeter catodon*, in the Antarctic waters. Juvenile forms of the species, dwelling in fishes, are recorded here for the first time ever.

Corynosoma shackletoni Zdzitowiecki, 1978

The description of the species has been published separately (Zdzitowiecki, 1978). Juvenile forms were found in fishes off South Georgia only (Table 2), but a mature male found in intestine of a gull, *Larus domicanus,* on King George, is indicative of the parasites' occurrence on South Shetlands as well.

DISCUSSION

The region around South Shetlands belongs to the Antarctic zone, as opposed to the Sub-Antarctic location of South Georgia. Only one of the four *Corynosoma* species found, namely *C.hamanni*, was very common in fishes, being restricted, however, to

waters around South Shetlands. The invasion of this species was minimal off South Georgia, which would indicate the species to be a typical one in the Antarctic waters *sensu stricto;* this finding obviously calls for a confirmation by data from other areas. Nikol'skij (1974) came to a similar conclusion with respect to *C.pacifica*, the species that may prove identical (or at least closely related) to *C.hamanni*. The latter was found to occur in fishes and in seals as definite hosts at a number of Antarctic and Sub-Antarctic localities, but no final zoogeographical conclusions can be drawn at the present stage owing to the lack of quantitative data. At any rate, mass occurrence of the species was recorded in the proximity of the Antarctic continent (Nickol and Holloway, 1968). Off South Georgia, the species had been noted in seals and fishes (Linstow, 1892; Baylis, 1929) as well as in fishes off South Shetlands (Baylis, 1929). *C.bullosum* is known to occur in the Antarctic and Sub-Antarctic waters (Edmonds, 1955; Golvan, 1959; Yamaguti, 1963; Nikol'skij, 1974; and others), having been found in seals (Linstow, 1892) and fish (Baylis, 1929) off South Georgia. Nikol'skij (1974) suggests that the species is basically Sub-Antarctic. *C.singularis* had been previously known only from 6 individuals found in their definite hosts, seals and sperm whales (Skrjabin and Nikol'skij, 1971; Nikol'skij, 1974) in the Antarctic. The present data enlarge the species' distribution range to the Sub-Antarctic. *C.shackletoni* has been known exclusively from the present author's data and seems to be very rare in both the regions discussed.

ACKNOWLEDGMENTS

The author extends his thanks to the heads of the Expedition and to his colleagues taking part in it, as well as to the master and crew of MT "Dalmor" for their help in collecting of the materials. The author is particularly indebted to Dr. C. Żukowski, Mr P. Presler, M.Sc., Mr K. Zubek, M.Sc., and to Mr A. Skowroński, the boatswain. Dr. J..M. Rembiszewski is thanked for identifying the fishes examined.

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WYSTĘPOWANIE MŁODOCIANYCH POSTACI KOLCOGŁOWÓW Z RODZAJU *CORYNOSOMA* LÜHE, 1904 U RYB W REJONACH POŁUDNIOWEJ GEORGII I POŁUDNIOWYCH SZETLANDÓW (ANTARKTYKA)

Streszczenie

W czasie Pierwszej Polskiej Ekspedycji Antarktycznej zbadano w okresie luty – kwiecień 1977 roku 46 ryb z 9 gatunków w rejonie Południowych Szetlandów i 16 ryb z 7 gatunków w rejonie Południowej Georgii; razem 62 ryby z 13 gatunków. Z tego 38 ryb (61%) było zarażonych młodocianymi formami kolcogłowów z rodzaju *Corynosoma* Lühe, 1904. Występowały one w cystach w jamie brzusznej. Stwierdzono 4 gatunki pasożytów. Jeden z nich oznaczono jako *C.hamanni* Linstow, 1892) sensu lato, a to wobec wątpliwości autora co do odrębności od powyższego gatunku *sensu stricto* gatunków *C.antarcticus* (Rennie, 1906) i *C.pacifica* Nikolsky, 1974. *C.hamanni* występował masowo u ryb w rejonie Południowych Szetlandów i tylko nielicznie w rejonie Południowej Georgii. Prawdopodobnie jest to gatunek charakterystyczny dla właściwej Antarktyki. Południowa Georgia leży już w Subantarktyce. *C.bullosum* (Linstow, 1892) i *C.singularis* Skryabin i Nikolsky, 1971 występowały niezbyt licznie w obu rejonach. *C.shackletoni* Zdzitowiecki, 1978 znaleziono tylko w jednej rybie z rejonu Południowej Georgii, ale dorosłego samca tego gatunku stwierdzono w jelicie mewy, *Larus dominicanus*, na Południowych Szetlandach. Autor podaje na podstawie swojego materiału opisy trzech gatunków: *C.hamanni sensu lato, C.bullosum* i *C.singularis*. Gatunkowi *C.shackletoni* poświęcono odrębną publikację (Zdzitowiecki, 1978).

К. Здитовецки

ПОЯВЛЕНИЕ НЕЗРЕЛЫХ ФОРМ СКРЕБНИ РОДА CORYNOSOMA Lühe, 1904 У РЫБ В РАЙОНАХ ЮЖНОЙ ГЕОРГИИ И ЮЖНЫХ ШЕТЛАНДСКИХ ОСТРОВОВ

Р е з ю м е

Во время первой польской антарктической экспедиции исследовано в период февраль-апрель 1977 г. 46 экз. рыб из 9 видов в районе южных Шетландских островов и 16 экз. рыб из 7 видов в районе южной Георгии; вместе проанализировано 62 экз. рыб из 13 видов. Из этого 38 рыб (61%) было заражено незрелыми формами скребни из рода Corynosoma, Lühe, 1904. Они находились в кистах в брюшной полости. Обнаружено 4 виды паразитов. Один из них определено как C. hamanni (Linstow, 1892) sensu lato, так как автор не был уверен являются ли C. antarcticus (Rennie, 1906) и C. pacifica Nikolsky, 1974 отдельными видами от C. hamanni. C. hamanni появлялся в массовом количестве у рыб в районе южных Шетландских островов и только в немногочисленном количестве в районе южной Георгии. Вероятно, этот вид характерен для подлинной Антарктики. Южная Георгия находится уже в Субантарктике. C. bullosum (Linstow, 1892) и C. singularis Skryabin et Nikolsky, 1971 наблюдались в небольшом количестве в обеих районах. C. shackletoni Zdzitowiecki, 1978 обнаружено только у одной рыбы южной Георгии, но взрослого самца этого вида найдено в кишечнике чайки Larus dominicanus, на южных Шетландских островах. Автор дает, на основании собственного материала описание 3 видов; C. hamanni sensu lato, C. bullosum, C. singularis. Вид C. shackletoni описано в отдельной статии (Zdzitowiecki, 1978).

Received: 10 IV 1978 r.

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