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**Freshwater *Gastrotricha* of Poland. II. *Gastrotricha*
from the seaside lakes in the Słowiński National Park**

[With 1 figure and 2 tables]

Abstract. In the course of studies on *Gastrotricha* of the seaside lakes in the Słowiński National Park (the central part of the Polish Baltic coast), 26 species of *Chaetonotidae* were recorded, including two new species, i.e. *Chaetonotus pawlowskii* and *Aspidiophorus slovinensis* (described in separate papers).

INTRODUCTION

The present paper is the second in a series dealing with the fauna of freshwater gastrotrichs in Poland. The first paper (KISIELEWSKI and KISIELEWSKA 1986) discussed the fauna of waters of the Tatra and Karkonosze Mountains. It also provided an account of the studies on *Gastrotricha* in Poland as well as a detailed description of the applied research methods. The present paper deals with the *Gastrotricha* fauna of four young seaside lakes. Studies on gastrotrichs in the Słowiński National Park were already carried out by KISIELEWSKI (1981).

As the research methods and the arrangement of results were identical as in case of the first paper of the series, therefore they will not be discussed in details in the present paper and only notes on certain slight modifications will be made.

METHODS

As it has already been mentioned above, the methods employed in the present research were the same as those described in details in the first paper of the series. Samples were

taken mainly directly by hand into a container, due to a little depth of the studied water bodies. Only a few samples were dredged up in some distant and deeper places at the Łebsko and Gardno Lakes.

MATERIAL AND CHARACTERISTICS OF THE STUDY AREA

The lakes of the Słowiński National Park constitute a compact complex of shallow water bodies, which are the youngest on the Polish stretch of the Baltic coast. They were formed in consequence of the isolation of sea bays about 5000 years ago (Dzięciołowski 1973). The two largest lakes (the Łebsko Lake — 71.4 km² and the Gardno Lake — 24.7 km²) are still connected with the sea by little rivers flowing through them. For this reason, at stormy weather, saltish sea water (of 7.5‰ salinity) gets into these lakes and the parts of the lakes adjoining the sea are marked for a slight salinity under the stated conditions. Up till recently the remaining lakes (the Dołgie Wielkie Lake — 1.6 km² and the Dołgie Małe Lake — 0.06 km²) were parts of the Gardno Lake and they became totally separated in the course of the last several hundreds years.

In the north-eastern part of the Gardno Lake a shallow, there is much eutrophicated bay, known as the Northern Bay, which in recent years also became isolated from the main water body of the lake and may actually be regarded as a separate basin. In the present research the materials sampled in the Northern Bay were analyzed separately, having been distinguished from those sampled in the main basin of the Gardno Lake.

All the lakes are very shallow. The deepest is the Łebsko Lake (in places down to 6.3 m in depth), yet the prevailing part of the lake area is very shallow (on average 1.6 m in depth). Due to the large area of the lake and strong winds, the Łebsko Lake is noted for a usual high wave and its waters being intensively mixed down to the bottom. The bottom of the lakes was once sandy; now it is slimy in parts, in places the bottom sand has been mixed with slime in various proportion, still in other places relatively pure sand may be found. In the northern part of the Łebsko Lake, in the place where the lake borders on a migrating dune, there occurs a stretch of sandy coast with a minimal admixture of detritus.

The field research was carried out in August 1979. In August 1980 additional samples were taken, which parented aquarium cultures.

In the course of the studies 25 samples were taken, made up of 1–5 sub-samples each, depending on local conditions. 17 samples were taken from the slimy bottom and 8 from the sandy one. Positive samples (i.e. the ones in which gastrotrichs were found) accounted for 70.6% in the group of the samples taken from the slimy bottom and for 25% in the group of the samples taken from the sandy bottom. The samples were taken from the following localities (Fig. 1):

The Gardno Lake

a. the main basin

1. NW part, the outflow of the Łupawa River. Slimy bottom at 1 m in depth. Dense vegetation *Typha angustifolia* close by. 1 negative sample.

2. NW part, 300–400 m off the Łupawa River outflow. Plantless, slimy bottom, at 1.5 m in depth. 1 negative sample.

3. N shore, about 1 km east off the village Rowy. A reed belt composed of *Phragmites communis*, *Typha latifolia* and *Schoenoplectus lacustris*, duckweed on the surface. Slimy bottom at 0.5–0.1 m in depth. 2 positive samples.

4. N shore, about 2 km east off the village Rowy. A belt of *Phragmites communis* and *Schoenoplectus lacustris*. The bottom of matted slime, 0.5 m in depth. 1 positive sample.

5. E part, 0.5–1 km off the shore. Sandy bottom with a small or large content of organic substances, at about 1 m in depth. 1 positive sample.

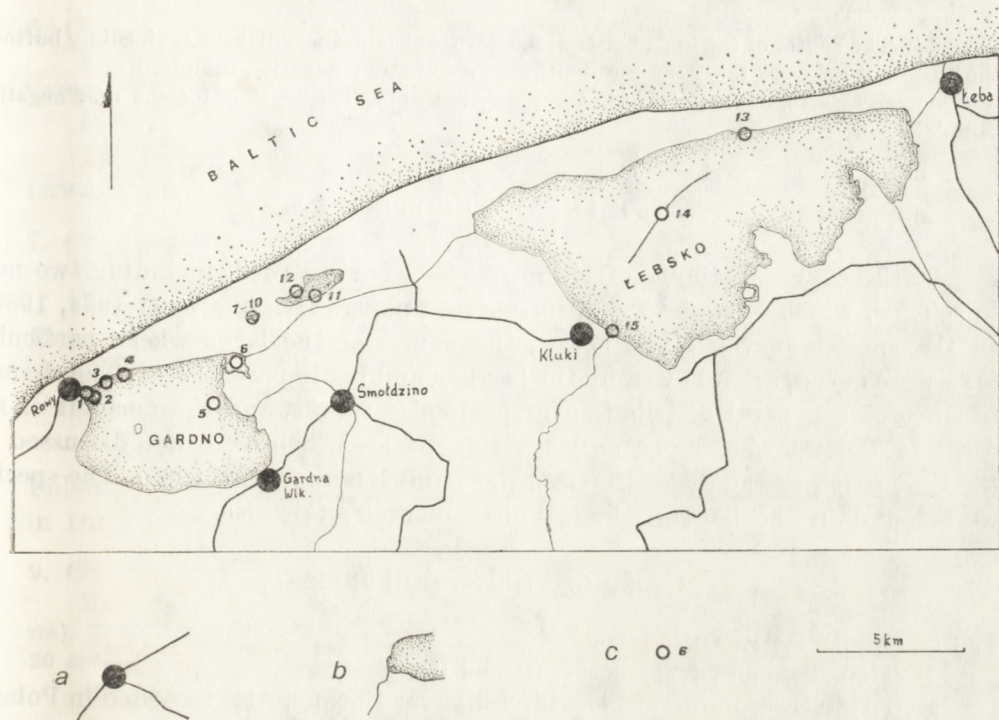


Fig. 1. The study area: a — more important roads and settlements, b — lakes and rivers, c — localities.

b. The Northern Bay

6. A shallow, much eutrophicated basin, 0.5 m deep in the sampling stands. Thick layer of slimy bottom sediment. Abundant vegetation with the prevalence of *Typha* sp., *Phragmites communis*, *Nymphaea alba*, *Stratiotes aloides* and *Hydrocharis morsus-ranae*. 4 positive samples.

The Dolgie Male Lake

7. N shore. Slimy bottom at about 0.8 m in depth. The bank formed out of a *Sphagnum* bog with the prevalence of *Juncus* sp. and *Cyperales*. 2 positive samples.

8. E shore, at the scenery foot-bridge. Sandy bottom, not very dense vegetation of horsetails. 0.6 m in depth. 1 negative sample.

9. S shore. Slimy, plantless bottom at 0.5 m in depth. Peaty bank. 1 positive sample.

10. The center of the lake. Slimy bottom with an admixture of sand, at 0.7 m in depth. Loose vegetation *Schoenoplectus lacustris* and *Nymphaea alba*. 1 negative sample.

The Dolgie Wielkie Lake

11. S shore, central section. Slimy bottom, in places sand abounding in organic residues. The depth of 0.5–0.8 m. Loose vegetation *Schoenoplectus lacustris* and *Nymphaea candida*. 3 positive samples.

12. N shore, central section. Sandy bottom with a small admixture of organic detritus, at 0.4 m in depth. Loose vegetation *Sagittaria sagittifolia*. 1 negative sample.

The Łebsko Lake

13. N shore, near Łącka Góra. Sandy bottom at the depth of 0.2–0.8 m. The sand comes from a migrating dune, moving towards the lake. The sand is very pure at the shore to become more and more polluted with organic residues inlake. 3 negative samples.

14. The center of the lake, between Łącka Góra and the village Kluki. Slimy bottom, the sub-samples were taken at the depth of 2.5–2.8 m. 1 negative sample.

15. SW shore, at the Kluki village. Slimy bottom at the depth of 0.4–0.5 m. 2 negative samples.

THE SURVEY OF SPECIES

In the course of the research 26 species were recorded, including two new to science, which were described in separate papers (KISIELEWSKI 1984, 1986). In the species survey given below, the names of the lakes where particular taxa were noted, are followed by the locality number in parentheses. The characteristics of a general distribution of particular species and the account of records in Poland were given only for the species which were not discussed in the first paper of the series (KISIELEWSKI and KISIELEWSKA 1986). The species were found in the bottom slime, unless marked otherwise.

Genus *Chaetonotus* EHRENBERG

1. *Ch. schultzei* MEČNIKOV, 1865

Material. 1 sample, 2 specimens. Gardno (4).

Reported from numerous localities all over Europe. Also recorded in Poland by STEINECKE (1924) at the Vistula Lagoon, by ROSZCZAK (1968) in central Great Poland and by KISIELEWSKA (1981) in the Bug River valley.

2. *Ch. maximus* EHRENBERG, 1830

Material. 3 localities, 3 samples, 4 specimens. Gardno (4) – 1 specimen, the Northern Bay (6) – 1 specimen, Dolgie Wielkie (11) – 2 specimens.

The species has been recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

3. *Ch. armatus* KISIELEWSKI, 1981

Material. 1 specimen. Dolgie Wielkie (11).

The species has been recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

4. *Ch. cordiformis* GREUTER, 1917.

Material. 1 locality, 3 specimens. Dolgie Wielkie (11).

The species was described from Switzerland, then reported from Romania (RUDESCU 1967). In Poland recorded for the first time by KISIELEWSKI (1974) in a forest eutrophic pond in the Wielkopolski National Park, one specimen found also by KISIELEWSKI (1981) on a transitional peat-bog.

5. *Ch. disiunctus* GREUTER, 1917

Material. 2 localities, 2 samples, 2 specimens. Gardno (3, 4).

The species has been recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

6. *Ch. heideri* BREHM, 1917

Material. 2 localities, 3 samples, 8 specimens (including 1 from the aquarium culture). Gardno (4) – 1 specimen, Dolgie Wielkie (11) – 7 specimens.

Found in slime and in sand rich in organic residues.

The species has been recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

7. *Ch. oculifer* KISIELEWSKI, 1981

Material. 1 sample, 3 specimens. Gardno (3).

The species has been recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

8. *Ch. pawlowskii* KISIELEWSKI, 1984

Material. 1 specimen, Gardno, the Northern Bay (6).

The species has been recently described from numerous localities in lowland Poland. It occurs in much eutrophicated water bodies, in alder woods and in transitional peat-bogs.

9. *Ch. polyspinosus* GREUTER, 1917

Material. 4 localities, 6 samples, 27 specimens (including 7 from the aquarium cultures). Gardno (4, 5) – 5 specimens, Dolgie Male (7) – 2 specimens, Dolgie Wielkie (11) – 20 specimens.

Besides *Heterolepidoderma majus*, one of the two most numerous and common gastrotrichan species on the study area. Occurs in slime, also found in sand both poor and rich in organic detritus.

Ch. polyspinosus has been recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA, 1986).

10. *Ch. poznaniensis* KISIELEWSKI, 1981

Material. 1 sample, 3 specimens. Gardno (3).

Recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

11. *Ch. similis* ZELINKA, 1889

Material. 1 locality, 3 samples, 9 specimens. Dolgie Wielkie (11).

Found in slime and sand rich in detritus.

The species has been recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

12. *Ch. zelinkai* GRÜNSPAN, 1908

Material. 1 sample, 2 specimens. Dolgie Wielkie (11).

The species recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

13. *Ch. macrochaetus* ZELINKA, 1889

Material. 3 localities, 3 samples, 3 specimens (including 1 from the aquarium cultures). Gardno (3) – 1 specimen, the Northern Bay (6) – 1 specimen, Dolgie Wielkie (11) – 1 specimen.

The species recorded in the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

14. *Ch. bisacer* GREUTER, 1917

Material. 1 specimen. Gardno, the Northern Bay (6).

Described from Switzerland, then recorded in Germany (REMANE 1927) and Romania (RUDESCU 1967). Also reported by SAITO (1937, see KISIELEWSKI 1979) from Japan and PFALTZGRAFF (1967) from the United States. In Poland *Ch. bisacer* was recorded in one of the Great Poland lakes (ROSZCZAK 1968) and at numerous localities of various character all over lowland Poland (KISIELEWSKI 1979). Single individuals were also found in eastern Poland (KISIELEWSKI 1981, KISIELEWSKA 1982).

15. *Ch. ?formosus* STOKES, 1887

Material. 1 specimen. Dołgie Wielkie (11).

Recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

16. *Ch. acanthocephalus* VALKANOV, 1937

Material. 1 sample, 3 specimens. Dołgie Małe (9).

The species was described from the vicinity of Sofia in Bulgaria. RUDESCU (1967) stated a questionable record of *Ch. acanthocephalus* in Romania. So far the species has been reported from Poland only by KISIELEWSKI (1981), who recorded it as a rare species in transitional peat-bogs.

Genus *Heterolepidoderma* REMANE

17. *H. brevitubulatum* KISIELEWSKI, 1981

Material. 1 specimen. Dołgie Wielkie (11).

The species was described from a transitional peat-bog and an eutrophic water body adjacent to a transitional peat-bog, both localities in the Hąwa Lakeland (KISIELEWSKI 1981).

18. *H. gracile* REMANE, 1927

Material. 2 localities, 4 samples, 8 specimens. Gardno (3) — 1 specimen, the Northern Bay (6) — 7 specimens.

Described from an eutrophic water body in Germany, also reported from Romania (RUDESCU 1967), the United States (ROBBINS 1973) and Japan (SAITO 1937). In Poland the species was recorded in numerous eutrophic water bodies in Great Poland (ROSZCZAK 1968), on transitional peat-bogs all over the country (KISIELEWSKI 1981) and in peat-hags in eastern Poland (KISIELEWSKA 1982).

19. *H. majus* REMANE, 1927

Material. 5 localities, 7 samples, 38 specimens (including 5 from the aquarium cultures). Gardno (3, 4) — 7 specimens, Dołgie Małe (7, 9) — 16 specimens, Dołgie Wielkie (11) — 15 specimens.

Besides *Chaetonotus polyspinosus*, the most numerous and most common gastrotrichan species in the studied lakes. It was recorded in slime, but also in sand with a large admixture of detritus.

H. majus has also been recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

Genus *Lepidodermella* BLAKE

20. *L. minus* (REMANE, 1936)

Material. 1 sample, 2 specimens. Gardno (3).

Recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

21. *L. squamatum* (DUJARDIN, 1841)

Material. 2 localities, 4 samples, 7 specimens. Dolgie Male (9) — 2 specimens, Dolgie Wielkie (11) — 5 specimens.

Found in slime as well as in the sand rich in detritus.

Recently reported from the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986).

Genus *Aspidiophorus* VOIGT

22. *A. bibulbosus* KISIELEWSKI, 1979

Material. 1 specimen. Gardno, the Northern Bay (6).

The species occurs commonly yet not in great numbers in fertile water bodies in lowland Poland (KISIELEWSKI 1979, KISIELEWSKA 1982). Also reported from transitional peat-bogs (KISIELEWSKI 1981).

23. *A. ophiodermus* BALSAMO, 1983

Material. 2 localities, 4 samples, 10 specimens (including 3 specimens from the aquarium cultures). Dolgie Wielkie (12) — 9 specimens, Dolgie Male (9) — 1 specimen.

Found in slime as well as in sand rich in organic detritus.

The species has been recently reported from the Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

24. *A. oculifer* KISIELEWSKI, 1981

Material. 1 specimen. Dolgie Wielkie (11).

Found in sand rich in detritus.

Recently reported from the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986).

25. *A. slovinensis* KISIELEWSKI, 1986

Material. 1 sample, 3 specimens (exclusively from the aquarium cultures). Dolgie Wielkie (11).

The species, reported solely from the afore-cited locality, has been described in a separate paper.

Genus *Polymerurus* REMANE26. *P. rhomboides* (STOKES, 1887)

Material. 3 localities, 5 samples, 6 specimens. Gardno, the Northern Bay (6) — 3 specimens, Dolgie Wielkie (11) — 1 specimen, Dolgie Male (7) — 2 specimens.

The species, described from the United States, was reported from numerous localities in Europe as well as from Argentina (GROSSO 1975). Usually occurs in fertile water bodies, in bottom slime or among vegetation. In Poland it was reported by ROSZCZAK (1968) from two localities in Great Poland, by KISIELEWSKI (1979) from various eutrophic bodies all over lowland Poland and from a transitional peat-bog in Great Poland (1981), and by KISIELEWSKA (1982) from peat-hags near Siedlec.

CHARACTERISTICS OF OCCURRENCE

26 species of gastrotrichs were recorded to occur in the seaside lakes of the Słowiński National Park. The two of them (*Chaetonotus pawlowskii* and *Aspidiophorus slovinensis*) are the taxa new to science. *Ch. acanthocephalus*, *Heterolepidoderma brevitubulatum* and *Aspidiophorus ophiodermus* rank among very rare species. Similarly as in the first paper of the series (KISIELEWSKI and KISIELEWSKA 1986), all the recorded species belonged to the family *Chaetonotidae*. It should be emphasized that any representatives of other families, *Dasydytidae* in particular, were not recorded.

All of the identified species are typically freshwater and although up till recently the studied basins were sea bays, their gastrotrichan fauna did not preserve any brackish-water elements. The recorded gastrotrichan fauna, especially that coming from the main basin of the Gardno Lake and from the Dolgie Wielkie Lake, belonged to the *Heterolepidoderma majus* community, distinguished by KISIELEWSKI (1981) in more eutrophicated transitional peat-bogs. Out of 8 species stated as characteristic for this community, 7 were recorded in the studied lakes (*Heterolepidoderma majus*, *Chaetonotus polyspinosus*, *Ch. zelinkai*, *Ch. heideri*, *Ch. poznaniensis*, *Ch. acanthocephalus* and *Aspidiophorus oculifer*), the first two having been the most numerous gastrotrichan species in the area under studies. The present record corroborates the previous observations of the occurrence of the community in question on areas other than transitional peat-bogs, e. g. in a fairly eutrophicated water body in the Tatra Mountains (KISIELEWSKI and KISIELEWSKA 1986). It should be stressed that fauna classified to the *Heterolepidoderma majus* community was found not only in slime, but also in a sample containing sand rich in organic residues.

Among the studied lakes, the Dolgie Wielkie Lake and the northern part of the Gardno Lake were observed to contain the most abundant fauna (Table I). The Dolgie Male Lake was notably poorer in gastrotrichs which was atte-

Table I. Occurrence of particular species in the examined lakes¹ and types of substrate. Abbreviations: M – found in slime, P – found in sand.

No	Species	Lake	Gardno		Dołgie Małe	Dołgie Wielkie
			main basin	Northern Bay		
1	<i>Chaetonotus schultzei</i>		M			
2	<i>Ch. maximus</i>		M	M		
3	<i>Ch. armatus</i>					M
4	<i>Ch. cordiformis</i>					M
5	<i>Ch. disiunctus</i>		M			
6	<i>Ch. heideri</i>		M			MP
7	<i>Ch. oculifer</i>		M			
8	<i>Ch. pawlowskii</i>			M		
9	<i>Ch. polyspinosus</i>		MP		M	MP
10	<i>Ch. poznaniensis</i>		M			
11	<i>Ch. similis</i>					MP
12	<i>Ch. zelinkai</i>					M
13	<i>Ch. macrochaetus</i>		M	M		M
14	<i>Ch. bisacer</i>			M		
15	<i>Ch. ?formosus</i>					M
16	<i>Ch. acanthocephalus</i>				M	
17	<i>Heterolepidoderma brevitubulatum</i>					M
18	<i>H. gracile</i>		M	M		
19	<i>H. majus</i>		M		M	MP
20	<i>Lepidodermella minus</i>		M			
21	<i>L. squamatum</i>				M	MP
22	<i>Aspidiophorus bibulbosus</i>			M		
23	<i>A. ophiodermus</i>				M	MP
24	<i>A. oculifer</i>					P
25	<i>A. slovinensis</i>					M
26	<i>Polymerurus rhomboides</i>			M	M	M
	Total		11	7	6	16
			15			

¹ No gastrotrichs were found in the Łebsko Lake.

sted not only by a smaller number of the recorded species but also by a much lower value of the general diversity index H' (Table II). No gastrotrichs were found in the Łebsko Lake. It seems that the absence of these animals there, or, most likely, their extremely scarce occurrence, result from a great mobility of water and an intensive translocation of the surface bottom sediments.

The abundance of gastrotrichs (Table II) in the Gardno, Dołgie Małe and Dołgie Wielkie Lakes was relatively small. In the two latter basins, the estimated values approximated those calculated for the majority of much eutrophicated stagnant waters in the Tatra and Karkonosze Mountains (KISIELEWSKI and KISIELEWSKA 1986). In the northern part of the Gardno Lake,

Table II. Species number, abundance and general diversity index H' of gastrotrichs living in slime in the examined lakes (number of samples included in calculations given in parentheses).

No	Lake	Species number	Abundance			
			mean — all samples	mean — positive samples	maximum estimated value	H'
1	Gardno	15	—	—	—	—
	a. main basin	11	6.6 (5)	10.9 (3)	25.0	2.26
	b. Northern Bay	7	2.9 (3)	2.9 (3)	3.6	?
2	Dolgie Małe	6	14.2 (2)	14.2 (2)	24.0	1.32
3	Dolgie Wielkie	15	12.5 (1)	12.5 (1)	12.5	2.47
4	Lebsko	0	0 (3)	—	—	—

the abundance values were even lower. The lowest gastrotrichan number (mean 2.9 specimens/cm³ of slime) was recorded in the extremely eutrophicated Northern Bay of the Gardno Lake. It is very puzzling, as it was always in much eutrophicated basins where the highest abundance values were calculated (KISIELEWSKA 1982). Fairly high abundance values were also estimated for several eutrophicated water bodies which were studied by the authors of the present paper in one of the following papers of the series.

The gastrotrichan fauna in the northern part of the Dolgie Wielkie Lake was marked for high values of the general diversity index H' (Table II). The index values were much lower for the Dolgie Małe Lake, due to a pronounced dominance of the species *Heterolepidoderma majus*. The scanty of fauna and of the sampled material rendered impossible the calculation of the H' index for the Northern Bay of the Gardno Lake.

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STRESZCZENIE

[Tytuł: *Gastrotricha* słodkowodne Polski. II. *Gastrotricha* jezior przybrzeżnych Słowińskiego Parku Narodowego]

Autorzy prowadzili badania brzuchorzęsków w czterech młodych jeziorach przybrzeżnych w Słowińskim Parku Narodowym. Stwierdzili 26 gatunków należących w całości do rodziny *Chaetonotidae*. Gatunki *Chaetonotus pawlowskii* i *Aspidiophorus slovinensis* są nowe dla nauki, a trzy dalsze (*Chaetonotus acanthocephalus*, *Heterolepidoderma brevitubulatum* i *Aspidiophorus ophiodermus*) należą do gatunków rzadkich.

Fauna badanych jezior jest typowo słodkowodna, mimo niedawnej ich przeszłości jako zatok Morza Bałtyckiego. Najbardziej różnorodną faunę brzuchorzęsków autorzy stwierdzili w Jeziorze Dołgim Wielkim i północnej części

jeziora Gardno (ogólny wskaźnik różnorodności H' osiągnął odpowiednio wartości 2,47 i 2,26). Liczebność bruchorzęsków jest dość niska i waha się w poszczególnych zbiornikach (z wyjątkiem jeziora Łebsko, w którym bruchorzęsków w ogóle nie wykryto) od 2,9 do 14,2 osobnika/cm³ mułu. Fauna należy głównie do zgrupowania *Heterolepidoderma majus*, które zostało wykryte zarówno w mule, jak i w piasku bogatym w detrytus.

РЕЗЮМЕ

[Заглавие: Пресноводные *Gastrotricha* Польши. II. *Gastrotricha* приморских озер Словинского национального парка]

Авторы вели исследования в четырех молодых приморских озерах в Словинском национальном парке. Констатировали 26 видов, принадлежащих к семейству *Chaetonotidae*. Виды *Chaetonotus pawlowskii* и *Aspidiophorus slovinensis* являются новыми для науки. Три вида: *Chaetonotus acanthocephalus*, *Heterolepidoderma brevitubulatum* и *Aspidiophorus ophiodermus* относятся к редким видам.

Фауна исследованных озер является типично пресноводной, несмотря на то, что эти озера в недалеком прошлом были морскими заливами Балтики. Наиболее разнообразная фауна брюхоресничных была констатирована в озере Долгом-Вельком и северной части озера Гардно (общий показатель разнообразия H' достигал соответственно величины 2,47 и 2,26). Численность брюхоресничных довольно низкая и колеблется в отдельных водоемах (за исключением озера Лебско, в котором эти животные вообще не найдены) от 2,9 до 14,2 особи/см³ или. Фауна принадлежит в основном к комплексу *Heterolepidoderma majus*, который был обнаружен как в иле, так и в песке богатом детритом.