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CONTRIBUTION TO THE BIOLOGY, THE ECOLOGY AND THE DISTRIBUTION OF TURBELLARIA (TRICLADIDA) IN SOUTHERN BULGARIA (I)

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Abstract: Four species of tricladids are established mainly from the Maritza river valley and her feeders – *Planaria gonocephala* (Duges), *Planaria torva* (Müller), *Grenobia alpina* (Draparnaud), *Dendrocoelum lacteum* (Muller), and one more specie, that is determined to genus – *Planaria* sp. Some basic parameters of the abiotic environment are measured on the basis of which the ecology, and the disseminating of the planaria species in Southern Bulgaria is discussed.

Keywords: Tricladida, Ecology, distribution, Southern Bulgaria

INTRODUCTION

The worms (Ordo Triclada) including the free living and earthworms are bojects of research form a lot of scientists form different countries: England, France, Germany, Russia, Poland and others. (DRAPARNAUD, 1801; DUGES, 1928, 1930; ZSCHOKKE, 1891; BORELLI, 1893; БЕКЛЕМИШЕВ, 1949; KAWAKATSU, 1965, 1967; STRESEMANN, 1967; ALAUSE, 1968; GALOW, 1977; REYNOLDSON, 1966, 1967, 1975, 1977; REYNOLDS & SEFTON, 1972 and others) In Bulgaria research studies on the worms have: Шишков (1903, 1905/1906, 1925, 1926); РУСЕВ (1964, 1966, 1967, 1967a); РУСЕВ & ЯНЕВА, (1975); РУСЕВ (1977, 1978).

This present research intends to continue the started and unpublished research on biology, ecology and the distribution of tricladids species in Southern Bulgaria.

MATERIAL AND METHODS

Basic part of the material was gathered during the period of 1975-1980*, and the rest during the spring and the fall of 2002 - 2003. All of the same biotopes form

*The materials (with gauge results from the terrain) from the period of 1975-1980 were given to me from the private collection of professor G. Bachvarov.

Southern Bulgaria were researched, or some of them were visited several times during the years. The main population are situated along the Maritza river and its tributaries. Place „Razlivite“ around the village Gradina (UTM:LG57); lower river flow of the river Vacha, near the village Kurtovo Konare (UTM:KG96); place „Chirpan Bunar“ – near the village Belozem (UTM:LG47); the creek in village Trivoduitzi (UTM:KG96); place „Goren Azmak“- near village Pesnopoi (UTM:LH20); place „Blatata“ - near village Hristo Milevo (UTM:LG46); village Karadzalovo – place „Cheshmata“ (UTM:LG66); place „Chetirideset izvora“ - near Asenovgrad (UTM:LG35); river Pyasachnitza – near village Starosel (UTM:KH90); the river near village Klokotnitza (UTM:LG74); river Rakovitza– near village Starosel (UTM:LH00) (Fig. 1).

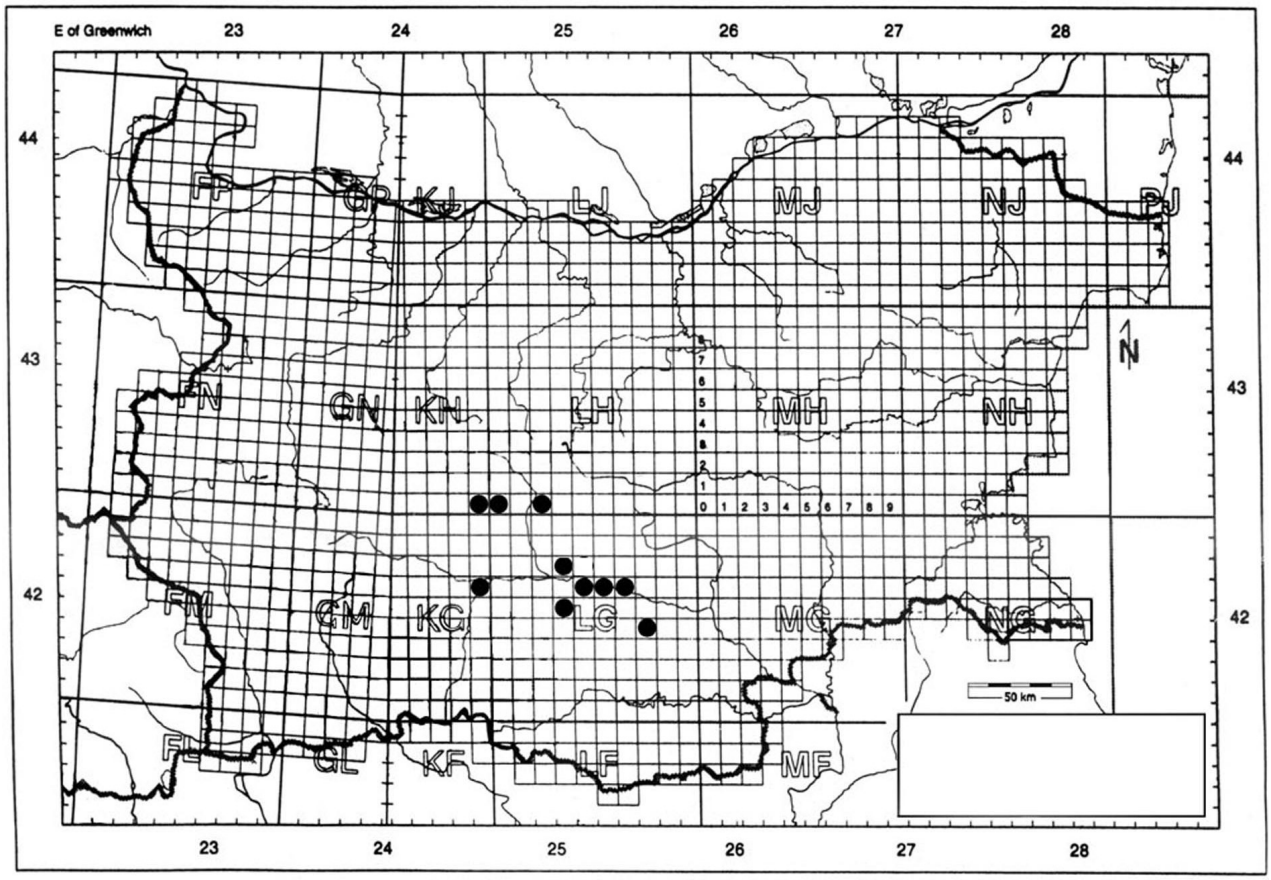

Figure 1. *UTM – localities map of the tricladids in Southern Bulgaria.*

Measurements were taken from all biotops: sea-level height, air and water temperature, as well as water salinity. A Japanese orometer was used to make the measuements, mercury thermometer and German indicator paper for the pH.

The biotops, therse materials were gathered from are located from 134 to 1000 meters above sea-level. Air and water temperatures fluctuated for every studied biotop, in relation to the sea-level, season and other abiotop and biotop surrounding factors. The scope of the measured air temperature is in the range of $6,5^0$C to 23^0C, water temperature range is from 7^0C to 13.5^0C and water acidity – 4,5 – 5,5.

*The materials (with gauge results from the terrain) from the period of 1975-1980 were given to me from the private collection of professor G. Bachvarov.

Taxanomy of worm research and fixed in Gelei reactive, a minute afterwards the material is preserved in 70% alcohol. The number of collected worm specimen was 1828. The single parameters of the body were measured in microbiological glass bowl containers placed on millimeter gauge paper. Observation was performed with stereoscopic microscope МБС-1. Durable microscopic preparations were prepared for taxonomic research under the standards for such research methods. The specimens were colored with aluminous carmine.

The worms are catalogued with the help of the publications of Шишков (1925); Stresemann (1967); Reynolds (1967); Ангелов et al., (1972) and others.

RESULTS

Five species of tricladids to three genera and two families were established:

Phylum Plathelmintes
Classis Turbellaria
Ordo Tricladida
Familia *Planariidae*
Genus *Planaria*

Planaria gonocephala (Duges)

This species is established in five from the researched biotops (place „Chirpan Bunar"; river Rakovitza; river Pyasachnitza; river near the village Klokotnitza; place „Chetirideset izvora"). The first four mentioned biotops are announced for the first time.

Planaria torva (Müller)

This species is established in four of the researched biotops place „Chirpan Bunar"; river Vacha; place „Goren Azmak" – village Pesnopoi; river near the village Klokotnitza. These biotops are announced for the first time in Bulgaria.

Planaria sp.

Description: Front end of the body is triangular, but without tentacles. The body narrows towards the back end. The length is from 3.5 to 22.5 mm., the width from 1.67 to 3.11 mm. The eyes are two located in the front end of the head. The distance between the eyes is from 0.22 to 0.49 mm. The color of the worm is greybrown to black. Its habitat is slow running and still waters.

This species of planaria were established in two of the researched biotops (place „Razlivite" – village Gradina and place „Blatata" – village Hristo Milevo).

Remarks. This species looks like *Planaria lugubris*, but it differs in some characters:

length up to 22.5 mm. (in *P. lugubris* – 18 mm)
width up to 3.11 mm for *Planaria* sp. (in *P. lugubris* – 3 mm)

Due to the fact that I don't have preparations from *Pl. lugubris* for comparisons, therefore I mention this form as *Planaria* sp.

Genus *Grenobia*

Grenobia alpina (Draparnaud)

This kind we established only in the river Rakovitza, which presents a new find.

Familia *Dendrocoelidae*

Genus *Dendrocoelum*

Dendrocoelum lacteum (Müller)

This kind is established in four biotops (place „Chirpan bunar"; „the creek in village Trivoduitzi"; place „Razlivite" – village Gradina; place „Cheshmata"- village Karadzalovo. These of the biotops are new for this kind (except „Trivoditzi")

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ПРИНОС КЪМ ПОЗНАВАНЕТО НА БИОЛОГИЯТА, ЕКОЛОГИЯТА И РАЗПРОСТРАНЕНИЕТО НА ТРИКЛАДИДИТЕ (TURBELLARIA:TRICLADIDA) В ЮЖНА БЪЛГАРИЯ (I)

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(Резюме)

Установени са 5 вида планарии: *Planaria gonocephala* (Duges), *Planaria torva* (Müller), *Grenobia alpina* (Draparnaud), *Dendrocoelum lacteum* (Müller), и *Planaria* sp. от 13 находища (предимно по поречието на р. Марица и нейни притоци). Последният представител е определен само до род, поради липса на сравнителен материал.