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The aquatic Amphipoda and Isopoda (Crustacea) of the Transdanubian Mountains in Northwest Hungary

Jenö Kontschán

With 1 Figure and 1 Table

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The examination of springs, streams and ponds in the Transdanubian Mountains yielded 4 Amphipoda species (*Gammarus roeselii, Gammarus fossarum, Synurella ambulans, Niphargus valachicus)* and the Isopoda species *Asellus aquaticus*. Most common was *Gammarus roeselii*; *Asellus aquaticus* was frequent in waters with high content of organic matter.

1 Introduction

The aquatic Peracarida fauna of Hungary consists of 27 Amphipoda (Muskó 1994), 6 Isopoda and 1 Mysidacea species. 13 Amphipoda species live in subterranean waters, 6 in surface waters (springs, streams, ponds), 6 in the large rivers Danube and Tisza and the lake Balaton, and 2 are terrestrial. About the Amphipoda and aquatic Isopoda of the Transdanubian Mountains is little known as well as in the most regions of Hungary (Muskó 1994). There are some data from the Pilis (Csörgits 2000), Gerecse, Vértes (Kontschán 2000a, 2001a) and the region of Bakony (Dudich 1927, Kontschán 2000b, Lukacsovics 1958, Ponyi & al. 2000, 2001, Stiller 1957).

2 Sampling sites and methods

The Gerecse and Vértes (west of Budapest) and the region of Bakony (north of the Balaton) constitute the main range of the Transdanubian Mountains (Fig. 1.); this area is dry and poor in streams and springs. Most of the springs are limnocrenes, the streams are usually silt-bedded and slowly flowing. We examined only smaller lakes and ponds, because the fauna of Lake Balaton is well-known (Muskó 1992, Ponyi & Zánkai 1996). The lakes and ponds examined are artificial, banked up waters with a surface of 100-300 m^2. Between 1997 and 2002 we collected Amphipoda and Isopoda at 79 sampling sites, which belong to 48 settlements (villages and towns) of the Transdanubian Mountains. The collected specimens were preserved in 75 % alcohol and deposited in the Crus-

tacean Collection of the Zoological Department of the Hungarian Natural History Museum in Budapest.

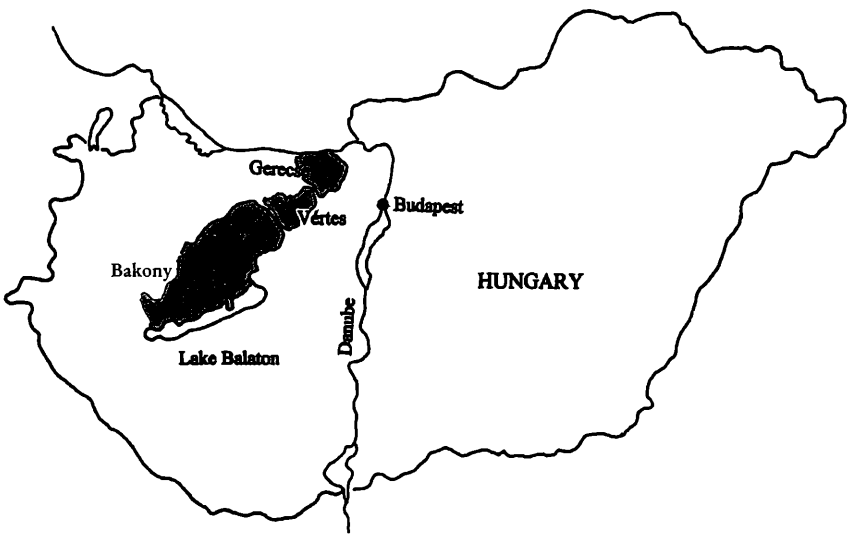

Fig. 1: Research area, the Transdanubian Mountains in Northwest Hungary

3 Results and discussion

Six Amphipoda and two Isopoda species were expected to occur in the Transdanubian Mountains: *Gammarus pulex* (Linnaeus, 1758), *G. fossarum* Koch, 1835, *G. roeselii* Gervais, 1835, *G. balcanicus* Schäferna, 1922, *Niphargus valachicus* Dobreanu & Manolache, 1933 *Synurella ambulans* Müller, 1846, *Asellus aquaticus* (Linnaeus, 1758) and *Proasellus pribenicensis* Flasarová, 1977; the latter was found in Cserehát (North Mountains) in 2001 (Kontschán 2001b).

In our research we found 4 Amphipoda (*Gammarus roeselii, Gammarus fossarum, Synurella ambulans, Niphargus valachicus*) and the Isopoda species *Asellus aquaticus*. We did not find *Gammarus pulex* and *G. balcanicus*. The occurrence of *G. pulex* in Hungary is doubtful, though there are some previous references (Muskó 1992, 1994) and a recent one (Forró & Meisch 1998). It is conceivable that this species does not occur in Hungary (Karaman & Pinkster 1977). *Gammarus balcanicus* has been only recorded for the North Mountains, there is one doubtful report from the Pilis (Transdanubian Mountains). *Proasellus pribenicensis* has been found only in Northeast Hungary (Cserehát; Kontschán 2001b).

In the Transdanubian Mountains *Gammarus roeselii* is the most frequent aquatic Peracarida species, besides the moor lands it occurs in most kinds of the

waters, primarily in streams, where it is usually the dominant species of the aquatic community. We found *G. roeselii* at 51 of the total of 78 sampling sites.

Gammarus fossarum prefers the upper stretches of streams; in the lakes it occurs only at the inflows and outflows; the species was found at 24 sites. In the Transdanubian Mountains *G. fossarum* and *G. roeselii* occur at similar habitats, primarily in streams.

Synurella ambulans was collected at 19 localities, primarily in springs, but it can also be found in shallow, periodically dry swamps. In Hungary the species was first mentioned by Dudich (1927) from the Bakony.

Niphargus valachicus is the rarest species in the surface waters of the Transdanubian Mountains, it was only found in a small stream at the foot of the mountains, richly covered by *Nasturtium officinale.* At this place it co-occurs with *Asellus aquaticus* and *Synurella ambulans*. The species is also known as *Niphargus mediodanubialis* Dudich, 1941 from the Aszóföi séd (Dudich 1941).

Asellus aquaticus has a wide ecological tolerance and is frequent in every kind of waters, it also can be found in streamlets overgrown by plants, in ponds and in swamps. In the Vértes this species also occurs in many springs. The eurycious *A. aquaticus* lives in waters where other, more sensitive Peracarida do not occur. In the area of the Transdanubian Mountains we found it at 36 localities.

The occurrence and constancy of the species recorded in the diverse habitats of the area examined can be seen in table 1.

Tab. 1: Constancy of the species found in the area examined (absolute number of finds and percentage of all 79 sample sites)

species	springs	streams	stagnant waters	total	% of 79 sites
Gammarus roeselii	5	43	3	51	64,6
Gammarus fossarum	4	19	1	24	30,4
Synurella ambulans	8	11	0	19	24,1
Niphargus valachicus	0	1		0	1,3
Asellus aquaticus	7	19	10	36	45,6

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References

Csörgits, G. (2000): Composition and long-long term changes of the invertebrate macrofauna in two streams of the Pilis Mountains, Hungary.- Opuscula Zoologica Budapest 32: 27-49, Budapest

Dudich, E. (1927): Neue Krebstiere in der Fauna Ungarns.- Archivum Balatonicum 1,3: 343-387, Tihany

Dudich, E. (1941): Niphargus mediodanubialis sp. nov., die am weitesten verbreitete Niphargus-Art des mittleren Donaubeckens.- Fragmenta Faunistica Hungarica 4: 61-73, Budapest

Forró, L. & C. Meisch (1998): A Duna-Dráva Nemzeti Park Dráva menti vizeinek rákfaunája (Crustacea).– Aquatic fauna of the Dráva region in the Duna-Dráva National Park, Hungary. Dunántúli Dolgozatok Természet-Tudományi Sorozat 9: 111-122, Pécs

Karaman, G. S. & S. Pinkster (1977): Freshwater Gammarus species from Europe, North Africa and adjacent regions of Asia (Crustacea-Amphipoda) Part I. Gammarus pulex-group and related species.- Bijdragen tot de Dierkunde 47: 1-95, Amsterdam

Kontschán, J. (2000a): A Synurella ambulans Müll. (Amphipoda, Crustacea) társulása más magasabbrendû rákfajokkal a Vértes hegységben. [The assotiation of Synurella ambulans Müll. with other crustacean species in the Vértes.].- Acta Biologica Debrecina Supplementum Oecologica Hungarica 11(1): 249, Debrecen

Kontschán, J. (2000b): Alakváltozatok a Gammarus roeseli Gervais (Crustacea, Amphipoda) fajon a Bakonyban. [Variants on species Gammarus roeseli Gervais (Crustacea, Amphipoda) in the Bakony.].- Folia Musei Historico-Naturalis Bakonyiensis 15: 47-52, Zirc

Kontschán, J. (2001a): Adatok Majk (Észak-Vértes) magasabbrendû rák (Crustacea: Amphipoda et Isopoda et Decapoda) faunájához. [Data of crustacean fauna (Crustacea: Amphipoda et Isopoda et Decapoda) of Majk (North-Vértes Mts.).].- Folia Historico-Naturalia Musei Matrensis 25: 65-68, Gyöngyös

Kontschán, J. (2001b): Proasellus pribenicensis Flasarová, 1977 (Crustacea: Iopoda, Asellota), a magyar faunára új víziászka a Cserehátból. [The first Hungarian record of Proasellus pribenicensis Flasarova, 1977.].- Folia Entomologica Hungarica 62: 319-320, Budapest

Lukacsovics, F. (1958): Az Aszóföi Séd Malacostraca fajainak elterjedése és ökológiai vizsgálata. [Ökológische und Tiergeographische Bearbeitung der Malacostraca-Arten des Aszóföi Séd-Baches] Annales Instituti Biologici (Tihany) Hungaricae Academiae Scientiarum 25: 165-172, Tihany

Muskó, I. B. (1994): Occurrence of Amphipoda in Hungary since 1853.- Crustaceana 66: 144-152, Leiden

Muskó, I. B. (1992): Amphipoda species found in Lake Balaton since 1897.- Miscellanea Zoologica Hungarica 7: 59-64, Budapest

Ponyi, J., N. Zánkai, G. Kravinszkaja & A. Szitó (2000): A Balatonba ömlö patakok zoológiai vizsgálata. [Zoological research of the streams flowing into the Lake Balaton I.] A Balaton kutatásának 1999. évi eredményei 54-61, Tihany

Ponyi, J., Zánkai, N., Szitó, A. & Kravinszkaja, G. (2001): A Balatonba ömlö patakok zoológiai vizsgálata II. [Zoological research of the streams flowing into the Lake Balaton II.] A Balaton kutatásának 2000. évi eredményei 133-141, Tihany

Ponyi, J. & Zánkai, N. (1996): Két ízeltlábú állatfaj felbukkanása a Balatonban.[Two arthropoda species new to Lake Balaton] Állattani Közlemények 81: 199-201, Budapest

Stiller, J. (1957): Zur Biologie und Verbreitung der Protozoen und Crustaceenfauna eines Mittelgebirgsbaches in Ungarn.- Archiv für Hydrobiologie 53: 392-424, Stuttgart

Author's address: Jenö Kontschán, Systematic Research Group of the Hungarian Academy of Sciences & Eötvös Loránd University & Zoological Department of the Hungarian Natural History Museum H-1088 Budapest Baross str. 13., e-mail: kontscha@zoo.zoo.nhmus.hu

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