

REPORT ON A COLLECTING TRIP OF THE BRITISH MYRIAPOD GROUP TO HUNGARY IN 1994

Z. Korsós¹, H. J. Read, A. D. Barber, S. J. Gregory, E. Hornung, R. E. Jones, R. D. Kime, J. G. E. Lewis & P.A. Selden

¹ Address for correspondence: Dept. of Zoology, Hungarian Natural History Museum, Baross u. 13, H-1088 Budapest, Hungary. Email: korsos@zoo.zoo.nhmus.hu.

ABSTRACT

During a collecting trip participated jointly by the members of the British Myriapod Group and by Hungarian experts in 1994, 34 species of millipedes, 14 of centipedes, 8 of woodlice and 73 of spiders were recorded from Hungary. Two records of the millipede species *Boreoiulus tenuis* (Bigler, 1913) and *Styrioiulus styricus* (Verhoeff, 1896) were new to the fauna of Hungary.

INTRODUCTION

Millipede faunistics in Hungary has been a neglected science for a long time, since the once intensive works of Ö. Tömösváry and J. Daday. In the second half of the 20th century a few data on the geographic distribution of Hungarian Diplopoda were put on record, mainly by I. Loksa and L. Szalay. The majority of the material of the former scientist, although it certainly includes important information, is unfortunately still in a largely unevaluated stage, kept at the Department of Zoosystematics and Ecology, Eötvös Loránd University, Budapest. Much of Loksa's data, even that mentioned in his papers, could not be found and checked because his material was unlabelled. In the meantime, changes in millipede taxonomy (Hoffman 1979) and development of faunal mapping schemes (Kime 1990) has made this increased knowledge of local faunas more widely available, even in relatively well-documented regions such as Central-Eastern Europe.

The first stages in mapping the millipede fauna of Hungary using modern methods was presented at the 7th International Congress of Myriapodology, Vittorio Veneto, Italy, 1987 (Korsós 1990). Possible joint field work to collect data more intensively had already been proposed at that time to experts in Western Europe. The British Myriapod Group was invited to undertake field work and a joint trip with Hungarian scientists was carried out in 1994.

The aim of the joint work was to collect as many records as possible during a short field trip to the southwestern part of Hungary which was considered as underrecorded for Diplopoda, Chilopoda, and Isopoda. After identification it was hoped that an important contribution would be gained to the general understanding of this country with regard to the European Invertebrate Survey, especially as regards the non-insect arthropod groups. The southwestern region of the country (mainly Counties Zala, Somogy and Baranya) was chosen for the survey because of the large number of suitable and relatively undisturbed habitats. It represents also an interesting area for zoogeographical observations, since three different influences (Atlantic, Mediterranean, and Continental) take effect here, so a high number of species was expected. The collecting trip also aimed to rediscover some poorly known millipedes from the Hungarian fauna as predicted by the checklist compiled in 1994 (Korsós 1994).

In the present paper, after a short chronological description of the trip, the list of the collecting localities is given, with a basic habitat characterisation and UTM codes. It is followed by the detailed taxonomic list of the four groups collected: millipedes, geophilomorph and scolopendromorph centipedes, woodlice and spiders, with the locality numbers and remarks, where necessary. Additional information is presented on millipedes and spiders, whereas the group of woodlice is less complete, and presented only for information.

DESCRIPTION OF THE FIELD TRIP (28 MAY – 5 JUNE 1994)

Six members of the British Myriapod Group accompanied by two Hungarian scientists commenced the visit in Budapest, and then travelled to the west and south of the country. Over a period of ten days collecting took place in a range of habitats from wet woodland to steppe. A couple of days were spent in the Lake Balaton area and collections were made at different altitudes at Meleg-hegy where *Styrioiulus styricus* was recorded new for Hungary in the

beech woodland. It was also found possible to revisit NagygörbQ (Kovácsi Hill) which was described by I. Loksa (1961) and from where he reported several interesting species.

Heading south from Lake Balaton several woodlands were visited: Hosszúvíz in County Somogy proved to be one of the best sites with interesting species such as *Cylindroiulus abaligetanus*, *Allajulus dicentrus* and *Xestoiulus imbecillus* being found. Close to there, in Szenyér, *Boreoiulus tenuis* appeared as new to the fauna of Hungary. The Boronka Landscape Protection Area further to the south was a little disappointing, except for the many large *Ommatoiulus sabulosus*, whereas in the Zselic Landscape Protection Area the spectacular *Polydesmus collaris* was found.

After a brief stop in Pécs several days were spent close to the lake at OrfQ where collecting forays were made into the surrounding area. After OrfQ the Danube area was visited: the Gemenc Landscape Protection Area and then some steppe habitat at Ásotthalom and in the Pusztaszer Landscape Protection Area in the Kiskunság (east of the Danube river). On the route back to Budapest a brief stop was made at an old oak woodland at Pusztavacs.

Sampling was carried out mostly by hand, just searching amongst leaf litter and under logs and stones. In addition some sieving of leaf litter was done and in OrfQ some pitfall traps were put out for two nights (which were not particularly successful).

LOCALITIES

- No. 1. County Győr-Moson-Sopron, Hegyeshalom, motorway service station, 28 May 1994, XP-60
- No. 2. Budapest, Vezér u., student hostel, 28 May, 1994, CT-56
- No. 3. County Fejér, Székesfehérvár, M7 motorway, Shell service station, 29 May 1994, CT-02
- No. 4. County Somogy, Szántódpusztá, museum village, 29 May 1994, YM-29
- No. 5. County Somogy, Balatonfenyves, Hotel Fenyves, 29 May 1994, XM-97
- No. 6. County Somogy, Balatonkeresztúr, Keresztúri Forest, 29 May 1994, XM-77
- No. 7. County Somogy, Balatonfenyves, Nagyberek, 29 May 1994, XM-77
- No. 8. County Somogy, Balatonszentgyörgy, Gulya Restaurant, 30 May 1994, XM-77
- No. 9. County Zala, Keszthelyi Mts, Keszthely, Meleg Hill, open scrub, 30 May 1994, XM-78
- No. 10. County Zala, Keszthelyi Mts, Keszthely, Meleg Hill, *Quercus* woodland, 30 May 1994, XM-78
- No. 11. County Zala, Keszthelyi Mts, Vállus, Meleg Hill, *Pinus* woodland, 30 May 1994, XM-78
- No. 12. County Zala, Keszthelyi Mts, Balatongyörök, Meleg Hill, *Fagus* woodland, 30 May 1994, XM-78
- No. 13. County Zala, Balatongyörök, Szépkilátó panoramic viewpoint, 30 May 1994, XM-77
- No. 14. County Zala, Keszthelyi Mts., NagygörbQ, Kovácsi Hill, *Carpinus*, *Quercus*, *Castanea* forest, 30 May 1994, XM-69
- No. 15. County Somogy, Hosszúvíz, *Alnus* & *Tilia* forest, 31 May 1994, XM-85
- No. 16. County Somogy, Hosszúvíz, *Pinus* forest, 31 May 1994, XM-85
- No. 17. County Somogy, Szenyér, *Quercus* forest, 31 May 1994, XM-84
- No. 18. County Somogy, Boronka Landscape Protection Area, Nagyabajom, *Pinus* forest, 31 May 1994, XM-94
- No. 19. County Somogy, Zselic Landscape Protection Area, Zselickisfalud, tourist house, 31 May 1994, YM-12
- No. 20. County Somogy, Szenna, Museum Village, 1 June 1994, YM-13
- No. 21. County Somogy, Zselic Landscape Protection Area, Böszénfa, Kardosfapuszta, *Quercus* woodland, 1 June 1994, YM-12
- No. 22. County Somogy, Zselic Landscape Protection Area, Böszénfa, Ropolypusztá, *Quercus* woodland, 1 June 1994, YM-12
- No. 23. County Baranya, CsertQ, reservoir, 1 June 1994, YM-10
- No. 24. County Baranya, Pécs, FQ Square, 1 June 1994, BS-80
- No. 25. County Baranya, Mecsek Mts, OrfQ, camping, 1 June 1994, BS-81
- No. 26. County Baranya, Mecsek Mts, OrfQ, Remete Meadow, *Pinus* wood, 2 June 1994, BS-81
- No. 27. County Baranya, Mecsek Mts, OrfQ, Remete Meadow, *Quercus* wood, 2 June 1994, BS-81

- No. 28. County Baranya, Mecsek Mts, Pécs, Rózsa Hill, *Fagus* forest, 2 June 1994, BS-80
No. 29. County Baranya, Mecsek Mts, Pécs, Patacsi Field, picnic site, 2 June 1994, BS-70
No. 30. County Baranya, Mecsek Mts, Pécs, Sötét Valley, *Fagus*, *Carpinus* forest, 2 June 1994, BS-70
No. 31. County Baranya, Mecsek Mts, Orfû, Körtvélyes, 450 m a.s.l., *Fagus* & *Carpinus* woodland, 2 June 1994, BS-71
No. 32. County Baranya, Mecsek Mts, Orfû, Körtvélyes, 300 m a.s.l., 2 June 1994, BS-71
No. 33. County Baranya, Mecsek Mts, Orfû, Camping, pitfall traps, 3 June 1994, BS-81
No. 34. County Baranya, Mecsek Mts, Orfû, Lake Pécsi, pitfall traps, 3 June 1994, BS-81
No. 35. County Baranya, Mecsek Mts, Orfû, Camping, pine wood, pitfall traps, 3 June 1994, BS-81
No. 36. County Tolna, Gemenc Landscape Protection Area, Szekszárd, Keselyûs, grassland, 3 June 1994, CS-33
No. 37. County Bács-Kiskun, Baja, farm restaurant, 3 June 1994, CS-41
No. 38. County Bács-Kiskun, Baja, Town Hall Square, 3 June 1994, CS-41
No. 39. County Csongrád, Ásotthalom, Memorial Forest, 3 June 1994, DS-01
No. 40. County Csongrád, Szeged, Szív Street, E. Hornung's garden, 3 June 1994, DS-32
No. 41. County Csongrád, Szeged, student hostel, 3 June 1994, DS-32
No. 42. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Pusztaszer, Büdösszék, 4 June 1994, DS-25
No. 43. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Tömörkény, Újmajori Forest, *Quercus* wood, 4 June 1994, DS-25
No. 44. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Baks, Palásti Forest, oak wood, 4 June 1994, DS-35
No. 45. County Pest, Pusztavacs, *Convallario-Quercetum*, 4 June 1994, CT-82
No. 46. County Bács-Kiskun, Lajosmizse, farm restaurant, 4 June 1994, CT-90
No. 47. Budapest, Vezér Street, student hostel, 4 June 1994, CT-56

LIST OF SPECIES

MILLIPEDES (det. by Z. Korsós, H. J. Read & R. D. Kime)

POLYXENIDA

Polyxenus lagurus (Linnaeus, 1758)

Localities: 5, 6, 10, 11, 12, 15, 17, 26, 28

The only representative of the order in Hungary; common species throughout Europe..

GLOMERIDA

Glomeris hexasticha Brandt, 1833

Localities: 9, 10, 11, 12, 14, 15, 21, 22, 25, 26, 27, 30, 35

The most common species of the order in Hungary, found throughout Central Europe.

JULIDA

Boreoiulus tenuis (Bigler, 1913) – **NEW TO THE FAUNA OF HUNGARY**

Locality: 17

A mainly North European species, this is the first Hungarian record, from a natural forest habitat.

Choneiulus palmatus (Nemec, 1895)

Locality: 5

A species occurring in Atlantic and Central Europe, usually with synanthropic affinity in Hungary; the present collection is in agreement with that.

Cibiniulus phlepsii (Verhoeff, 1897)

Locality: 36

Synanthropic species from South-east Europe and Asia Minor, up to now found only in the flood forests in the region of Budapest (Korsós 1992, 2002).

Nopoiulus kochii (Gervais, 1847)

Locality: 5

Common species in Hungary, mainly in anthropogenic habitats. Widely distributed in Europe.

Proteroiulus fuscus (Am Stein, 1857)

Locality: 5

Common species in Hungary, which is on the southern edge of its range.

Allajulus dicentrus (Latzel, 1884)

Localities: 15, 17

Loksa (1957) mentioned one female specimen in his revision of Daday's material from Nagykanizsa, which is quite close to the locality where we have found. Sziráki (1966) also listed the species from Hungary without further locality details. It was recently reported in the region of the river Dráva, too (Korsós 1995, 1997, 1998). It has a restricted geographical distribution in Austria, NE Italy, Slovenia, Croatia and Bosnia outside western Hungary.

Brachyiulus bagnalli (Curtis, 1845)

Localities: 3, 5, 8, 43, 44

An eastern European species; its West European counterpart is *B. pusillus* (Leach, 1814).

Cylindroiulus abaligetanus Verhoeff, 1901

Locality: 15

The species is endemic to Hungary; it was revised in the frame of the *C. horvathi*-group by Korsós & Read (1994).

Cylindroiulus boleti (C. L. Koch, 1847)

Localities: 5, 6, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 30, 31, 32, 36, 45

One of the most widespread and frequently found millipede species in Hungary. It is common in SE Central Europe and the Balkan countries as far south as Macedonia and Bulgaria..

Cylindroiulus latestriatus (Curtis, 1845)

Locality: 5

A West European species, occurring particularly on sandy coasts, which shows synanthropic tendency in its Hungarian and other eastern European occurrences.

Cylindroiulus luridus (C. L. Koch, 1847)

Localities: 11, 12, 14, 15, 17, 22, 28, 30, 32

Very similar species to *C. boleti*, but much rarer.

Enantiulus nanus (Latzel, 1884)

Localities: 10, 11, 12, 14, 21, 27, 28, 30, 31

Central European. Widespread in dry habitats.

Julus terrestris (Linnaeus, 1758)

Locality: 23

Common species in lowland forests and grasslands. Occurs from the Baltic to the Balkans.

Julus scanicus (Lohmander, 1925)

Locality: 36

Its first occurrence in Hungary was reported by Korsós (1994). This is the second record, thus of special importance. It is an uncommon species known elsewhere from southern Sweden, Denmark, Germany, the Czech Republic and Slovakia

Leptoiulus cibdellus (Chamberlin, 1921)

Locality: 44

Widespread forest species. SE Central Europe and the Baltic.

Leptoiulus sp.

Localities: 10, 17, 30

It is most probably a new species of the genus; but it would be premature to describe it without a proper revision of the whole genus.

Megaphyllum bosniense (Verhoeff, 1897)

Localities: 10, 11

The species of this genus in Hungary need a revision; *M. bosniense* only occurs in the western part of the country (Loksa 1962, 1968). Found from Austria to Albania and Bulgaria.

Megaphyllum projectum Verhoeff, 1894

Localities: 6, 10, 12, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, 28, 30, 31, 32, 35

One of the commonest forest species in Hungary. Central European.

Megaphyllum unilineatum (C. L. Koch, 1838)

Localities: 4, 9, 10, 20, 29, 39, 43, 44, 45

Common species with wide environmental tolerance, found throughout much of Central and SE Europe.

Ommatoiulus sabulosus (Linnaeus, 1758)

Localities: 9, 16, 18

Widespread European species, usually xerophilous in Hungary.

Ophiulus pilosus (Newport, 1842)

Localities: 10, 11, 12, 15, 16, 21, 26, 31, 32

In contrast to its western European synanthropic habit, this species is more characteristic of undisturbed forests in Hungary.

Styrioiulus styricus (Verhoeff, 1896) – **NEW TO THE FAUNA OF HUNGARY**

Locality: 12

This species is small and uniformly pale in colour, (the male from which the gonopods are illustrated was 16.9mm long and 1.3mm in maximum height). The telson is strongly downwards directed (Figure 1), and the mandibular stipites in the male are barely expanded. The number of ocelli is quite reduced from the maximum number possible. It lacks metazonal setae but the area around the telson is setose. The gonopods (Figure 2) are very similar to *Styrioiulus pelidnus* (Latzel, 1884) which it also resembles in general appearance, the main differences being the shape of the opisthomerite which is flat topped in *pelidnus* and concave in *styricus* and the mesomerite which is much more pointed and curved posteriorly in *styricus*. Further study, involving *S. p. orientalis* Loksa, 1962 as well, may result in the synonymy of all these forms. *S. styricus* is a rare animal, previously reported from Austria.

Unciger foetidus (C. L. Koch, 1838)

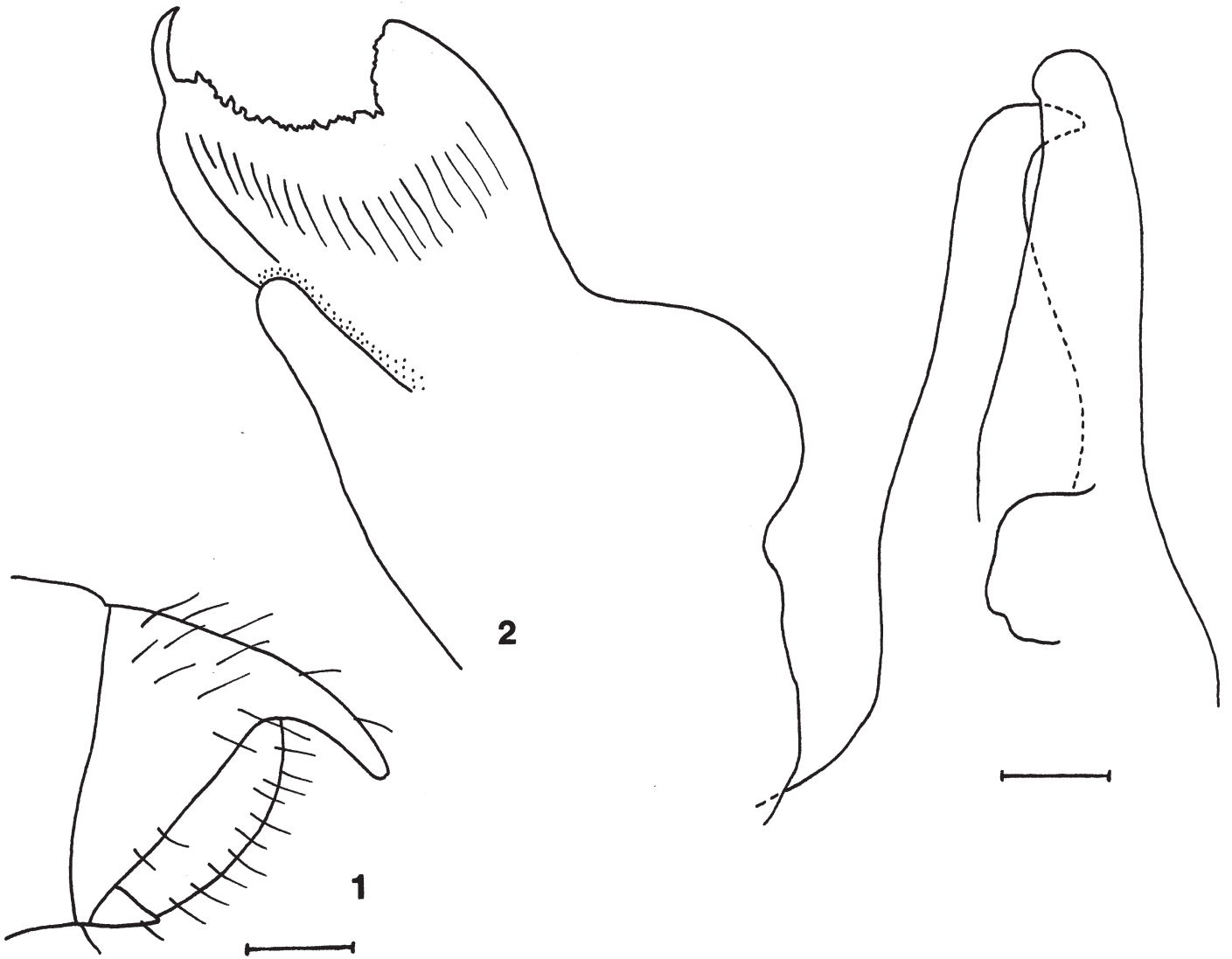
Localities: 9, 10, 11, 12, 14, 15, 17, 21, 22, 28, 29, 30, 32

Common forest dweller in Hungary, found in most parts of Central and Baltic Europe.

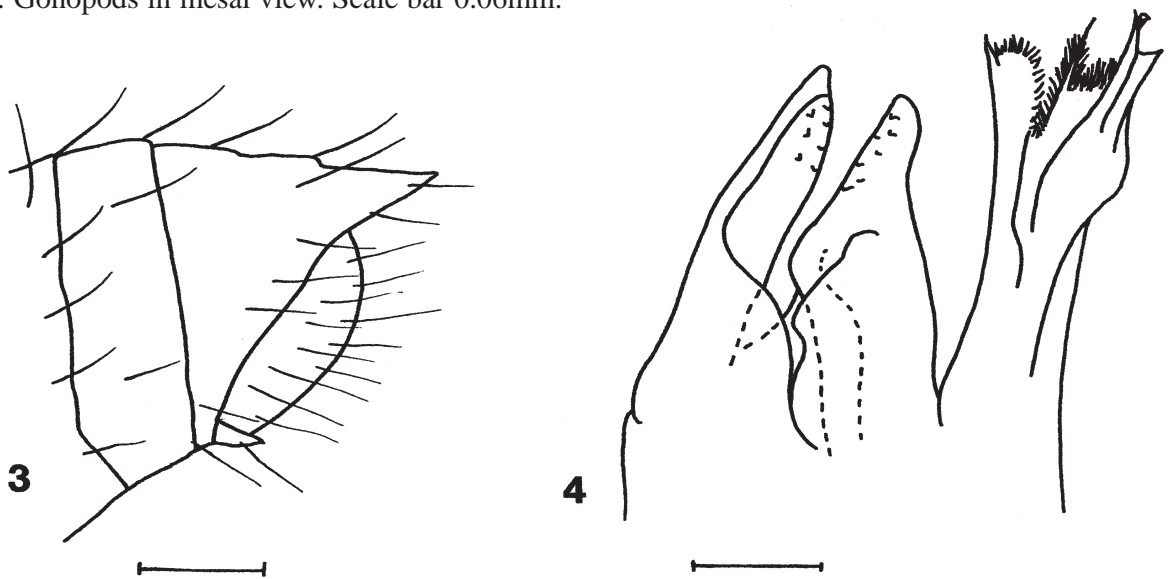
Xestoiulus imbecillus (Latzel, 1884)

Localities: 15, 21

This tiny, dark brown millipede has both frontal and metazonal setae. The hind end is very setose and the projection on the preanal ring is pointed and broadly horizontal (Figure 3). It differs in appearance to *Xestoiulus laeticollis* in lacking the paler head and first few segments, which are the same colour as the body in this species. The male specimen illustrated here had 43 podous and 3 apodous segments; a length of 10.6mm and maximum body height of



FIGURES 1–2: *Styrioiulus styricus* (Verhoeff, 1896), new to the fauna of Hungary. – 1: Telson, scale bar 0.13mm. – 2: Gonopods in mesal view. Scale bar 0.06mm.



FIGURES 3–4: *Xestoiulus imbecillus* (Latzel, 1884). – 3: Telson, scale bar 0.13mm. – 4: Gonopods in mesal view. Scale 0.06mm.

0.7mm. The gonopods (Figure 4) also differ from *X. laeticollis* with the opisthomerite having a very setose appearance. *Xestoiulus imbecillus* is believed to be confined to the mountainous and hilly zones of E Austria, NE Italy, Slovenia, Croatia, N Bosnia and Hungary.

Xestoiulus laeticollis (Porat, 1889)

Locality: 36

Loksa (1965) described ssp. *evae* from Nagybjom (actually very close to our locality No. 18), but our specimens are more to the east, not very far from the Danube river. Another subspecies, *X. l. dudichi* (Verhoeff, 1927) is known from two regions (Bátorliget and Dráva, Korsós 1991 and 1998, respectively) of Hungary. *Xestoiulus laeticollis* occurs in many parts of Central Europe and the Baltic.

POLYDESMIDA

Brachydesmus superus Latzel, 1884

Localities: 5, 12, 15, 44

Widespread species frequently found in synanthropic habitats as well.

Brachydesmus troglobius Daday, 1889

Localities: 31, 32

The species is endemic to the Cave of Abaliget in the Mecsek Mts. (Korsós 2000).

Polydesmus collaris C. L. Koch, 1847

Localities: 22, 30, 32

A southern European species; it reaches its northern distribution edge in Hungary in the Bakony Mts, north of Lake Balaton (Korsós et al. 2001).

Polydesmus complanatus (Linnaeus, 1761)

Localities: 5, 6, 15, 16, 18, 19, 20, 21, 30, 32, 44

The commonest *Polydesmus*-species in Hungary, found in every kind of habitat, usually in association with decaying wood. It occurs throughout eastern Europe.

Polydesmus denticulatus C. L. Koch, 1847

Localities: 5, 14, 15, 30, 44

Widespread, but more confined to moist habitats than the previous species. Throughout the northern and central regions of Europe.

Stosatea italica (Latzel, 1886)

Locality: 5

This species was only recorded once from Hungary, from the region of Szeged, in the southeastern part of the country (Szabó 1931, Sziráki 1966). That material is unfortunately untraceable, thus this second occurrence has special importance. *Stosatea italica* is essentially a Central Mediterranean species which has spread northwards as far as Hungary and Austria in the east and Ireland in the west

Strongylosoma stigmatosum (Eichwald, 1830)

Localities: 10, 11, 12, 14, 15, 17, 21, 22, 25, 28, 31, 32

Widespread paradoxosomatid species in Hungary, associated with dead trees usually.

It occurs commonly in eastern Europe, on the whole east of a line through the mouth of the Elbe River and the Adriatic Sea.

CENTIPEDES

GEOPHILOMORPHA (det. by R. E. Jones)

Brachyschendyla montana (Attems, 1895)

Locality: 28

Clinopodes flavidus (C. L. Koch, 1847)

Localities: 5, 6, 10, 11, 14, 15, 17, 22, 25, 26, 27, 28, 29, 30, 31, 32, 36

Clinopodes linearis (C. L. Koch, 1835)

Localities: 6, 12, 14, 28, 30

Henia illyrica (Meinert, 1870)

Localities: 6, 8, 10, 13, 14, 20, 21, 22, 25, 26, 27, 28, 31, 41

Geophilus flavus (De Geer, 1778)

Localities: 6, 14, 15, 17, 20, 21, 22, 28, 32, 36, 43

Pachymerium ferrugineum (C. L. Koch, 1835)

Localities: 5, 8, 9, 15, 23, 36

Schendyla nemorensis (C. L. Koch, 1837)

Localities: 5, 14, 17, 18, 43

Strigamia acuminata (Leach, 1814)

Localities: 18, 29

Strigamia crassipes (C. L. Koch, 1835)

Localities: 14, 15, 31, 36

Strigamia transsylvanica (Verhoeff, 1935)

Localities: 21, 22

SCOLOPENDROMORPHA (det. by J. G. E. Lewis)

Cryptops anomalans Newport, 1844

Localities: 6, 10, 12, 14, 15, 17, 18, 20, 21, 24, 25, 26, 27, 28, 29, 31

Widespread in Europe as far as Ukraine but absent in Scandinavia. The species also occurs in North Africa and has been introduced to a few parts of Canada and the United States.

Cryptops parisi Brölemann, 1920

Localities: 14, 17, 18, 21, 26, 28

Widespread in Europe, introduced in Scandinavia and Newfoundland.

Cryptops hortensis Leach, 1815

Localities: 17, 20

The most widely distributed of the three species: Azores, Madeira, Canary Islands through Europe and eastwards to Tajikistan. Introduced into United States including Hawaii, Canada, St Helena, and Australia.

Cryptops juv.

Locality: 15

WOODLICE

These were collected and have been provisionally identified. A full report will be given in a subsequent paper.

SPIDERS (det. by P. A. Selden)

The taxonomy and arrangement follows Platnick (2003). The species composition reflects the primary trapping methods: pitfalls and litter-sieving. Thus, most are ground-dwelling spiders, and many are night-active.

ARANEAE

Pholcidae

Hoplopholcus cf. *forskali* (Thorell, 1871)

Locality: 19

Immature male in toilets; this is an eastern European species.

Pholcus opilionoides (Schrank, 1781)

Localities: 39, 42

A common species in shady places.

Pholcus phalangioides (Fuesslin, 1775)

Locality: 42

Common in shady habitats, especially buildings.

Dysderidae

Dasumia canestrinii (L. Koch, 1876)

Locality: 21

A southern European species.

Dysdera longirostris Doblaka, 1853

Locality: 17

An eastern European species.

Harpactea Bristowe, 1939 sp.

Localities: 12, 14, 21, 38

Immature males.

Harpactea rubicunda (C. L. Koch, 1838)

Locality: 43

Common throughout Europe.

Harpactea saeva (Herman, 1879)

Localities: 17, 21, 26, 33

An eastern European species.

Theridiidae

Crustulina guttata (Wider, 1834)

Localities: 45

A common Palaearctic species.

Enoplognatha ovata (Clerck, 1757)

Localities: 15

A common Holarctic species.

Enoplognatha thoracica (Hahn, 1833)

Localities: 10, 14, 43

A common Holarctic species.

Episinus angulatus (Blackwall, 1836)

Localities: 5

A common European species.

Euryopis flavomaculata (C. L. Koch, 1836)

Localities: 23

A common Palearctic species.

Linyphiidae

Anguliphantes angulipalpis (Westring, 1851)

Localities: 17

A Palearctic species; rather scarce in central and eastern Europe.

Araeoncus humilis (Blackwall, 1841)

Localities: 42

A common Palearctic species, also introduced to New Zealand.

Centromerus cavernarum (L. Koch, 1872)

Localities: 17

A European species, somewhat scarce, in damp, dark woods.

Centromerus silvicola (Kulczynski, 1887)

Localities: 14

Rare in central Europe; an eastern European species.

Diplostyla concolor (Wider, 1834)

Localities: 11, 30, 34

A common Holarctic species.

Entelecara erythropus (Westring, 1851)

Localities: 15

A Palearctic species, not common.

Lepthyphantes Menge, 1866 sp.

Localities: 30, 31

Unidentified females, one *pallidus* group.

Linyphia hortensis Sundevall, 1830

Localities: 26

A common Palearctic species.

Meioneta rurestris (C. L. Koch, 1836)

Localities: 42

A common Palearctic species.

Oedothorax apicatus (Blackwall, 1850)

Localities: 34, 42

A common Palearctic species.

Panamomops Simon, 1884 sp.

Localities: 15

Unidentified female

Tenuiphantes flavipes (Blackwall, 1854)

Localities: 10, 11, 12, 14, 26, 30, 43

A common Palaearctic species.

Tenuiphantes tenuis (Blackwall, 1852)

Localities: 34

A common European and Mediterranean species, widely introduced elsewhere.

Trichoncus affinis Kulczynski, 1894

Localities: 33

A scarce Palaearctic species.

Tetragnathidae

Metellina segmentata (Clerck, 1757)

Localities: 11

A common Palaearctic species, introduced to Canada.

Araneidae

Gibbaranea bituberculata (Walckenaer, 1802)

Localities: 14

A scarce Palaearctic species of warm places.

Zygiella x-notata (Clerck, 1757)

Localities: 42

A common Holarctic and Neotropical species.

Lycosidae

Alopecosa trabalis (Clerck, 1757)

Localities: 11

A central European to central Asian species found in open, sunny habitats.

Arctosa C. L. Koch, 1847 sp.

Localities: 14, 45

Immatures

Aulonia albimana (Walckenaer, 1805)

Localities: 23, 33

A Palaearctic species common in open, sunny habitats.

Pardosa amentata (Clerck, 1757)

Localities: 15, 34

A European–Russian species common in damp habitats.

Pardosa cribrata Simon, 1876

Localities: 42

A southern European and Mediterranean species.

Pardosa lugubris (Walckenaer, 1802)

Localities: 11, 33

A common Palearctic species.

Pardosa monticola (Clerck, 1757)

Localities: 1

A common Palearctic species.

Pirata latitans (Blackwall, 1841)

Localities: 34, 42

A species of Europe to central Asia found in damp habitats.

Trochosa C. L. Koch, 1847 sp.

Localities: 10

Immature female

Trochosa robusta (Simon, 1876)

Localities: 39, 42

An uncommon Palearctic species found in dry, open habitats.

Trochosa terricola Thorell, 1856

Localities: 6, 30

The commonest *Trochosa* species, with a Holarctic distribution.

Dictynidae

Cicurina cicur (Fabricius, 1793)

Localities: 14, 17, 22, 28

Very common in the pitfall traps; a European–central Asian species.

Amaurobiidae

Amaurobius C. L. Koch, 1837 sp.

Localities: 10, 26, 30, 43

Immatures.

Coelotes Blackwall, 1841 sp.

Localities: 14, 33

Immatures.

Urocoras longispinus (Kulczynski, 1897)

Localities: 21, 30

An eastern European species.

Titanoecidae

Titanoeca schineri L. Koch, 1872

Localities: 39, 43

An uncommon Palearctic species.

Liocranidae

Agroeca Westring, 1861 sp.

Locality: 15

Immature.

Corinnidae

Phrurolithus festivus (C. L. Koch, 1835)

Locality: 3

A common Palearctic species.

Zodariidae

Zodarion germanicum (C. L. Koch, 1837)

Localities: 33, 43

Widespread in Europe.

Zodarion rubidum Simon, 1914

Locality: 34

First record of this species for Hungary; det. Bosmans (1997). Widespread in Europe; introduced to the USA; possibly dispersed along transport routes (Pekar 1999, *in litt.*).

Gnaphosidae

Callilepis schuszteri (Herman, 1879)

Localities: 9, 12

A Palearctic species, most frequent in south-eastern Europe.

Drassodes lapidosus (Walckenaer, 1802)

Locality: 15

A common Palearctic ground spider.

Drassyllus villicus (Thorell, 1875)

Localities: 6, 21, 43

Europe, in dry habitats.

Gnaphosa Latreille, 1804 sp.

Locality: 1

Haplodrassus signifer (C. L. Koch, 1839)

Locality: 20

A common Holarctic ground spider.

Haplodrassus silvestris (Blackwall, 1833)

Locality: 35

A common Palearctic ground spider.

Poecilochroa variana (C. L. Koch, 1839)

Locality: 18

Europe to central Asia, in sunny habitats.

Trachyzelotes pedestris (C. L. Koch, 1837)

Localities: 1, 6

Europe to central Asia, in dry habitats.

Zelotes apricorum (L. Koch, 1876)

Locality: 43

Europe to central Asia, in sunny habitats, uncommon.

Zoridae

Zora nemoralis (Blackwall, 1861)

Localities: 18, 26

A common Palearctic species.

Zora spinimana (Sundevall, 1833)

Locality: 23

A common Palearctic species.

Philodromidae

Philodromus aureolus (Clerck, 1757)

Localities: 19

A common Palearctic species.

Thomisidae

Heriaeus graminicola (Doleschall, 1852)

Localities: 15

Europe to central Asia, rare.

Ozyptila Simon, 1864 sp.

Localities: 21

Immature.

Ozyptila praticola (C. L. Koch, 1837)

Localities: 6, 34

A widespread but uncommon Holarctic species.

Ozyptila simplex (O. P.-Cambridge, 1862)

Localities: 34

A widespread but uncommon Palearctic species.

Xysticus kochi Thorell, 1872

Localities: 34, 42, 43

Europe, Mediterranean to central Asia, widespread and common.

Xysticus lanio C. L. Koch, 1832

Locality: 22

A widespread Palearctic species.

Salticidae

Evarcha arcuata (Clerck, 1757)

Localities: 9

A common Palearctic species.

Marpissa muscosa (Clerck, 1757)

Localities: 29

A common Palearctic species, on tree trunks.

Neon reticulatus (Blackwall, 1853)

Localities: 31

A common Holarctic species.

Pseudeuophrys erratica (Walckenaer, 1826)

Localities: 15, 21

A common Palaearctic species, introduced to the USA.

REFERENCES

Bosmans, R. (1997) Revision of the genus *Zodarion* Walckenaer, 1833, part II. Western and Central Europe, including Italy (Araneae: Zodariidae). *Bulletin of the British Arachnological Society* **10**: 265–294.

Hoffman, R. L. (1979) Classification of the Diplopoda. Musée d'Histoire Natural Genève, 237 pp.

Kime, R. D. (1990) A provisional atlas of European myriapods. Part I. Fauna Europaea Invertebrata, EIS, Luxembourg, 109 pp.

Korsós, Z. (1990) Computerized database and mapping of myriapods in Hungary. In: Minelli, A. (ed.) *Proceedings of the 7th International Congress of Myriapodology*. E. J. Brill, Leiden 381-383.

Korsós, Z. (1991) Centipedes and millipedes from the Bátorliget Nature Reserves (Chilopoda, Diplopoda). In: Mahunka, S. (ed.) *The Bátorliget Nature Reserves – after forty years, 1990*. Budapest 259-266.

Korsós, Z. (1992) Millipedes from anthropogenic habitats in Hungary (Diplopoda). *Berichte des naturwissenschaftlichen-medizinischen Vereins Innsbruck* Suppl. **10**: 237-241.

Korsós, Z. (1994) Checklist, preliminary distribution maps, and bibliography of millipedes in Hungary (Diplopoda). *Miscellanea zoologica hungarica* **9**: 29-82.

Korsós, Z. (1995) Contribution to the knowledge of the millipede fauna (Diplopoda) of the Dráva Region, Hungary. Preliminary report. *Dunántúli Dolgozatok Természettudományi Sorozat*, Pécs **8**: 31-36.

Korsós, Z. (1997) The millipede fauna of the Dráva Region, southern Hungary (Diplopoda). *Entomologia scandinavica Supplementum* **51**: 219-224.

Korsós, Z. (1997[1998]) Status and directions of faunistic and taxonomical research of millipedes in Hungary. *Folia historico-naturales Musei Matraensis* **22**: 85-98.

Korsós, Z. (1998) Millipede (Diplopoda) fauna of the Hungarian Dráva Region. *Dunántúli Dolgozatok Természettudományi Sorozat*, Pécs **9**: 81-96.

Korsós, Z. (2000) Rare and endemic millipedes (Diplopoda) of the Abaliget Cave. In: Mock, A., Kovac, L. & Fulin, M. (eds) *Fauna Jaskyn (Cave Fauna)*, Kosice: 61-66.

Korsós, Z., Hornung, E., Szlávecz, K. & Kontschán, J. J. (2002) Isopoda and Diplopoda of urban habitats: New data to the fauna of Budapest. *Annales historico-naturales Musei nationalis hungarici* **94**: 193-208.

Korsós, Z., Kontschán, J. & Murányi, D. (1999[2001]) New data about the distribution of *P. collaris* C. L. Koch, 1847 in the Bakony Mts. *Folia Musei Historico-Naturalis Bakonyiensis* **18**: 15-18.

Korsós, Z. & Read, H.J. (1994) Revision of the horvathi group and description of a new species of *Cylindroiulus* (Diplopoda: Julidae). *Journal of natural History* **28**: 841-852.

- Loksa, I. (1957) Ergebnisse der Überprüfung einer Diplopodensammlung von J. Daday. *Ann. Univ. Sci. Budapest I*: 189-195.
- Loksa, I. (1961) Die Arthropoden des Kovácsi-Berges. *Állattani Közlemények* **48**: 65-80.
- Loksa, I. (1962) Einige neue und wenig bekannte Diplopoden aus Ungarn. *Ann. Univ. Sci. Budapest* **5**: 157-170.
- Loksa, I. (1965) Zwei interessante Diplopoden-Funde aus Transdanubien (Ungarn). *Opusc. zool. Budapest* **5**: 217-221.
- Loksa, I. (1968) Einige Diplopodenformen aus Ungarn. *Opusc. zool. Budapest* **8**: 57-62.
- Platnick, N. I. (2003) *The World Spider Catalog. Version 3.5.* – American Museum of Natural History, New York. (<http://research.amnh.org/entomology/spiders/catalog81-87/INTRO1.html>)
- Szabó, M. (1931) Die Myriopoden der Umgebung von Szeged. *Acta biologica Szegediensis* **2**: 14-31.
- Sziráki, Gy. (1966) Identification key to female millipedes of Hungary. Univ. Dr. Thesis, Budapest, 52 pp. (in Hungarian)