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HARVESTMEN (OPILIONES) IN HUMAN SETTLEMENTS OF SLOVENIA

Tone NOVAK¹, Ljuba SLANA², Natalija ČERVEK¹, Mojca MLAKAR¹, Nataša ŽMAHER¹ and Jürgen GRUBER³

¹ University of Maribor, Pedagogic Faculty, Department of Biology,

Koroška 160, SI-2000 Maribor, Slovenia, e-mail: tone.novak@guest.arnes.si

² Ozare 31, SI-2380 Slovenj Gradec, Slovenia, e-mail: tone.novak@guest.arnes.si

³ Naturhistorisches Museum Wien, 3. Zool. Abteilung, Postfach 417, Burgring 7, A-1014 Wien, Austria, e-mail: Juergen.Grubler@nhm-wien.ac.at

Abstract Harvestmen (Arachnida: Opiliones) in human settlements of Slovenia were investigated examining opilionid collections deposited in Slovenia, and additional intensive investigations in 29 bigger urban centres. Altogether, data from 58 towns and villages have been treated. So far, 42 of 65 species and subspecies living in Slovenia have been found in the urban centres. *Phalangium opilio* and *Nelima semproni* have been found in every second, and *Opilio saxatilis*, *Leiobunum rotundum*, *Trogulus nepaeformis* s. l., *Opilio parietinus* and *Nemastoma bidentatum sparsum* in 20-40 % of settlements. There are three reasons for the relatively high number of harvestman species inhabiting towns and villages of Slovenia. First, the settlements are relatively small and closely connected with neighbouring non-urban regions. Second, some primary habitats in settlements have not been destroyed either physically or chemically, thus the indigenous species live there continuously. Third, many secondary habitats are appropriate for inhabitation by some species. In respect to their origin, autochthonous and introduced species occur in human settlements. Probably all opilionid synanthropic species sensu lato are the landscape-cultivation-followers (“Kulturfolger” sensu Povolný 1963), symbiotic with mankind for ethological and ecological reasons. In settlements, petrophily is the predominant characteristic of these species, being either thermophile or frigophile. Probably only *Opilio parietinus* can be treated as synanthropic sensu Povolný (1963) meaning a sponta-

neous membership in an anthropobiocenosis. The indigenous edaphic and some epigeal species represent residues of primary ecosystems. In anthropogenic habitats, their high species number reflects both, moderate physical and chemical destruction of primary habitats in the past in most Slovenian towns. *Opilio canestrinii* has for the first time been recorded in Slovenia.

KEY WORDS: arachnids, harvestmen (Opiliones), introduced species (Neozoa), Slovenia, synanthropic species, urban centres

Izveček - SUHE JUŽINE (OPILIONES) V NASELJIH V SLOVENIJI

Suhe južine (Arachnida: Opiliones) v naseljih smo proučevali s pregledom obstoječih zbirk suhih južin v Sloveniji ter z dodatnimi intenzivnimi raziskavami v 29 večjih urbanih središčih. Skupno je zajetih v raziskavo 58 mest in vasi. Doslej je bilo v urbanih središčih Slovenije ugotovljenih 42 od 65 vrst in podvrst, kar znaša dve tretjini znanih vrst v Sloveniji. *Phalangium opilio* in *Nelima semproni* sta bila najdena v vsakem drugem naselju, *Opilio saxatilis*, *Leiobunum rotundum*, *Trogulus nepaeformis* s. l., *Opilio parietinus* in *Nemastoma bidentatum sparsum* pa v 20-40 % naselij. Za relativno visoko število vrst suhih južin v slovenskih naseljih so trije vzroki. Prvič, naselja so pretežno majhna in v tesnem stiku z obdajajočimi neurbanimi področji. Drugič, ostanki primarnih habitatov niso bili uničeni niti fizično niti kemijsko, tako da so neprekinjeno poseljeni z domačimi vrstami. Tretjič, mnogi sekundarni habitati so primerni za življenje suhih južin in jih zato poselijo. Glede na njihov izvor so v naseljih avtohtone in vnesene suhe južine. Verjetno pripadajo vse sinantropne suhe južine v širšem smislu vrstam, ki sledijo kultiviranju pokrajine ("Kulturfolger" sensu Povolný 1963) in živijo simbiotsko s človekom zaradi etoloških ali ekoloških razlogov. Pri suhih južinah v naseljih je petrofilija prevladujoča lastnost, lahko so termofilne ali frigidofilne. Verjetno je mogoče obravnavati kot sinantropno vrsto sensu Povolný (1963), s čimer je opredeljena njena spontana udeležba v antropobiocenozi, le *Opilio parietinus*. Domače edafske in nekatere površinske vrste so preostanki primarnih ekosistemov. Njihovo veliko število odraža relativno omejeno fizično in kemijsko uničevanje primarnih habitatov v večini slovenskih krajev. *Opilio canestrinii* je bil prvič najden v Sloveniji.

KLJUČNE BESEDE: pajkovci (Arachnida), vnesene vrste (neozoa), sinantropne vrste, Slovenija, suhe južine (Opiliones), urbana naselja

Introduction

Until 2000, only a few records on harvestmen in urban centres of Slovenia were published (Novak et Gruber 2000). Harvestmen of anthropogenic habitats had not been investigated systematically. In the urbanistic sense, Slovenia is a great hamlet with two bigger (over 100,000 inhabitants), five middle (over 20,000) and few

dozens of smaller towns, and several villages. Therefore, except for *Opilio canestrinii*, which has been found in the adjacent regions of Italy and Austria, but missed in opilionid collections from Slovenia, no special findings have been expected in comparison to non-urban landscapes.

Material and methods

The following harvestman collections have been investigated:

- collections of the Slovene Museum of Natural History, Ljubljana; PMSL;
- Coll. of the Institute of Biology University of Ljubljana;
- Biological coll. of the Karst Research Institute Research Centre of the Slovenian Academy of Sciences and Arts at Postojna;
- (rests of) Hadži Coll.;
- Biol. coll. of the Museum of Notranjska at Postojna;
- Harvestman collection of the Natural History Museum Wien;
- some small private collections;
- personal collection Novak and Slana.

From July to September 2000, intensive additional investigations were carried out in 29 of the larger urban centres of Slovenia. Altogether, harvestmen from the following 58 towns and villages are treated in this study: Ajdovščina, Bled, Brežice, Črna na Koroškem, Črnomelj, Dravograd, Golnik, Grosuplje, Hrastnik, Idrija, Ilirska Bistrica, Izola, Kamnik, Kočevje, Koper, Kozina, Kranj, Krško, Lenart, Litija, Ljubljana, Ljutomer, Logatec, Luče, Maribor, Metlika, Miren, Mozirje, Murska Sobota, Nazarje, Nova Gorica, Novo Mesto, Ormož, Piran, Podčetrtek, Polhov Gradec, Postojna, Pragersko, Ptuj, Radeče, Radenci, Radlje ob Dravi, Radovljica, Ravne na Koroškem, Ribnica na Dolenjskem, Rogaška Slatina, Rogatec, Sevnica, Slovenj Gradec, Slovenske Konjice, Šempeter pri Novi Gorici, Šentjur, Škofja Loka, Tolmin, Trebnje, Tržič, Velenje and Zagorje.

Harvestmen were collected manually, by sieving ground materials and by pit-fall trapping. About 50 different habitat types were investigated. Beside non-urban habitats (e.g. small meadows, scrubs, patches of rural land etc.), semi-natural (e.g. parks, gardens, cemeteries etc.) and urban ones (building walls, bridges, accumulations of building- and waste materials etc.) have been investigated. Cellars and wells were not treated because special methods would have been needed.

Results

40 harvestman species and one subspecies found in urban centres in Slovenia are shown in List 1 and in the systematic review. The material is preserved in the Prirodoslovni muzej Slovenije (Slovenian Museum of Natural History) in Ljubljana

and by the authors. Roewer's (1917, 1923, 1950) and unproved Hadži's data for their vague value can not be taken into account (cf. Novak et Gruber 2000). For the initials, see Acknowledgements.

List 1: Taxonomical review of harvestman species (Opiliones) found in urban centres in Slovenia till 2002

Taxon	No / %	
Number of species in urban centres, N = 44	of inhabited urban	
Total number of species in Slovenia, N = 65	centres; N = 58	
Sironidae		
<i>Siro duricorius</i> (JOSEPH, 1868)	9	14.3
Nemastomatidae		
<i>Nemastoma bidentatum bidentatum</i> ROEWER, 1914	5	7.9
<i>Nemastoma bidentatum sparsum</i> GRUBER et MARTENS, 1968	13	20.6
<i>Nemastoma bidentatum bidentatum</i> x <i>sparsum</i>	1	1.6
<i>Paranemastoma quadripunctatum</i> (PERTY, 1833)	7	11.1
<i>Histicostoma dentipalpe</i> (AUSSERER, 1867)	5	7.9
<i>Carinostoma carinatum</i> (ROEWER, 1914)	1	1.6
<i>Mitostoma chrysomelas</i> (HERMANN, 1804)	1	1.6
Dicranolasmatidae		
<i>Dicranolasma scabrum</i> (HERBST, 1799)	2	3.2
Trogulidae		
<i>Trogulus</i> gr. <i>tricarinatus</i> LINNAEUS, 1767	1	1.6
<i>Trogulus</i> gr. <i>nepaeiformis</i> (SCOPOLI, 1763)	19	30.2
<i>Trogulus tingiformis</i> C. L. KOCH, 1848	1	1.6
Ischyropsalididae		
<i>Ischyropsalis hellwigi hellwigi</i> (PANZER, 1794)	2	3.2
<i>Ischyropsalis kollari</i> C. L. KOCH, 1839	1	1.6
Phalangiidae		
<i>Phalangium opilio</i> LINNAEUS, 1761	31	49.2
<i>Metaphalangium cirtanum</i> (C. L. KOCH, 1839)	2	3.2
<i>Opilio parietinus</i> (DE GEER, 1778)	18	28.6
<i>Opilio saxatilis</i> C. L. KOCH, 1839	25	39.7
<i>Opilio dinaricus</i> ŠILHAVY, 1938	4	6.3
<i>Opilio ruzickai</i> ŠILHAVY, 1938	3	4.8

<i>Opilio transversalis</i> ROEWER, 1956	2	3.2
<i>Opilio canestrinii</i> (THORELL, 1876)	1	1.6
<i>Platybunus bucephalus</i> (C. L. KOCH, 1835)	4	6.3
<i>Rilaena triangularis</i> (HERBST, 1799)	4	6.3
<i>Dasylobus graniferus</i> (CANESTRINI, 1871)	1	1.6
<i>Lophopilio palpinalis</i> (HERBST, 1799)	2	3.2
<i>Egaenus convexus</i> (C. L. KOCH, 1835)	3	4.8
<i>Oligolophus tridens</i> (C. L. KOCH, 1836)	12	19.0
<i>Lacinius horridus</i> (PANZER, 1794)	2	3.2
<i>Lacinius dentiger</i> (C. L. KOCH, 1848)	12	19.0
<i>Lacinius ephippiatus</i> (C. L. KOCH, 1835)	4	6.3
<i>Odiellus spinosus</i> (BOSC, 1792)	3	4.8
<i>Mitopus morio</i> (FABRICIUS, 1799)	2	3.2
<i>Gyas titanus</i> SIMON, 1879	1	1.6
<i>Gyas annulatus</i> (OLIVIER, 1791)	1	1.6
<i>Amilenus aurantiacus</i> (SIMON, 1881)	2	3.2
<i>Astrobonus laevipes</i> (CANESTRINI, 1872)	5	7.9
<i>Astrobonus helleri</i> (AUSSERER, 1867)	3	4.8
<i>Leiobunum roseum</i> C. L. KOCH, 1839	4	6.3
<i>Leiobunum limbatum</i> L. KOCH, 1861	4	6.3
<i>Leiobunum rotundum</i> (LATREILLE, 1798)	19	30.2
<i>Leiobunum rupestre</i> (HERBST, 1799)	11	17.5
<i>Nelima semproni</i> SZALAY, 1951	31	49.2

Systematic review of harvestman species (Opiliones) found in urban centres of Slovenia

Sironidae

Siro duricorius (JOSEPH, 1868)

Ribnica, VL76, 6.9.2000, MM leg.: 1 m - TN 827/2000; **ibid.**, 6.9.2000, MM leg.: 1 m, 3 f TN 830/2000; **Kočevje, VL85**, 6.9.2000, MM leg.: 1 m, 1 f TN 820/2000; **ibid.**, 6.9.2000, MM leg.: 2 m, 1 f - TN 824/2000; **Litija, VM80**, 10.9.2000, MM leg.: 1 f - TN 808/2000; **ibid.**, 10.9.2000, MM leg.: 1 m, 1 f TN 833/2000; **Novo Mesto, WL17**, 31.8.2000, MM leg.: 1 m TN 812/2000; **ibid.**, 31.8.2000, MM leg.: 2 mm - TN 813/2000; **Trebnje, WL09**, 29.8.2000, MM leg.: 1 m, 1 f - TN 790/2000; **Metlika, WL25**, 31.8.2000,

MM leg.: 1 m - TN 815/2000; **ibid.**, 31.8.2000, MM leg.: 1 f - TN 817/2000; **Brežice, WL48**, 30.8.2000, MM leg.: 2 m, 1 f TN 791/2000; **ibid.**, 30.8.2000, MM leg.: 1 m, 1 f TN 793/2000; **Hrastnik, WM01**, 30.8.2000, MM leg.: 1 m, 1 f TN 807/2000; **Dravograd, WM06**, Robindvor, 25.10.1995, SH, MP leg.: 1 f - LS 114/1996 (Hudrap et Pavlin, 1996).

Nemastomatidae

Nemastoma bidentatum bidentatum ROEWER, 1914

Idrija, VL29, Skirca, 10.6.2000, LS, TN leg.: 1 m TN 137/2000; **ibid.**, Brusovše, 6.1997, MV leg.: 1 f - TN 1702/1998; **Ljubljana, VM50**, pod Prevalom, 18.3.1993, SB leg.: 1 f - TN 664/1998; **ibid.**, **VM60**, 6.1972: 12 m, 29 f - TN 518/1981, JG det.; **Kamnik, VM62**, 29.10.2000, NŽ, LŽ leg.: 1 m, 2 f TN 885/2000; **Radlje, WM16**, 2.7.1939: 1 f TN 334/1983; **ibid.**, 15.5.1966, IL leg.: 1 f - **Mozirje, VM93** (Hadži 1973a, sub *N. s. fasciata*) TN 510/1981; **ibid.**, 15.5.1966, IL leg.: 1 f - TN 513/1981, JG det.; **ibid.**, 12.6.1966, IL leg.: 1 m - TN 514/1981; **ibid.**, 12.6.1966, IL leg.: 1 m - TN 517/1981; **ibid.**, 10.7.1966, IL leg.: 1 f - TN 525/1981, JG det.; **ibid.**, 8.8.1966, IL leg.: 1 f - TN 512/1981; **ibid.**, 26.8.1966, IL leg.: 3 mm TN 511/1981; **ibid.**, 26.8.1966, IL leg.: 1 f TN 512/1981, JG det.; **ibid.**, 26.8.1966, IL leg.: 1 f - TN 524/1981, JG det.; **ibid.**, 26.8.1966, IL leg.: 2 f - TN 515/1981, JG det.; **ibid.**, 9.9.1966, IL leg.: 1 f - TN 152/1982, JG det.; **ibid.**, 9.9.1966, IL leg.: 1 f - TN 516/1981, JG det.; **ibid.**, 9.9.1966, IL leg.: 1 f - TN 671/1981; **Celje, WM22**, 30.10.2000, NŽ, LŽ leg.: 1 m - TN 881/2000.

Nemastoma bidentatum sparsum GRUBER et MARTENS, 1968

Ribnica, VL76, 6.9.2000, MM leg.: 2 m, 3 f - TN 828/2000; **ibid.**, 6.9.2000, MM leg.: 1 m, 2 f TN 831/2000; **Litija, VM80**, 10.9.2000, MM leg.: 1 m TN 809/2000; **ibid.**, 10.9.2000, MM leg.: 2 f TN 834/2000; **Kočevje, VL85**, 6.9.2000, MM leg.: 3 f TN 822/2000; **ibid.**, 6.9.2000, MM leg.: 1 m, 1 f TN 825/2000; **Trebnje, WL09**, 29.8.2000, MM leg.: 2 m TN 787/2000; **ibid.**, 29.8.2000, MM leg.: 1 f TN 788/2000; **Črnomelj, WL14**, at the cave Gadina, 15.8.1999, MŠ, TN leg.: 1 f - TN 221/1999; **Novo Mesto, WL17**, date?, SK leg.: 1 m, 1 f - TN 108/1983 m; **ibid.**, 31.8.2000, MM leg.: 1 m, 1 f - TN 811/2000; **ibid.**, 31.8.2000, MM leg.: 1 f - TN 814/2000; **Metlika, WL25**, Sv. Urban, 18.04.1996, SB leg.: 1 m, 2 f - TN 784/1998; **ibid.**, 31.8.2000, MM leg.: 3 f - TN 816/2000; **ibid.**, 31.8.2000, MM leg.: 1 m - TN 818/2000; **Sevnica, WL29**, 29.8.2000, MM leg.: 1 m, 1 f - TN 785/2000; **Krško, WL39**, 23.8.2000, MM leg.: 1 f - TN 704/2000; **ibid.**, 24.8.2000, MM leg.: 1 m - TN 709/2000; **ibid.**, 25.8.2000, MM leg.: 1 m - TN 714/2000; **ibid.**, 25.8.2000, MM leg.: 1 m - TN 716/2000; **Brežice, WL48**, 30.8.2000, MM leg.: 1 m - TN 792/2000; **ibid.**, 30.8.2000, MM leg.: 1 m - TN 794/2000; **Hrastnik, WM01**, 30.8.2000, MM leg.: 3 f - TN 802/2000; **ibid.**, 30.8.2000, MM leg.: 2 f - TN 806/2000; **Radeče, WM10**, 29.8.2000, MM leg.: 2 f TN 796/2000; **ibid.**, 29.8.2000, MM leg.: 1 f TN 801/2000; **Radenci, WM86**, 20.9.1983, LS leg.: 2 m, 2 f - LS 119/1983; **ibid.**, 13.11.1983, MF, LS leg.: 1 f - LS 111/1983.

Nemastoma bidentatum bidentatum x *sparsum*

Ptuj, WM 64, 6.8.1983, TN, MŠ, LS leg.: 3 m, 3 f - TN 77/1983.

Paranemastoma quadripunctatum (PERTY, 1833)

Idrija, VL29, Brusovše, 6.1997, MV leg.: 2 mm TN 1701/1998; **ibid.**, cemetery, 17.6.2000, LS, TN leg.: 1 m, 1 f, 1 iuv. TN 191/2000; **Golnik, VM43**, 15.6.1929, JH leg.: 1 f TN 180/1981; **Ljubljana, VM50**, pod Prevalom, 18.3.1993, SB leg.: 1 iuv. TN 663/1998; **Novo Mesto, WL17**, 31.8.2000, MM leg.: 1 iuv. TN 810/2000; **Hrastnik, WM01**, 30.8.2000, MM leg.: 1 iuv. TN 803/2000; **Radlje, WM16**, 2.7.1939: 1 f TN 333/1983; **Ptuj, WM 64**, 6.8.1983, TN, MŠ, LS leg.: 1m, 3 ff, 3 iuv. - LS 82/1983.

Histicostoma dentipalpe (AUSSERER, 1867)

Kočevje, VL85, 6.9.2000, MM leg.: 1 f TN 823/2000; **Mozirje, VM93**, 9.7.1929, JH leg.: 1 m - TN 211/1981; **Metlika, WL25**, 31.8.2000, MM leg.: 1 f - TN 819/2000; **Brežice, WL48**, 30.8.2000, MM leg.: 1 f - TN 795/2000; **Radeče, WM10**, 29.8.2000, MM leg.: 1 f - TN 798/2000.

Carinostoma carinatum (ROEWER, 1914)

Idrija, VL29, 17.6.2000, LS, TN leg.: 1 f - TN 183/2000; **ibid.**, cemetery, 17.6.2000, LS, TN leg.: 1m, 1 f - TN 193/2000.

Mitostoma chrysomelas (HERMANN, 1804)

Radeče, WM10, 29.8.2000, MM leg.: 1 f - TN 799/2000.

Dicranolasmatidae

Dicranolasma scabrum (HERBST, 1799)

Idrija, VL29, 17.6.2000, LS, TN leg.: 2 m, 1 f, 3 iuv. TN 186/2000.

Trogulidae

Trogulus gr. *tricarinatus* LINNAEUS, 1767

Idrija, VL29, 17.6.2000, LS, TN leg.: 1 f - TN 182/2000.

Trogulus gr. *nepaeformis* (SCOPOLI, 1763)

Piran, UL84, 29.9.2000, MM leg.: 1 m, 1 iuv. - TN 843/2000; **Portorož, UL84** (Neuffer 1980); **Koper, UL94**, 30.9.2000, MM leg.: 1 f, 1 iuv. TN 837/2000; **Izola, UL94**, 29.9.2000, MM leg.: 2 iuv. - TN 840/2000; **Miren, UL98**, 6.8.1973, IS leg.: 2 m, 1 f - TN 537/1981; **ibid.**, 6.8.1973: 1 m - TN 538/81; **Kobarid, UM82** (Marcellino 1968); **Šempeter pri Novi gorici, UM98**, 03.8.1973, IS leg.: 1 m - TN 562/1981; **ibid.**, 31.8.1973, IS leg.: 2 f TN 551/1981; **ibid.**, 31.8.1973, IS leg.: 1 iuv. TN 560/1981; **Idrija, VL29**, Brusovše, 6.1997, MV leg.: 1 m, 1 f, 1 iuv. - TN 1712/1998; **ibid.**, Skirca, 10.6.2000, LS, TN leg.: 3 m, 2 ff, 2 subad., 1 iuv. TN 135/2000; **ibid.**, 17.6.2000, LS, TN leg.: 1 m, 1 f, 1 iuv. TN

187/2000; **ibid.**, Ejnštat, LS, TN leg.: 3 m, 1 iuv. - TN 222/2000; **Ribnica, VL76**, 6.9.2000, MM leg.: 2 iuv. TN 829/2000; **ibid.**, 6.9.2000, MM leg.: 1 iuv. - TN 832/2000; **Kočevje, VL85** (Neuffer 1980), **ibid.**, 6.9.2000, MM leg.: 1 iuv. - TN 821/2000; **ibid.**, 6.9.2000, MM leg.: 1 iuv. - TN 826/2000; **Radovljica, VM33**, 8.1938, LK leg.: 1 f - TN 568/1981; **Škofja Loka, VM41**, Moškrin, 6.1997, IM leg.: 2 m, 4 ff, 9 iuv. TN 1700/1998; **ibid.**, Grenc, 6.1997, ZK leg.: 1 f, 1 iuv. TN 1737/1998; **Kranj, VL42**, 20.10.1928, RK leg.: 1 iuv. TN 45/1985; **Golnik, VM43**, 05.6.1929: 1 m, 1 iuv. - TN 577/1981; **Ljubljana, VM50**, 6.1972: 5 m, 2 ff, 1 iuv. - TN 535/1981 (rev. 1985); **ibid.**, 6.1972: 1 m - TN 550/1981; **ibid.**, 6.1972: 1 f - TN 564/1981; **ibid.**: 1 m - TN 581/1981; **ibid., VL69**, Rudnik, 1969: 1 f - TN 573/1981; **Trebnje, WL09**, 29.8.2000, MM leg.: 1 iuv. TN 789/2000; **Sevnica, WL29**, 29.8.2000, MM leg.: 1 iuv. TN 784/2000; **ibid.**, 29.8.2000, MM leg.: 1 iuv. TN 786/2000; **Krško, WL39**, 23.8.2000, MM leg.: 3 mm - TN 703/2000; **ibid.**, 23.8.2000, MM leg.: 2 iuv. TN 706/2000; **ibid.**, 24.8.2000, MM leg.: 1 m - TN 708/2000; **Hrastnik, WM01**, 30.8.2000, MM leg.: 1 iuv. - TN 804/2000; **ibid.**, 30.8.2000, MM leg.: 1 f - TN 805/2000; **Radeče, WM10**, 29.8.2000, MM leg.: 1 iuv. - TN 797/2000; **ibid.**, 29.8.2000, MM leg.: 1 iuv. - TN 800/2000; **Podčetrtek, WM41**, 7.1980: 1 m, 1 f - TN 329/1982; **Slovenj Gradec, WM05**, Ozare, TN *vide* several times.

Trogulus tingiformis C. L. KOCH, 1848

Slovenj Gradec, WM05, Ozare, 4.12.2001, TN leg.: 1 f TN 10/202.

Ischyropsalididae

Ischyropsalis hellwigi hellwigi (PANZER, 1794)

Črnomelj, WL14, the cave Gadina (=Žopenca) (Hadži 1926/27, sub *I. pectinifera*; Hadži 1942: Gadina jama, sub *I. taunica*), 1905, AK leg.: 1 ex. - TN 48/1983 m.

Ischyropsalis kollari C. L. KOCH, 1839

Slovenj Gradec, WM05, Ozare, 19.8.1992, TN leg.: 1 m TN 99/1997.

Phalangiidae

Phalangium opilio LINNAEUS, 1761

Nova Gorica, UL98, 14.8.1973, IS leg.: 1 m subad., 1 f subad. TN 198/1981; **ibid.**, 7.10.1973, IS leg.: 1 iuv. - TN 139/1982; **Nova Gorica, UL99**, Rožna dolina, 13.7.1973, IS leg.: 1 m - TN 113/1982 (rev. 1985); **ibid.**, 28.8.1973, IS leg.: 2 ff, 1 iuv. - TN 84/1982; **ibid.**, 8.9.1973, IS leg.: 1 f - TN 129/1982; **ibid.**, 20.9.1973, IS leg.: 1 m - TN 201/1981; **Šempeter pri Novi Gorici, UL98**, 03.8.1973, IS leg.: 2 m, 1 f - TN 102/1982; **ibid.**, 24.8.1973, IS leg.: 3 iuv. TN 391/1982; **ibid.**, 14.9.1973, IS leg.: 4 iuv. TN 177/1982; **ibid.**, 21.9.1973, IS leg.: 1 iuv. - TN 179/1982; **ibid.**, 28.9.1973, IS leg.: 1 f TN 414/1981; **ibid.**, 28.9.1975: 1 iuv. TN 171/1982; **ibid.**, 28.9.1975, IS leg.: 5 iuv. - TN 196/1981; **Koper, VL04**, 9.1973: 1 m, 1 f - TN 88/1982; **ibid.**, Škocjan, 03.7.1973: 1 iuv. - TN 159/1982; **Ajdovščina, VL18**, 10.8.1973: 1 m - TN 478/1981; **Idrija, VL29**, 17.6.2000, LS, TN leg.: 1 iuv. - TN 184/2000;

ibid., 2.9.2000, LS, TN leg.: 1 f - TN 699/2000; **Postojna, VL36**, 30.9.2000, NČ, NŽ leg.: 1 m TN 751/2000; **ibid.**, 30.9.2000, NČ, NŽ leg.: 2 mm TN 748/2000; **Ribnica, VL76**, 28.7.2000, MM leg.: 2 f TN 625/2000; **ibid.**, 28.7.2000, MM leg.: 1 m TN 584/2000; **Grosuplje, VL 79**, 8.1922, FK leg.: 2 f TN 171/1985; **ibid.**, 8.1922, FK leg.: 1 m TN 175/1985; **ibid.**, 8.1922, FK leg.: 2 f TN 179/1985; **ibid.**, 8.1922, FK leg.: 1 m, 1 f, 1 iuv. - TN 185/1985; **ibid.**, 8.1922, FK leg.: 1 m, 4 f - TN 186/1985; **ibid.** 8.1922, FK leg., 9.1923: 1 m, 1 f TN 189/1985; **Kočevje, VL85**, 28.7.2000, MM leg.: 1 m TN 630/2000; **Bled, VM33**, 01.-11.3.1963, JH leg.: 2 mm LS 27/1986; **ibid.**, 1963, JH leg.: 2 ff, 2 iuv. - LS 31/1986; **Polhov Gradec, VM40**, 18.8.1929, JH leg.: 5 m, 2 f TN 253/1982; **Škofja Loka, VM41**, Grenc, 6.1997, ZK leg.: 1 f, 1 iuv. - TN 1734/1998; **Ljubljana, VM50**, 6.1972: 1 m TN 648/1981; **ibid.**, Kodeljevo, 05.1931, LK leg.: 2 iuv. - TN 169/1983; **ibid.**, Večna pot, 25.6.1939, JH leg.: 4 iuv. TN 437/1983; **ibid.**, Šentvid, 10.7.1993, AL leg.: 6 iuv. TN 1392/1998; **ibid.**, Mirje, date?: 1 m TN 605/1981 (rev. 1985); **Kranj, VM52**, NŽ leg., 28.9.2000: 1 m, 1 f TN 861/2000; **Nazarje, VM93**, 7.7.1985, DD leg.: 1 iuv. TN 1325/1998; **Mozirje, VM93**, 03.7.1929, JH leg.: 3 iuv. TN 614/1981, JH det.; **ibid.**, 9.7.1929, JH leg.: 1 m iuv. - TN 375/1981; **ibid.**, 10.7.1929, JH leg.: 3 iuv. - TN 608/1981; **ibid.**, 10.7.1929, JH leg.: 1 iuv. - TN 257/1982; **Črna na Koroškem, VM95**, 22.7.1974, TN leg.: 1 f - TN 195/1981; **Ravne na Koroškem, VM95**, NČ, BF leg.: 2 m, 5 f - TN 735/2000; 28.7.2000, NČ, BF leg.: 1 m, 1 f TN 790/2000; **ibid.**, 12.8.2000, NČ, BF leg.: 1 f - TN 740/2000; **ibid.**, 12.8.2000, NČ, BF leg.: 2 m, 5 f TN 735/2000; **ibid.**, 28.7.2000, NČ, BF leg.: 2 m, 3 f - TN 744/2000; **Sevnica, WL29**, 26.7.2000, M leg.: 1 m - TN 588/2000; **Krško, WL39**, 26.7.2000, MM leg.: 2 mm TN 610/2000; **ibid.**, 26.7.2000, MM leg.: 1 m TN 586/2000; **ibid.**, 24.8.2000, MM leg.: 1 f TN 710/2000; **Brežice, WL48**, 26.7.2000, MM leg.: 1 m TN 617/2000; **ibid.**, 26.7.2000, MM leg.: 1 m, 1 f TN 619/2000; **Hrastnik, WM01**, 27.7.2000, MM leg.: 1 m - TN 635/2000; **ibid.**, 27.7.2000, MM leg.: 2 m, 1 f - TN 633/2000; **Velenje, WM03**, 26.9.2000, NŽ leg.: 1 f TN 870/2000; **Slovenj Gradec, WM05**, 22.7.1974, TN leg.: 4 iuv. TN 135/1982; **Radlje, WM16**, 2.7.1939: 2 iuv. TN 336/1983; **ibid.**, 12.6.1966, IL leg.: 4 iuv. - TN 200/1982; **ibid.**, 27.6.1966, IL leg.: 1 m, 1 f, 1 iuv. - TN 94/1982; **ibid.**: 1 iuv. - TN 96/1982; **ibid.**, 10.7.1966, IL leg.: 1 f - TN 150/1982; **ibid.**, 27.7.1966, IL leg.: 2 m, 1 f TN 174/1982; **ibid.**, 26.8.1966, IL leg.: 1 m TN 178/1982; **Celje, WM22**, Spodnji grad, 22.8.2000, NŽ leg.: 1 f TN 872/2000; **Slovenske Konjice, WM33**, 17.8.1983 TN, LS leg.: 1 m - LS 212/1983; **Podčetrtek, WM41**, 7.1980: 2 iuv. TN 143/1982; **Pragersko, WM 54**, 17.8.1983, LS, TN leg.: 1 m TN 201/1983; **Maribor, WM46**, 24.7.2000, NČ, NŽ, TN, BF leg.: 1 m, 3 f - TN 780/2000; **ibid.**, **WM55**, 10.8.1982, DD leg.: 1 f - LS 168/1985; **ibid.**, 04.10.2000, NČ leg.: 1 m - TN 772/2000; **Ptuj, WM 64**, 6.8.1983, TN, MŠ, LS leg.: 4ff TN 267/1984; **ibid.**, 23.7.1983, TN, MŠ, MF, LS leg.: 2 m, 3 f - TN 316/1984; **Gornja Radgona, WM77**, 20.6.1982, MH leg.: 2 iuv. TN 574/1982; **Radenci, WM86**, 1982, MF leg.: 2 mm - TN 519/1982; **ibid.**, 10.7.1983, MF, LS leg.: 1 m, 1 m iuv., 4 ff, 2 f iuv. - LS 28/1983; **Ormož, WM94**, 23.7.1983, TN, MŠ, MF, LS leg.: 3 m, 2 f - LS 166/1983; **Ormož, WM 94**, 23.7.1983, leg.: TN, MŠ, LS leg.: 3 m, 2 f TN 218/1983; **Murska Sobota, WM97**, 1981, VK, TN leg.: 1 m TN 199/1981; **ibid.**, 10.8.1973, IS leg.: 1 f - TN 415/1981; **ibid.**, 28.9.1973, IS leg.: 1 f - TN 477/1981.

Metaphalangium cirtanum (C. L. KOCH, 1839)

Šempeter pri Novi Gorici, **UL98**, 21.9.1973, IS leg.: 1 iuv. TN 260/1982; Nova Gorica, **UL99**, 12.7.1973, IS leg.: 1 m, 1 f - TN 331/1982; **ibid.**, 10.9.1973, IS leg.: 2 iuv. -

TN 193/1982, JG det.; **ibid.**, Rožna dolina, 13.7.1973, IS leg. 2 m, 3 f - TN 114/1982; **ibid.**, 28.8.1973, IS leg.: 1 f - TN 85/1982.

Opilio parietinus (DE GEER, 1778)

Izola, UL94, 29.9.2000, MM leg.: 1 m - TN 838/2000; **Postojna, VL36**, 9.8.1963: 2 m, 3 ff, 5 iuv. - TN 355/1983; **ibid.**, 30.9.2000, NČ, NŽ leg.: 1 f - TN 719/2000; **Grosuplje, VL 79**, 8.1922, FK leg.: 2 m, 10 ff, 12 iuv. - LS 172/1985; **ibid.**: 1 m, 1 f, 1 iuv. - LS 185/1985; **ibid.**, 9.1923: 7 m, 6 ff, 5 iuv. - LS 188/1985; **Polhov Gradec, VM40**, 18.8.1929, JH leg.: 1 f TN 248a/1982; **Škofja Loka, VM41**, 28.9.2000, NŽ leg.: 1 iuv. - TN 844/2000; **ibid.**, 28.9.2000, NŽ leg.: 2 mm TN 851/2000; **Ljubljana, VM50**, Mirje, autumn 1926, JH leg.: 1 m TN 31/1983 m; **ibid.**, autumn 1926, JH leg.: 1 m - TN 32/1983 m; **ibid.**, autumn 1926, JH leg.: 1 m - TN 33/1983 m; **ibid.**, autumn 1926, JH leg.: 1 f - TN 100/1985 m; **ibid.**, autumn 1926, JH leg.: legs - TN 108/1985 m; **ibid.**, autumn 1926, JH leg.: 1 chelicera - TN 129/1985 m; **ibid.**, **VM60** (Hadži, 1928a; b); **Kamnik, VM62**, 29.10.2000, NŽ, LŽ leg.: 1 m TN 889/2000; **Krško, WL39**, 24.8.2000, MM leg.: 1 m - TN 711/2000; **ibid.**, 25.8.2000, MM leg.: 1 iuv. TN 715/2000; **Radlje, WM16**, 9.1923: 7 m, 6 ff, 5 iuv. - TN 188/1985; **ibid.**, 2.7.1939: 1 m - TN 337/1983; **ibid.**, 29.9.1981, TN leg.: 1 f - TN 387/1982, JG det.; **Velenje, WM03**, Pesje, 26.9.2000, NŽ leg.: 1 f - TN 860/2000; **Slovenj Gradec, WM05**, 7.7.1973, TN leg.: 1 f iuv. - TN 388/1982, JG det.; **Dravograd, WM06**, 18.7.1982, LS, TN leg.: 2 m, 7 iuv. - TN 517/1982; **Šentjur, WM32**, Hruševce, 28.9.2000, NŽ leg.: 1 m, 3 ff, 1 iuv. TN 847/2000; **Rogatec, WM52**, 20.6.1982, LP leg.: 1 m - TN 506/1982 (rev. 1986); **Maribor, WM55**, 10.8.1982, DD leg.: 1 m - LS 167/1985; **Ptuj, WM64**, 4.10.2000, NČ, BF leg.: 1 m TN 767/2000; **Gornja Radgona, WM77**, 20.6.1982, MH leg.: 1 m - TN 575/1982; **ibid.**, 27.9.2000, NČ, BF leg.: 1 m, 2 f - TN 723/2000; **Murska Sobota, WM97**, 1981, VK, TN leg.: 1 m - TN 200/1981; **ibid.**, 01.6.1981, TN leg.: 1 iuv. TN 395/1982, JG det.; **ibid.**, 05.6.1982, TN leg.: 1 iuv. TN 402/1982, JG det.; **ibid.**, 10.6.1982, TN leg.: 7 iuv. TN 442/1982; **ibid.**, 10.9.1981, TN leg.: 1 f - TN 371/1982; **ibid.**, 15.9.1981, TN leg.: 1 iuv. - LS 64/1986; **ibid.**, 16.9.1981, TN leg.: 1 iuv. - TN 121/1982, JG det.; **ibid.**, NČ, BF leg., 25.9.2000: 1 f - TN 728/2000.

Opilio saxatilis C. L. KOCH, 1839

Piran, UL84, 29.9.2000, MM leg.: 3 mm TN 841/2000; **Izola, UL94**, 29.9.2000, MM leg.: 1 f, 2 iuv. - TN 839/2000; **Rožna dolina, Nova Gorica, UL99**, 20.9.1973, IS leg.: 1 iuv. TN 157/1982; **Koper, UL94**, 30.9.2000, MM leg.: 2 ff, 1 iuv.(m) TN 836/2000; **Luka Koper, VL04**, 24.7.1973, IS leg.: 1 m, 5 f - TN 38/1982 (rev. 1986); **ibid.**, 2.8.1973, IS leg.: 1 f TN 365/1982; **Kozina, VL15**, 6.1995, SŠ leg.: 2 mm TN 1546/1998; **Postojna, VL36**, 30.9.2000, NČ, NŽ leg.: 1 m - TN 763/2000; **ibid.**, 30.9.2000, NČ, NŽ leg.: 1 m - TN 752/2000; **Iliška Bistrica, VL44**, 30.9.2000, NČ, NŽ leg.: 1 f - TN 759/2000; **ibid.**, 30.9.2000, NČ leg.: 2 mm - TN 746/2000; **Bled, VM33**, 10.1931, LK leg.: 1 m - TN 16/1981; **Škofja Loka, VM41**, 28.9.2000, NŽ leg.: 1 f TN 845/2000; **ibid.**, 28.9.2000, NŽ leg.: 2 f TN 846/2000; **ibid.**, 28.9.2000, NŽ leg.: 1 m, 1 f, 1 iuv. TN 848/2000; **ibid.**, 28.9.2000, NŽ leg.: 1 m, 6 f TN 852/2000; **Kranj, VM42**, 28.9.2000, NŽ leg.: 1 m, 2 f - TN 849/2000; **Polhov Gradec, VM40**, 18.8.1929, JH leg.: 4 f TN 248/1982; **Ljubljana, VM 50**, Mirje, date?: 1 f - TN 606/1981; **ibid.**, autumn, 1926, JH leg.: 1 m TN 35/1983 m; **ibid.**, 24.10.1929, JH leg.: 1 m TN 145/1983, JG det. 1985; **ibid.**, Šiška, 29.10.2000, NŽ, LŽ leg.: 1 m TN 883/2000; **Kranj, VM52**, 29.10.2000, NŽ, LŽ leg.: 1 f - TN 876/2000; **ibid.**, 29.10.2000, NŽ, LŽ leg.: 2 mm - TN 887/2000; **Ljubljana, VM60**, castle, 4.6.1927, JH leg.: 1 m, 1 f - TN 26/1982; **ibid.**, Nove

Jarše, NČ, NŽ leg., 30.9.2000: 2 mm - TN 749/2000; **ibid.**, Bežigrad, NČ, NŽ leg., 30.9.2000: 2 m, 1 iuv. - TN 750/2000; **Kamnik, VM62**, 27.9.2000, NŽ leg.: 4 mm - TN 850/2000; **ibid.**, 27.9.2000, NŽ leg.: 3 m, 1 f - TN 855/2000; **ibid.**, 27.9.2000, NŽ leg.: 1 m, 5 f - TN 866/2000; **ibid.**, 27.9.2000, NŽ leg.: 1 m, 1 f, 1 iuv. - TN 868/2000; **ibid.**, 29.10.2000, NŽ, LŽ leg.: 1 m - TN 891/2000; **ibid.**, 29.10.2000, NŽ, LŽ leg.: 1 m - TN 890/2000; **Ravne na Koroškem, VM95**, 12.8.2000, NČ, BF leg.: 4 iuv. - TN 718/2000; **Velenje, WM03**, 26.9.2000, NŽ leg.: 3 m, 2 f - TN 856/2000; **ibid.**, 26.9.2000, NŽ leg.: 1 m, 2 iuv. - TN 871/2000; **ibid.**, Pesje, 26.9.2000, NŽ leg.: 4 mm - TN 859/2000; **Celje, WM22**, 26.9.2000, NŽ, LŽ leg.: 1 m, 4 iuv. - TN 857/2000; **ibid.**, 28.9.2000, NŽ leg.: 2 m, 2 f - TN 865/2000; **ibid.**, 30.10.2000, NŽ leg.: 1 f - TN 888/2000; **ibid.**, Staro Celje, 22.8.2000, NŽ leg.: 1 f, 2 iuv. - TN 853/2000; **Krško, WL39**, 23.8.2000, MM leg.: 1 f - TN 707/2000; **ibid.**, 24.8.2000, MM leg.: 2 iuv. - TN 712/2000; **ibid.**, 25.8.2000, MM leg.: 1 iuv. - TN 713/2000; **Brežice, WL48**, 26.7.2000, MM leg.: 1 m - TN 622/2000; **Rogatec, WM52**, 20.6.1982, LP leg.: 1 m, 3 f - TN 507/1982; **Ptuj, WM64**, 04.10.2000, NČ, BF leg.: 2 m, 2 f - TN 771/2000; **ibid.**, 04.10.2000, NČ, BF leg.: 3 m, 1 f - TN 768/2000; **Gornja Radgona, WM77**, 27.9.2000, NČ, BF leg.: 4 m, 5 ff, 2 iuv. - TN 724/2000; **ibid.**, 27.9.2000, NČ, BF leg.: 5 m, 1 f - TN 725/2000; **ibid.**, 27.9.2000, NČ, BF leg.: 3 mm - TN 717/2000; **ibid.**, 27.9.2000, NČ, BF leg.: 1 m, 1 f - TN 766/2000; **Murska Sobota, WM97**, 04.7.1980, VK, TN leg.: 2 mm - TN 373/1982; **ibid.**, 15.9.1981, TN leg.: 1 m - TN 370/1982 (rev. 1986); **ibid.**, 16.9.1981, TN leg.: 2 ff, 5 iuv. - TN 121/1982; **ibid.**, 25.9.2000, NČ, BF leg.: 4 m, 7 iuv. - TN 731/2000; **ibid.**, 25.9.2000, NČ, BF leg.: 1 m, 2 ff, 1 iuv. - TN 732/2000; **ibid.**, 25.9.2000, NČ, BF leg.: 1 m, 1 f, 1 iuv. - TN 727/2000.

Opilio dinaricus ŠILHAVY, 1938

Nova Gorica, UL98, 10.9.1973, IS leg.: 2 f - TN 194/1982; **Škofja Loka, VM41**, Grenc, 9.1996, ZK leg.: 1 m - TN 1704/1998; **Ljubljana, VM50**, 1921: 1 f - TN 131/1983; **ibid.**, Kodeljevo, 05.1931, LK leg.: 2 ff, 2 iuv. - TN 170/1983; **Radlje, WM16**, 12.6.1966, IL leg.: 1 f, 14 iuv. - TN 218/1982 (rev. 1986); **ibid.**, 27.6.1966, IL leg.: 7 m, 3 f - TN 95/1982; **ibid.**, 10.7.1966, IL leg.: 2 f - TN 151/1982; **ibid.**, 10.7.1966, IL leg.: 3 mm - TN 188/1982; **ibid.**, 27.7.1966, IL leg.: 1 m, 2 f - TN 176/1982.

Opilio ruzickai ŠILHAVY, 1938

Bled, VM33, 27.7.year?, JH leg.: 1 m - TN 406/1983; **Radovljica, VM33** (Hadži 1973a, b, sub *O. pictus*); **Kranj, VM52**, 29.10.2000, NŽ, LŽ leg.: 1 f - TN 878/2000.

Opilio transversalis ROEWER, 1956

Nova Gorica, UL99 (Gruber 1984); 21.9.1973, IS leg.: 1 m - TN 132/1982, JG det.; **Iliška Bistrica, VL44**, 30.9.2000, NČ, NŽ leg.: 1 m - TN 761/2000.

Opilio canestrinii (THORELL, 1876)

Ljubljana, VM50, Šiška, 30.9.2000, NČ, NŽ leg.: 1 m - TN 753/2000; **ibid.**, 29.10.2000, NŽ leg.: 1 m - TN 873/2000.

Platybunus bucephalus (C. L. KOCH, 1835)

Ljubljana, VM50, 1933, JH leg.: 1 f - TN 341/1983; **Metlika, WL25**, Sv. Urban, 18.04.1996, SB leg.: 2 iuv. - TN 785/1998; **Dravograd, WM06**, Robindvor, 25.10.1995, SH,

MP leg.: 2 iuv. LS 63/1996 (Hudrap et Pavlin 1996); **Radenci, WM86**, 13.11.1983, LS, MSN, TN leg.: 1 iuv. f - LS 23/1984.

Rilaena triangularis (HERBST, 1799)

Ljubljana, VM50, near Gradaščica brook, 30.5.1927, JH leg.: 1 f - TN 683/1981; **ibid.**, Večna pot, 14.6.1927, JH leg.: 3 m, 4 iuv. - TN 40/1982; **ibid.**, **VL60**, Mestni log, 04.5.1967: 1 f TN 254/1982; **Mozirje, VM93**, 9.7.1929, JH leg.: 2 iuv. TN 369/1981; **Radlje, WM16**, 12.6.1966, IL leg.: 1 iuv. - TN 168/1982; **Maribor, WM45**, aside Razvanjski potok brook, 6.1997, MZ leg.: 2 m, 1 f - TN 1752/1998; **ibid.**, **WM55**, 04.10.2000, NČ leg.: 1 iuv. - TN 769/2000; **ibid.**, 04.10.2000, NČ leg.: 1 iuv. - TN 774/2000.

Dasylobus graniferus (CANESTRINI, 1871)

Nova Gorica, UL99, 10.9.1973: 1 iuv. - TN 137/1982 (rev. 1986).

Lophopilio palpinalis (HERBST, 1799)

Ljubljana, VM50, 6.1972: 3 m, 1 iuv. - TN 80/1982; **Radlje, WM16**, 15.5.1966, IL leg.: 2 iuv. - TN 611/1981; **ibid.**, 15.5.1966, IL leg.: 2 iuv. - TN 30/1982; **ibid.**, 29.5.1966, IL leg.: 1 iuv. - TN 39/1982; **ibid.**, 29.5.1966, IL leg.: 4 iuv. - TN 172/1981; **ibid.**, 29.5.1966, IL leg.: 1 iuv. - TN 659/1981; **ibid.**, 12.6.1966, IL leg.: 2 iuv. TN 34/1982; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 161/1982; **ibid.**, 12.6.1966, IL leg.: 3 iuv. - TN 170/1981; **ibid.**, 12.6.1966, IL leg.: 2 iuv. - TN 190/1982, JG det.; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 640/1981; **ibid.**, 27.6.1966, IL leg.: 1 iuv. - TN 48/1981; 27.6.1966, IL leg.: 1 iuv. - TN 643/1981; **ibid.**, 10.7.1966, IL leg.: 1 iuv. - TN 6/1985; **ibid.**, 27.7.1966, IL leg.: 1 iuv. - TN 196/1982; **ibid.**, 27.7.1966: 1 iuv. TN 9/1985; **ibid.**, 8.8.1966, IL leg.: 2 iuv. - TN 95/1981; **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 148/1981; **ibid.**, 8.8.1966, IL leg.: 1 iuv. - TN 167/1981; **ibid.**, 8.8.1966, IL leg.: 6 iuv. - TN 2/1982; **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 240/1982; **ibid.**, 8.8.1966, IL leg.: 6 iuv. TN 17/1985; **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 18/1985; **ibid.**, 26.8.1966, IL leg.: 5 iuv. TN 57/1981; **ibid.**, 26.8.1966, IL leg.: 1 iuv. TN 105/1981; **ibid.**, 26.8.1966, IL leg.: 7 iuv. - TN 106/1981; **ibid.**, 26.8.1966, IL leg.: 5 iuv. - TN 160/1981; **ibid.**, 26.8.1966, IL leg.: 2 iuv. - TN 163/1981; **ibid.**, 26.8.1966, IL leg.: 2 m, 3 f - TN 444/1981; **ibid.**, 26.8.1966, IL leg.: 3 ff, 1 iuv. - TN 646/1981; **ibid.**, 26.8.1966, IL leg.: 1 iuv. - TN 23/1985; **ibid.**, 9.9.1966, IL leg.: 3 ff, 1 iuv. - TN 103/1981; **ibid.**, 9.9.1966, IL leg.: 1 iuv. - TN 653/1981; **ibid.**, 9.9.1966, IL leg.: 1 iuv. TN 660/1981; **ibid.**, 9.9.1966, IL leg.: 4 iuv. - TN 662/1981.

Egaenus convexus (C. L. KOCH, 1835)

Kranj, VM42, 20.10.1928, RK leg.: 1 iuv. - TN 23/1983 m; **Golnik, VM43**, 15.6.1929, JH leg.: 2 f TN 633/1981; **Radlje, WM16**, 9.5.1966, IL leg.: 1 iuv. TN 69/1981; **ibid.**, 15.5.1966, IL leg.: 1 iuv. - TN 242/1982; **ibid.**, 29.5.1966, IL leg.: 2 ff, 1 iuv. - TN 486/1981; **ibid.**, 12.6.1966, IL leg.: 3 f - TN 481/1981; **ibid.**, 12.6.1966, IL leg.: 1 m - TN 483/1981; **ibid.**, 12.6.1966, IL leg.: 1 f - TN 485/1981; **ibid.**, 27.6.1966, IL leg.: 1 f TN 480/1981; **ibid.**, 10.7.1966, IL leg.: 1 f - TN 482/1981; **ibid.**, 27.7.1966, IL leg.: 1 f - TN 484/1981; **ibid.**, 9.9.1966, IL leg.: 2 iuv. - TN 635/1981.

Oligolophus tridens (C. L. KOCH, 1836)

Postojna, VL36 (Di Caporiacco 1937); **ibid.**, 30.9.2000, NČ, NŽ leg.: 3 mm TN 764/2000; **Litija, VM80**, 27.7.2000, MM leg.: 1 iuv. - TN 640/2000; **Ravne na Koroškem**,

VM95, 28.7.2000, NČ, BF leg.: 1 f - TN 738/2000; **Sevnica, WL29**, 29.8.2000, MM leg.: 1f TN 783/2000; **Slovenj Gradec, WM05**, 14.8.2000, NČ, BF leg.: 9 m, 6 ff, 3 subad. - TN 722/2000; **ibid.**, 14.8.2000, NČ leg.: 1 m, 4 f TN 736/2000; **Radlje, WM16**, 2.7.1939: 1 iuv. - TN 53/1985; **ibid.**, 29.5.1966, IL leg.: 5 iuv. TN 637/1981; **ibid.**, 15.5.1966, IL leg.: 2 iuv. - TN 25/1982, JG det.; **ibid.**, 15.5.1966, IL leg.: 1 iuv. - TN 238/1982, JG det.; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 639/1981; **ibid.**, 12.6.1966, IL leg.: 2 iuv. - TN 32/1982; **ibid.**, 12.6.1966, IL leg.: 2 iuv. - TN 35/1982; **ibid.**, 12.6.1966, IL leg.: 7 iuv. - TN 191/1982 (rev. 1985); **ibid.**, 27.6.1966, IL leg.: 1 iuv. - TN 155/1981; **ibid.**, 27.6.1966, IL leg.: 2 iuv. - TN 638/1981; **ibid.**, 27.6.1966, IL leg.: 4 iuv. TN 439/1981; **ibid.**, 27.6.1966, IL leg.: 5 iuv. TN 456/1981; **ibid.**, 27.6.1966, IL leg.: 2 iuv. - TN 642/1981; **ibid.**, 7.7.1966, IL leg.: 4 iuv. - TN 97/1981; **ibid.**, 10.7.1966, IL leg.: 1 iuv. - TN 24/1981; **ibid.**, 10.7.1966, IL leg.: 9 iuv. - TN 28/1981; **ibid.**, 10.7.1966, IL leg.: 2 iuv. - TN 126/1981; **ibid.**, 10.7.1966, IL leg.: 1 iuv. TN 364/1981; **ibid.**, 10.7.1966, IL leg.: 3 iuv. - TN 657/1981; **ibid.**, 10.7.1966, IL leg.: 4 iuv. - TN 667/1981; **ibid.**, 27.7.1966, IL leg.: 8 iuv. - TN 128/1981; **ibid.**, 27.7.1966, IL leg.: 10 iuv. - TN 131/1981; **ibid.**, 27.7.1966, IL leg.: 1 iuv. - TN 6/1982, JG det.; **ibid.**, 27.7.1966, IL leg.: 4 iuv. - TN 114/1982; **ibid.**, 27.7.1966, IL leg.: 10 iuv. - TN 195/1982 (rev. 1985); **ibid.**, 8.8.1966: 2 iuv. - TN 30/1981; **ibid.**, 8.8.1966: 2 iuv. - TN 31/1981; **ibid.**, 8.8.1966, IL leg.: 2 iuv. TN 84/1981; **ibid.**, 8.8.1966, IL leg.: 2 iuv. TN 85/1981; **ibid.**, 8.8.1966, IL leg.: 2 iuv. TN 86/1981; **ibid.**, 8.8.1966, IL leg.: 4 iuv. TN 89/1981; **ibid.**, 8.8.1966, IL leg.: 2 ff, 2 iuv. - TN 91/1981; **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 92/1981; **ibid.**, 8.8.1966, IL leg.: 1 iuv. - TN 93/1981; **ibid.**, 8.8.1966, IL leg.: 11 iuv. - TN 140/1981; **ibid.**, 8.8.1966, IL leg.: 6 iuv. TN 146/1981, JG det.; **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 159/1981 (rev. 1985); **ibid.**, 8.8.1966, IL leg.: 1 iuv. TN 359/1981; **ibid.**, 8.8.1966, IL leg.: 2 iuv. TN 3/1982; **ibid.**, 8.8.1966, IL leg.: 15 iuv. TN 184/1982 (rev. 1985); **ibid.**, 8.8.1966, IL leg.: 3 iuv. TN 239/1982; **ibid.**, 9.9.1966, IL leg.: 1 f - TN 88/1981; **ibid.**, 9.9.1966, IL leg.: 2 f TN 104/1981; **ibid.**, 26.8.1966: 1 f, 2 iuv. - TN 40/1981 (rev. 1985); **ibid.**, 26.8.1966, IL leg.: 1 f TN 73/1981; **ibid.**, 26.8.1966, IL leg.: 3 iuv. TN 90/1981; **ibid.**, 26.8.1966, IL leg.: 1 iuv. TN 149/1981; **ibid.**, 26.8.1966, IL leg.: 1 f - TN 156/1981; **ibid.**, 26.8.1966, IL leg.: 1 f TN 376/1981 (rev. 1985); **ibid.**, 26.8.1966, IL leg.: 1 f TN 432/1981; **ibid.**, 26.8.1966, IL leg.: 2 iuv. - TN 434/1981; **ibid.**, 26.8.1966, IL leg.: 2 iuv. - TN 443/1981 (rev. 1985); **ibid.**, 26.8.1966, IL leg.: 2 iuv. - TN 645/1981; **ibid.**, 26.8.1966, IL leg.: 3 m, 2 f - TN 163/1982 (rev. 1985); **ibid.**, 26.8.1966, IL leg.: 1 f - TN 189/1982; **ibid.**, 9.9.1966, IL leg.: 1 f, 1 iuv. TN 192/1982 (rev. 1985); **ibid.**, 9.9.1966, IL leg.: 1 iuv. TN 241/1982; **ibid.**, date?, 1966, IL leg.: 2 iuv. TN 28/1982; **Celje, WM22**, 28.9.2000, NŽ leg.: 1 m TN 864/2000; **ibid.**, 30.10.2000, NŽ leg.: 4 mm TN 882/2000; **Slovenske Konjice, WM33**, 17.8.1983, LS, TN leg.: 10 iuv. LS 294/1985; **Maribor, WM46**, 24.7.2000, NČ, NŽ, TN, BF leg.: 1 f, 4 iuv. TN 782/2000; **ibid.**, **WM56**, 04.10.2000, NČ leg.: 1 f - TN 776/2000; **Rogaška Slatina, WM52** (Hadži 1936, sub *L. labacensis*); **Ptuj, WM64**, 6.8.1983, TN, MŠ, LS leg.: 2 iuv. LS 34/1984; **Murska Sobota, WM97**, 16.9.1981, TN leg.: 1 m TN 118/1982; **ibid.**, 25.9.2000, NČ, BF leg.: 1 m, 2 f - TN 729/2000.

Lacinius horridus (PANZER, 1794)

Radovljica, VM33 (Hadži 1973a); **Polhov Gradec, VM40**, 18.8.1929, JH leg.: 1 iuv. TN 20/1981.

Lacinius dentiger (C. L. KOCH, 1848)

Ilirska Bistrica, VL44, 30.9.2000, NČ, NŽ leg.: 1 m - TN 757/2000; **Grosuplje, VL79**, 8.1925, FK leg.: 1 f - LS 187/1985; **ibid.**, 8.1925, FK leg.: 1 f TN 187/1985; **Mojstrana**,

VM14, 10.7.1929, JH: 5 iuv. TN 165/1981; **Bled**, **VM33**, 10.1931, LK leg.: 1 m TN 17/1981; **ibid.**, 01.-11.3.1963, JH leg.: 2 iuv. - LS 28/1986; **ibid.**, 1963, JH leg.: 2 ff, 2 iuv. LS 32/1986; **ibid.**, 26.8.1966: 1 iuv. - TN 41/1981; **ibid.**, near the Radovna river, 9.11.1989, BH, IS leg.: 1 f - TN 1255/1997; **Ljubljana**, **VM50**, 16.10.1926, JH: 1 m - TN 94/1981; **ibid.**, **VM60** (Hadži 1931, 1936, sub *L. labacensis*); **ibid.**, Vegova ulica, date?: 1 f - TN 80/1983 m; **ibid.**, Šiška, 29.10.2000, NŽ, LŽ leg.: 1 m - TN 874/2000; **ibid.**, 12.11.1928, JH leg.: 3 mm - TN 27/1981; **ibid.**, **VM60**, date?, JH leg.: 1 f - TN 119/1981; **Kranj**, **VM52**, 29.10.2000, NŽ, LŽ leg.: 1 m - TN 875/2000; **Kamnik**, **VM62**, 27.9.2000, NŽ leg.: 2 f - TN 867/2000; **ibid.**, 29.10.2000, NŽ, LŽ leg.: 2 mm - TN 880/2000; **Velenje**, **WM03**, Pesje, 26.9.2000, NŽ leg.: 1 f - TN 858/2000; **Slovenj Gradec**, **WM05**, 14.8.2000, NČ, BF leg.: 1 iuv. - TN 720/2000; **Dravograd**, **WM06**, Robindvor, 25.10.1995, SH, MP leg.: 1 m LS 55/1996 (Hudrap et Pavlin 1996); **ibid.**, 25.10.1995, SH, MP leg.: 1 f LS 57/1996 (Hudrap et Pavlin 1996); **Radlje**, **WM16**, 2.7.1939: 1 iuv. TN 335/1983; **ibid.**, 29.5.1966, IL leg.: 1 iuv. TN 173/1981; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 115/1981; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 134/1981; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 164/1981; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 219/1982; **ibid.**, 10.7.1966, IL leg.: 1 iuv. - TN 29/1981; **ibid.**, 10.7.1966, IL leg.: 4 iuv. TN 36/1981; **ibid.**, 10.7.1966, IL leg.: 1 iuv. TN 60/1981; **ibid.**, 10.7.1966, IL leg.: 1 iuv. - TN 144/1981; **ibid.**, 27.7.1966, IL leg.: 2 iuv. (ff) - TN 45/1981; **ibid.**, 27.7.1966, IL leg.: 5 iuv. - TN 63/1981; **ibid.**, 27.7.1966, IL leg.: 6 iuv. - TN 175/1982; **ibid.**, 8.8.1966, IL leg.: 1 iuv. - TN 108/1981; **ibid.**, 8.8.1966, IL leg.: 5 iuv. TN 132/1981; **ibid.**, 26.8.1966, IL leg.: 1 m, 3 ff, 1 iuv. - TN 72/1981; **Maribor**, **WM45**, aside the Razvanjski potok brook, 6.1997, MZ leg.: 1 iuv. - TN 1751/1998; **Radenci**, **WM86**, 25.7.1983, LS, TN leg.: 1 iuv. - LS 94/1984.

Lacinius ephippiatus (C. L. KOCH, 1835)

Idrija, **VL29**, Brusovše, 6.1997, MV leg.: 1 subad. TN 1711/1998; **Ljubljana**, **VM50**, Jerinov bajer, 25.7.1939: 1 f TN 413/1983; **ibid.**, Večna pot, 25.6.1939, JH leg.: 1 f TN 436/1983; **ibid.**, **VM60** (Hadži 1931, sub *L. oligodentatus*); **Radlje**, **WM16**, 12.6.1966: 2 iuv. - TN 22/1985; **ibid.**, 27.6.1966, IL leg.: 1 iuv. - TN 664/1981 (rev. 1985); **ibid.**, 8.8.1966, IL leg.: 3 iuv. - TN 139/1981; **ibid.**, 9.9.1966, IL leg.: 1f - TN 15/1985; **Podčetrtek**, **WM41**, 13.8.1983, LS, TN leg.: 2 mm - LS 296/1985.

Odiellus spinosus (BOSC, 1792)

Rožna dolina, **Nova Gorica**, **UL99**, 20.9.1973, IS leg.: 1 f - TN 14/1981; **Luka Koper**, **VL04**, 24.7.1973, IS leg.: 2 iuv. TN 125/1981; **ibid.**, 2.8.1973, IS leg. 1 iuv. (f) TN 366/1982; **Ilirska Bistrica**, **VL44**, 30.9.2000, NČ, NŽ leg.: 1 m TN 760/2000; **ibid.**, 30.9.2000, NČ, NŽ leg.: 1 f TN 758/2000; **ibid.**, 30.9.2000, NČ, NŽ leg.: 1 m TN 755/2000.

Mitopus morio (FABRICIUS, 1799)

Škofja Loka, **VM41**, Grenc, 6.1997, ZK leg.: 1 iuv. - TN 1735/1998; **Maribor**, **WM45**, aside the Razvanjski potok brook, 6.1997, MZ leg.: 1 m, 2 ff, 4 iuv. - TN 1753/1998.

Gyas titanus SIMON, 1879

Maribor, **WM45**, aside the Razvanjski potok brook, 6.1997, MZ leg.: 2 m, 1 f TN 1744/1998; **ibid.**: 1 iuv. - TN 1754/1998.

Gyas annulatus (OLIVIER, 1791)

Tolmin, VM01, near the Tolminka brook, 10.5.1989, BH, JH leg.: 3 iuv. - TN 1235/1997.

Amilenus aurantiacus SIMON, 1881

Postojnska jama, Postojna, VL37, 16.3.1967: 1 m, 4 f - TN 644/1983; **Kočevje, VL85**, 01.3.1959: 4 m, 4 f - TN 248/1981.

Astrobus laevipes (CANESTRINI, 1872)

Miren, UL98, 6.8.1973, IS leg.: 3 f - TN 473/1981; **ibid.**, 20.8.1973, IS leg.: 1 m - TN 421/1981; **Ljubljana, VM50**, 1933, JH leg.: 1 f, 1 ex. - TN 338/1983; **Ljubljana, VL59**, Mestni log, 25.3.year?: 2 iuv. - TN 280/1981; **ibid.**, **VM60** (Hadži 1973b, sub *A. bernardicus*); **Kamnik, VM62**, 29.10.2000, NŽ, LŽ leg.: 1 f - TN 884/2000; **Radlje, WM16**, 29.5.1966, IL leg.: 1 f - TN 419/1981; **ibid.**, 29.5.1966, IL leg.: 2 mm - TN 429/1981; **ibid.**, 12.6.1966, IL leg.: 2 f - TN 424/1981; **ibid.**, 12.6.1966, IL leg.: 1 m - TN 428/1981; **ibid.**, 12.6.1966, IL leg.: 3 mm - TN 441/1981; **ibid.**, 12.6.1966, IL leg.: 1 m, 1 iuv. - TN 454/1981; **ibid.**, 12.6.1966, IL leg.: 4 mm - TN 465/1981; **ibid.**, 12.6.1966, IL leg.: 1 iuv. - TN 641/1981, JG det.; **ibid.**, 27.6.1966, IL leg.: 1 m, 1 f - TN 438/1981; **ibid.**, 27.6.1966, IL leg.: 1 m - TN 455/1981; **ibid.**, 7.7.1966, IL leg.: 2 mm - TN 98/1981; **ibid.**, 7.7.1966, IL leg.: 1 iuv. - TN 99/1981; **ibid.**, 10.7.1966, IL leg.: 3 iuv., cf. 1 iuv. - TN 427/1981; **ibid.**, 10.7.1966, IL leg.: 1 m, 4 iuv. - TN 452/1981; **ibid.**, 10.7.1966, IL leg.: 2 iuv. - TN 632/1981, JG det.; **ibid.**, 27.7.1966, IL leg.: 1 f, 1 iuv. - TN 129/1981; **ibid.**, 27.7.1966, IL leg.: 2 m, 4 f - TN 437/1981; **ibid.**, 27.7.1966, IL leg.: 2 m, 1 f - TN 448/1981; **ibid.**, 27.7.1966, IL leg.: 1 m, 2 f - TN 172/1982; 27.7.1966, IL leg.: 3 f - TN 467/1981; **ibid.**, 8.8.1966, IL leg.: 1 f - TN 141/1981; **ibid.**, 8.8.1966, IL leg.: 1 m, 1 f - TN 420/1981; **ibid.**, 8.8.1966, IL leg.: 1 m - TN 425/1981; **ibid.**, 8.8.1966, IL leg.: 1 m, 1 f - TN 430/1981; **ibid.**, 8.8.1966, IL leg.: 1 m - TN 469/1981; **ibid.**, 26.8.1966, IL leg.: 1 iuv. - TN 56/1981; **ibid.**, 26.8.1966, IL leg.: 1 f - TN 418/1981; **ibid.**, 26.8.1966, IL leg.: 1 m - TN 423/1981; **ibid.**, 26.8.1966, IL leg.: 6 m, 25 f - TN 431/1981; **ibid.**, 26.8.1966, IL leg.: 4 m, 3 f - TN 433/1981; **ibid.**, 26.8.1966, IL leg.: 8 m, 6 f - TN 435/1981; **ibid.**, 26.8.1966, IL leg.: 1 m - TN 440/1981; **ibid.**, 26.8.1966, IL leg.: 2 m, 3 f - TN 442/1981; **ibid.**, 26.8.1966, IL leg.: 4 m, 4 f - TN 445/1981; **ibid.**, 26.8.1966, IL leg.: 1 m - TN 461/1981; **ibid.**, 26.8.1966, IL leg.: 1 m - TN 462/1981; **ibid.**, 26.8.1966, IL leg.: 2 mm - TN 466/1981; **ibid.**, 9.9.1966, IL leg.: 6 m, 11 f - TN 422/1981; **ibid.**, 9.9.1966, IL leg.: 1 m - TN 468/1981; **ibid.**, 9.9.1966, IL leg.: 4 m, 2 f - TN 472/1981; **ibid.**, cf. 2 iuv. - TN 459/1981; **Ptuj, WM64**, 6.8.1983, TN, MŠ, LS leg.: 1 m, 1 f - LS 166/1983.

Astrobus helleri (AUSSERER, 1867)

Polhov Gradec, VM 40 (Hadži 1931, sub *A. slovenicus*); **Mozirje, VM93**, 10.7.1929, JH leg.: 1 f, 5 iuv. - TN 464/1981 (Hadži, 1931, sub *A. slovenicus*); **Slovenj Gradec, WM05**, Ozare, 7.11.1997, TN leg.: 1 f - TN 421/1998.

Leiobunum roseum C. L. KOCH, 1839

Idrija, VL29, 2.9.2000, LS, TN leg.: 1 m - TN 698/2000; **Postojna, VL36**, NČ, NŽ leg., 30.9.2000: 1 m - TN 747/2000; **Bled, VM33**, 01.-11.3.1963, JH leg.: 3 ff, 3 iuv. - LS

29/1986; **ibid.**, 1963, JH leg.: 1 f, 3 iuv. LS 30/1986; **Slovenj Gradec, WM05**, Ozare, 6.8.1988, LS leg.: 1 iuv. - TN 420/1998; **ibid.**, 25.8.1996, TN leg.: 1 m, 1 f - TN 52/1997.

Leiobunum limbatum L. KOCH, 1861

Ljubljana, VM50, 30.7.1982, LS, TN: 1 m - TN 585/1982; **ibid.**, 04.12.1983, MŠ leg.: 1 m - LS 30/1983; **Kranj, VM52**, 29.10.2000, NŽ, LŽ leg.: 3 mm - TN 886/2000; **Kamnik, VM62**, 29.10.2000, NŽ, LŽ leg.: 2 mm - TN 877/2000; **ibid.**, 29.10.2000, NŽ, LŽ leg.: 1 f - TN 879/2000; **Dravograd, WM06**, 18.7.1982, LS, TN leg.: 16 iuv. TN 518/1982; **ibid.**, Robindvor, 25.10.1995, SH, MP leg.: 1 f - LS 56/1996 (Hudrap et Pavlin 1996).

Leiobunum rotundum (LATREILLE, 1798)

Ribnica, VL76, 28.7.2000, MM leg.: 1 f - TN 626/2000; **ibid.**, 28.7.2000, MM leg.: 1 m, 2 f - TN 582/2000; **ibid.**, 28.7.2000, MM leg.: 1 f - TN 585/2000; **Kočevje, VL85**, 28.7.2000, MM leg.: 1 m, 1 f TN 651/2000; **ibid.**, 28.7.2000, MM leg.: 1 f TN 652/2000; **ibid.**, 28.7.2000, MM leg.: 4 f TN 631/2000; **Litija, VM80**, 27.7.2000, MM leg.: 2 f TN 645/2000; **ibid.**, 27.7.2000, MM leg.: 1 m, 2 f - TN 638/2000; **ibid.**, 27.7.2000, MM leg.: 1 m, 2 f - TN 641/2000; **Trebnje, WL09**, 27.7.2000, MM leg.: 2 m, 1f - TN 642/2000; **ibid.**, 26.7.2000, MM leg.: 2 mm TN 648/2000; **ibid.**, 26.7.2000, MM leg.: 1 m, 1 f TN 646/2000; **ibid.**, 26.7.2000, MM leg.: 3 f TN 643/2000; **Novo Mesto, WL17**, 28.7.2000, MM leg.: 1 f - TN 573/2000; **ibid.**, 28.7.2000, MM leg.: 1 f - TN 571/2000; **ibid.**, 28.7.2000, MM leg.: 3 f - TN 575/2000; **ibid.**, 28.7.2000, MM leg.: 2 f - TN 577/2000; **Metlika, WL25**, 28.7.2000, MM leg.: 1 m TN 608/2000; **ibid.**, 28.7.2000, MM leg.: 1 f TN 579/2000; **Sevnica, WL29**, 26.7.2000, MM leg.: 3 f - TN 716/2000; **ibid.**, 26.7.2000, MM leg.: 2 f - TN 723/2000; **ibid.**, 26.7.2000, MM leg.: 2 f TN 589/2000; **Krško, WL39**, 26.7.2000, MM leg.: 1 m - TN 587/2000; **ibid.**, 26.7.2000, MM leg.: 3 f - TN 612/2000; **ibid.**, 26.7.2000, MM leg.: 1 f - TN 614/2000; **Brežice, WL48**, 26.7.2000, MM leg.: 1 m, 2 f - TN 628/2000; **ibid.**, 26.7.2000, MM leg.: 1 m, 2 f - TN 621/2000; **Slovenj Gradec, WM05**, 14.8.2000, NČ, BF leg.: 1 f - TN 742/2000; **ibid.**, 14.8.2000, NČ, BF leg.: 1 f - TN 733/2000; **Radeče, WM10**, 27.7.2000, MM leg.: 1 m, 3 f - TN 580/2000; **ibid.**, 27.7.2000, MM leg.: 3 f - TN 606/2000; **ibid.**, 27.7.2000, MM leg.: 2 f TN 591/2000; **ibid.**, 27.7.2000, MM leg.: 1 m, 3 f TN 581/2000; **Podčetrtek, WM 41**, 13.8.1983 TN, LS leg.: 1 m, 1 f - LS 127/1983; **Maribor, WM46**, 24.7.2000, NČ, NŽ, TN, BF leg.: 1 f - TN 778/2000; **Ptuj, WM64**, 6.8.1983, TN, MŠ, LS leg.: 1 f LS 122/1983; **Lenart, WM66**, 12.9.1984, IS leg.: 1 f TN 907/1997; **Gornja Radgona, WM77**, 31.7.1983, TN, LS leg.: 4 m, 5 f - LS 94/1983; **Radenci, WM86**, 25.7.1983, TN, LS leg.: 2 m, 3 f - LS 93/1983; **Ormož, WM94**, 23.7.1983, TN, MŠ, MF, LS leg.: 1 m, 4 f - LS 124/1983; **Ljutomer, WM95**, 23.7.1983, TN, MŠ, MF, LS leg.: 3 m, 2 f - LS 121/1983.

Leiobunum rupestre (HERBST, 1799)

Idrija, VL29, Skirca, 10.6.2000, LS, TN leg.: 1 iuv. - TN 136/2000; **Grosuplje, VL 79**, 9.1923, FK leg.: 1 f - TN 190/1985; **Bled, VM33**, 12.8.1985, MSN leg.: 1 m - TN 150/1997; **Polhov Gradec, VM40**, 18.7.1929: 1 m TN 502/1981; **Škofja Loka, VM41**, Grenc, 6.1997, ZK leg.: 1 m - TN 1739/1998; **Ljubljana, VM50**, 1921: 1 iuv. - TN 132/1983; **ibid.**, 8.1980: 1 m TN 499/1981; **ibid.**: 1 iuv. TN 132/1983; **Ljubljana, VM60**, castle, 04.6.1927, JH leg.: 1 iuv. (f) TN 27/1982; **Luče, VM73**, 10.9.1984, IS leg.: 1 f TN

1025/1997; **Slovenj Gradec, WM05**, 22.10.1998, LS, TN leg.: 1 f TN 1880/1998; **Dravograd, WM06**, Robindvor, 25.10.1995, SH, MP leg.: 1 m LS 62/1996 (Hudrap et Pavlin 1996); **Zagorje, WM30**, 13.8.1983, TN, LS leg.: 1 f LS 139/1983; **Podčetrtek, WM41**, 1931, EJ leg.: 6 m, 1 f, 4 iuv. TN 508/1981; **ibid.**, 14.9.1984, IS leg.: 1 m TN 1003/1997.

Nelima semproni SZALAY, 1951

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Discussion

Two thirds of the total number of harvestman species and subspecies living in Slovenia have been found in its urban centres. *Phalangium opilio*, *Nelima semproni* and *Opilio saxatilis* have been found in half of the investigated urban centres, and *Leiobunum rotundum*, *Opilio parietinus* and *Trogulus nepaeformis* in one third of them. Furthermore, *Nemastoma bidentatum sparsum*, *Lacinius dentiger*, *Oligolophus tridens*, *Leiobunum rupestre*, *Siro duricorius* and *Paranemastoma quadripunctatum* occurred in 10-20 % of the investigated centres. The other species are less frequent there. In Austria, 7 harvestman species are frequent in human settlements (Komposch, in print). There are three reasons for the relatively very high number of harvestman species in towns and villages of Slovenia. First, the settlements are relatively small and closely connected to neighbouring non-urban regions. Second, primary habitats in settlements have not been totally destroyed either physically (e.g. through soil digging and removing) or chemically (e.g. through biocide application and intoxication with wastes), thus the indigenous species live there continuously. Third, many secondary habitats like walls, sawdust compilations etc. are very appropriate secondary habitats for some species.

Ph. opilio inhabits open non-forest habitats, like meadows and moors, and different types of anthropogenic habitats: gardens, fields, forest edges, quarries, and green habitats in urban centres (Martens 1978). Most urban centres in Slovenia fall into this category. This typically synanthropic species (Komposch 1997) is probably thermophile, but not xerophile (Kuschka 1991). In Slovenia it is frequent in meadows, pastures, and glades overgrown with grasses, *Luzula*, *Carex* and fern, in light forests, and in field ecosystems.

According to Martens (1978), *N. semproni* is frequent in light forests, in scrub woodland, shady scrub, parks, fallow gardens, heaps of waste building materials and the like. In southeastern Austria, beside these habitats this (hemi)hygrophile species (Komposch 1997) frequents open land, especially forest edges and sunny places, and swamp scrub woodland vegetation with scarce bushes and along water streams. It has been found in a Czech town (Klimeš 1999). In Slovenia, it frequents urban habitats, too.

In Central Europe, *O. saxatilis* inhabits degraded rural habitats, stone heaps and building-places, parks, gardens, fields and green areas in urban settings (Martens 1978). Like in south-eastern Austria (cf. Komposch 1997), in Slovene villages it is

frequent in the vicinity of stables, on stone and brick walls, as well as in natural xerophile grassland in sunny places, especially in the vicinity of stone heaps and rocky walls. In comparison with Germany (Bliss et al. 1996), Czech Republic (Klimeš 1997) and Austria (Komposch 1999), in Slovenia *O. saxatilis* and *O. parietinus* do not compete with *O. canestrinii*, yet.

L. rotundum is predominantly an atlantic species, recognized to be euryecious; in Europe its populations are most abundant in habitats strongly influenced by humans (Martens 1978). In south-eastern Austria it is a hemisynanthropic species (Komposch 1997). In Slovenia and Austria, it prefers the same habitats as *N. semproni*; besides, it is frequent in light forests and high grassland on moist ground. It is very frequent in low vegetation beside small lowland water currents and between washed-out tree roots just beside the streams.

O. parietinus is a species of arid regions. In Central and Eastern Europe, it is strictly bound to anthropogenous habitats, living in settlements and similar habitats outside urban centres (Martens 1978, Farzalieva et Esyunin 1999). In Slovenia, it has rarely been found in non-urban habitats.

The taxonomical status of *T. nepaeformis* has not been solved satisfactorily; most literature data comply with more species. The same is true for the ecology of these species, appearing often syntopically. In Slovenia, the species live in light deciduous and mixed forests, in scrub and meadows, especially in loose humus soils, under stones and the like. Their occurrence in urban centres reflects the preservation of structured soils of primary, forest-ecosystems and/or the presence of some similar secondary habitats, e.g. steep loose soils, litter, gravel and stone heaps beside bridges.

N. bidentatum sparsum is a southeastern European-Carpathian species, most frequent in deciduous forests in hillylands (Martens 1978). It inhabits eastern and southern Slovenia. In Slovenia and in Austria (Komposch, pers. comm.) it is frequent in deciduous and mixed forests with deep loose litter or few centimeters deep humus from lowlands up to an altitude of at least 1200 m and in different types of shrubs and hedges. Its occurrence in urban centres is a consequence of preserved forest structured soils.

In Central Europe, *L. dentiger* inhabits light forests and is frequent in parks and gardens, often on stone and brick walls (Martens 1978). In southeastern Austria, among other habitats this species is frequent in anthropogenic habitats (Komposch 1999). In Slovenian settlements it prefers coulder shady places.

O. tridens is an European species, most frequent in wet habitats of light forests with larger habitat diversity. It prefers semi-shady moist habitats, like deciduous and pine forest edges, light scrub woodland, scrub and moist grassland, where it dwells in litter, under wood and stones, in grass turf, etc. (Martens 1978, Farzalieva et Esyunin 1999). It is recognized to be a (hemi)hygrophile and (hemi)ombrophile species (Kuschka 1991). In Slovenia, the species frequents the neighbourhood of water currents and anthropogenic habitats, including plant remains accumulations (like weeds-, compost- and cemetery refuse heaps, humid rotting sawdust and cork etc.).

L. rupestre is a hygrophile species, preferring shady cold habitats (Martens 1978). In Slovenian urban habitats it is frequently found on wet shady walls. It also appears in some natural and artificial cavities (Novak et al. 1984).

S. duricorius is a stenecious south-Alpine-Dinaric species, frequent in thick deciduous and mixed forests in moist ground, mostly in deep litter or rough humus (Martens 1978). Occasionally, it can be found in caves (Novak et al. 1984). In Slovenia, it is absent in Prekmurje (NE Slovenia), in the submediterranean region (SW Slovenia) and locally in steep slopes without litter or rough humus.

P. quadripunctatum is characteristic of wet and moderately moist, especially forest habitats, and in such non-forested regions with structured soils enabling hiding (stones, rotten wood, stone heaps etc.), it overwinters also in caves and artificial tunnels (Martens 1978, Novak et al. 1984, Komposch 1997). In Slovenia, it inhabits the same types of habitats and in some regions it is frequent in wet loose turf, not necessarily near water streams.

Characteristic synanthropic harvestmen *sensu lato* are those preferring open land (Komposch 1993). They are mostly characterized by their thermophily and *O. saxatilis* also for its xerophily (Martens 1978, Kuschka 1991, Komposch 1993, 1997, Klimeš 1977). Theoretically, three main opilionid groups dwelling in urban habitats can be distinguished: synanthropic species *sensu stricto*, those following landscape cultivation («Kulturfolger»; Povolný 1963), and some widely spread especially edaphic - species. While synanthropy is a biocenological category, meaning a spontaneous membership in an anthropobiocenosis, the landscape-cultivation-followers are species symbiotic to mankind for ethological and ecological reasons, like coprophagies common to cattle herds and sheep flocks (*ibid.*). For species of unknown status, both categories are usually considered to be synanthropics *sensu lato*. The categories *prae-*, *hemi-* und *eusynanthropics* (Peters 1960) are practiced to denote the abundance of a species in urban habitats in comparison to non-urban ones. The *praesynanthropic* species are those which are equally abundant in innate and anthropogenic habitats, the *hemisynanthropic* ones are more frequent in anthropogenic habitats, and *eusynanthrops* predominate in human settlements.

Resting on walls, under bridges and in similar rocky places, *Ph. opilio*, *O. saxatilis* and *O. parietinus* are widely spread in human settlements throughout Slovenia while in eastern Slovenia, *N. semproni* and *L. rotundum* are most frequent in such habitats. In Central and northern Europe, *Opilio saxatilis*, *O. parietinus* and *O. canestrinii* are recognized to be *eusynanthropic* species *sensu* Peters (1960). Like *Ph. opilio*, *L. rotundum*, *L. limbatum*, *L. rupestre* and *N. semproni*, they depend on the landscape cultivation following species. Probably no European harvestman species can be treated as synanthropic *sensu* Povolný (1963). The species of primary ecosystems frequenting anthropogenic habitats must be treated separately. In Slovenian settlements, they are represented especially through edaphic (*Trogulus nepaeformis*, *Nemastoma bidentatum sparsum*, *Oligolophus tridens*, *Siro duricorius*, *Paranemastoma quadripunctatum*), a petrophile (*Leiobunum rupestre*) and a forest species (*Lacinius dentiger*). In towns, *N. b. sparsum* and *S. duricorius* inhabit mostly meadow soils and heaps of rotten brush-

wood. Both species are evidence for relatively well preserved primary soils, not (totally) destroyed through physical and chemical means. The same is true for *T nepaeformis*, searching for well structured ground and living also in heaps of waste materials. In winter in its areal, *Amilenus aurantiacus* is expected in natural and artificial cavities, like caves, tunnels, mines, cellars and wells.

As in spiders, in different countries differences in the occurrence of each harvestman species are reported. In Czech Republic, *Pholcus opilionoides* among spiders has been recognized to be an eusynanthropic species (Valešová-Ždárková 1966), while in southeastern Austria (Komposch 1993) and in Slovenia it is frequent also in dry warm lowland habitats. On the other hand, in Czech Republic (Klimeš 1997) and in Slovenia *O. canestrinii* - registered for the first time - and *L. limbatum* have been found only in towns, while in southern Austria *L. limbatum* has been recognized to be a hemisynanthrop (Komposch 1993). Further investigations are required to define the role of human influences on harvestman distribution.

The highest temperature in Slovenian towns has been registered in Krško (40.7 °C; Brinovec et al. 1997) while in each urban centre low temperature habitats can be found, too. In synanthropic harvestmen s. l., their thermophily and in some cases xerophily, are referred to as their characteristics (Martens 1978, Kuschka 1991, Komposch 1993, 1997, Klimeš 1977). As *L. limbatum* and *L. rupestre* are frigophile species, it is probably justified to consider petrophily to be the most common characteristic in synanthropic s. l. species.

Some harvestman species inhabit towns because of direct human activity. The Mediterranean species *Nelima doriae*, found recently in Australia, New Zealand and South America (Martens 1978, Gruber et Hunt 1973, Acosta et Cokendolpher 1990) is a case of a global expanding areal due to transport. In Europe, *O. canestrinii* expanded from Italy to Sweden in the last 30 years, and some other *Nemastoma*, *Trogulus*, *Phalangium*, *Rilaena*, *Oligolophus* and *Nelima* species are reported to have been imported in the new regions (Gruber et Hunt 1973, Martens 1978, Gruber 1984, Komposch 1993, Thaler et Knoflach 1995, Klimeš 1997). In Slovenia, Hadži (1936) supposed that *Lacinius dentiger* (sub *L. labacensis*) was introduced in Ljubljana on the beech wood used as fuel in that time, but he also found an indigenous specimen on a beech in a park in Rogaška Slatina. Novak et al. (1995) wrote that (carbonatophile) *Leiobunum roseum* could appear in Slovenj Gradec due to brick and tile transports (buildings in non-carbonate places). In 2001, through direct observations *Nemastoma b. bidentatum*, *L. dentiger*, *Oligolophus tridens* and *Leiobunum rupestre* have been found on firewood imported into Slovenj Gradec from forests some ten kilometers away. Besides, the introductions of *Phalangium opilio*, *Opilio saxatilis*, *L. dentiger*, *L. roseum* and *Nelima semproni* via transports of tile and cement products have been confirmed, although in human settlements these species are mostly a part of the indigenous primary fauna. Anyway, although appearing in secondary habitats the majority of harvestmen in anthropogenic habitats in Slovenia are indigenous species. Thus, the most important influences of introduced specimens seem to be potential genetic homogenizing impacts on local populations.

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