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THE HARVESTMEN FAUNA (ARACHNIDA: OPILIONES) FROM THE SUB MEDITERRANEAN REGION OF SLOVENIA – II

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ABSTRACT

In the present paper, further findings of harvestmen in the Sub Mediterranean region of Slovenia are presented, and comments on some actual problems with the species are added. With the exception of the possible discovery of a troglobitic species in the region, all species living there have presumptively been recorded. With the exclusion of Trogulus gr. nepaeformis and T. gr. tricarinatus, where more species are expected, 34 species and one subspecies have been found in the region. About 20 opilionid species are typical of the region; the others occur in the marginal habitats bordering other zoogeographical regions.

Key words: arachnids, Opiliones, Slovenia, Sub Mediterranean

OPILIONIDI (ARACHNIDA: OPILIONES) DELLA REGIONE SUB-MEDITERRANEA DELLA SLOVENIA – II

SINTESI

L'articolo presenta le nuove scoperte fra gli opilionidi dell'area sub-mediterranea della Slovenia ed alcuni commenti riguardanti i problemi attuali relativi a determinate specie. Siamo probabilmente riusciti a trovare tutte le specie esistenti nell'area, eccezion fatta per le specie troglobie che si presume vivano in questa zona. Senza tenere conto dei Trogulus gr. nepaeformis e dei T. gr. tricarinatus, fra i quali è lecito attendersi l'esistenza di numerose specie, sono state individuate 34 specie ed una sottospecie di opilionidi. Una ventina sono caratteristiche di questa regione, le restanti vivono ai margini degli habitat che confinano con altre regioni zoogeografiche.

Parole chiave: aracnidi, opilionidi, Slovenia, sub-mediterraneo

This paper is dedicated to the memory of Prof. Dr. Konrad Thaler.

INTRODUCTION

In our first contribution on harvestmen of the Sub Mediterranean region of Slovenia (Novak *et al.*, 1995), we counted 33 species and 1 subspecies and discussed the possibility of finding 19 further species. Since 1997, intensive investigations have been carried out in the region due to additional problems. Some of them, like the exclusion of travuniids – *Peltonychia postumicola* (Roewer, 1935) and *P. tenuis* Roewer, 1935 – from the fauna of Slovenia, and the description of the new species *Nelima narcisi*, have been solved by Novak & Gruber (2000), and by Novak & Slana (2003). To date, *Trogulus* gr. *nepaeiformis* and *T.* gr. *tricarinatus* remain the only taxa to be dealt with taxonomically in details.

SYSTEMATIC REVIEW

In the following review (List 1), the system according to Blick & Komposch (2004) was used. The numbers added are the author's current determination numbers.

List 1: Harvestmen (Opiliones) of the Sub Mediterranean region in Slovenia (according to Novak *et al.*, 1995, and including new records).

Seznam 1: Suhe južine (Opiliones) submediteranske regije v Sloveniji (po Novak *et al.*, 1995, in novih podatkih).

CYPHOPHTHALMI

SIRONIDAE

Siro duricorius duricorius (JOSEPH, 1868)

LANIATORES

PHALANGODIDAE

Scotolemon doriae PAVESI, 1878

PALPATOIRES

NEMASTOMATIDAE

Carinostoma carinatum (ROEWER, 1914)

Histicostoma dentipalpe (AUSSERER, 1867)

Nemastoma bidentatum bidentatum ROEWER, 1914

Nemastoma bidentatum sparsum GRUBER & MARTENS, 1968

Nemastoma dentigerum CANESTRINI, 1873

Mitostoma chrysomelas (HERMANN, 1804)

Paranemastoma quadripunctatum (PERTY, 1833)

DICRANOLASMATIDAE

Dicranolasma scabrum (HERBST, 1799)

TROGULIDAE

Trogulus falcipenis KOMPOSCH, 2000

Trogulus gr. *nepaeiformis*

Trogulus gr. *tricarinatus*

Trogulus tingiformis C. L. KOCH, 1847

PHALANGIIDAE

Amilenus aurantiacus (SIMON, 1881)

Dasylobus graniferus (CANESTRINI, 1871)

Lacinius dentiger (C. L. KOCH, 1847)

Lacinius ephippiatus (C. L. KOCH, 1835)

Lacinius horridus (PANZER, 1794)

Lophopilio palpinalis (HERBST, 1799)

Metaphalangium cirtanum (C. L. KOCH, 1839)

Mitopus morio (FABRICIUS, 1799)

Odiellus spinosus (BOSC, 1792)

Oligolophus tridens (C. L. KOCH, 1836)

Opilio dinaricus ŠILHAVÝ, 1938

Opilio saxatilis C. L. KOCH, 1839

Opilio transversalis ROEWER, 1956

Phalangium opilio LINNAEUS, 1758

Platybunus bucephalus (C. L. KOCH, 1835)

SCLEROSOMATIDAE

Astrobonus helleri (AUSSERER, 1867)

Astrobonus laevipes (CANESTRINI, 1872)

Gyas annulatus (OLIVIER, 1791)

Leiobunum roseum C. L. KOCH, 1839

Leiobunum rupestre (HERBST, 1799)

Nelima doriae (CANESTRINI, 1871)

Nelima narcisi NOVAK & SLANA, 2003

Nelima sempronii SZALAY, 1951

REVIEW OF LOCALITIES

CYPHOPHTHALMI

SIRONIDAE

Siro duricorius duricorius (JOSEPH, 1868)

1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, LS, TN leg., 25.09.1998: 3 mm, 4 ff - 1804/1998.

The species occurs only in the marginal parts of the region, in cold, especially higher places, and has not been reported from deep caves, dolines and the like, although such reports could be expected. It must be taken as a Dinaric species, also for the ecological reason.

LANIATORES

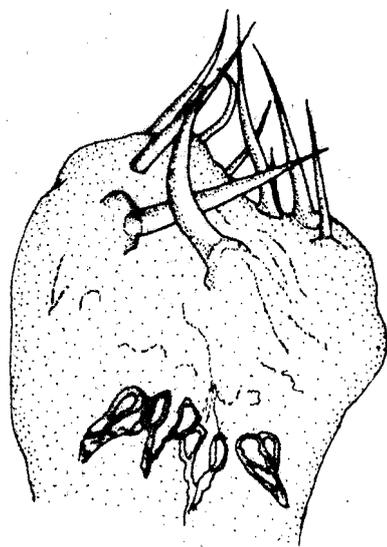
PHALANGODIDAE

Scotolemon doriae PAVESI, 1878

Seča, UL83, *Arundo*, *Rubus*, sieving, brushwood, 1-3 m, LS, TN leg., 10.10.1998: 1 subad. - 1847/1998; *ibid.*, LS, TN leg., 24.10.1998: 5 mm, 5 ff - 1882/1998; *ibid.*, 21.08.1999, MŠ, TN leg.: 2 mm, 3 ff, 1 iuv. - 230/1999. Ovipositor (Fig. 1).

To date, the only known locality of the species in Slovenia is an old heap of discarded orchard tree branches, overgrown especially with *Arundo donax* and *Rubus* sp. Over the years, a layer of humus more than

10 cm deep arose, hosting a population of the species. This is a case of an anthropogenous habitat, unintentionally serving as a refuge, and replacing the appropriate natural habitats in land otherwise much domesticated with no more of these habitats. Branch heaps also serve as refuges in commercially managed woodland in inland Slovenia.



100 µm

Fig. 1: *Scotolemon doriae*, the ovipositor tip with the receptacula seminis (Seča, 21.08.1999).

Sl. 1: *Scotolemon doriae*, leglica s semenskimi vrečkami (Seča, 21.08.1999).

PALPATORES

NEMASTOMATIDAE

Carinostoma carinatum (ROEWER, 1914)

Breg, Grgar, UL99, *Corylus*, *Tilia*, *Ostrya*, litter sieving, 02.08.2000, TN leg.: 1 m, 1 f - 337/2000; 250 m SE of Zabrdno (Grgar), UL99, *Quercus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 2 mm - 308/2000; Britof - Ukanje, UM80, litter, 09.08.2000, TN leg.: 1 m - 519/2000; 400 m SW of Lovišče, Britof, UM90, *Fagetum* edge, sieving, 09.08.2000, TN leg.: 3 mm, 1 f - 524/2000; 300 m W of Proj, Brdice near Kožbana, UM80, along the Kožbanjšček stream, *S. aria*, *Fraxinus*, *Robinia*, *Corylus*, forest edge, sieving, 09.08.2000, TN leg.: 1 f - 525/2000; 300 m SSE of Senik, UM80, *Ostrya*, sieving, 09.08.2000, TN leg.: 1 m, 4 ff - 512/2000; Doblar, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 3 mm, 4 ff, 1 iuv. - 287/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 m - 553/2000; Lepenka valley, UM90, Doblar, on a limestone wall, 25.09.1998, LS, TN leg.: 1 m, 3 ff - 1794/1998; Levpa - Seniški breg, UM90, *Ulmus*, *Fraxinus*, *Juglans*, sieving, 02.08.2000,

TN leg.: 2 mm, 2 ff - 320/2000; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 1 f - 294/2000; Boršt, VL03, 02.04.1995, SP leg.: 1 f - 661/1998; Brestovica, VL16, Povir, 420 m, 10.03.1994, SB leg.: 1 f - 639/1998.

Common species in deep humus soils.

Histicostoma dentipalpe (AUSSERER, 1867)

Dry water bed of a tributary of the Dragonja river, UL93, below Abrami, *Carpinus* itd., sieving, 19.07.1999, LS, TN leg.: 3 iuv. - 149/1999; St. Duh, UL93, Padna, sieving, *Quercus*, grass, beneath stones, 19.07.1999, LS, TN leg.: 1 iuv. - 153/1999; Livške Ravne, UM91, sieving, 08.08.2000, TN leg.: 1 m, 1 f - 534/2000; 300 m SE Solarji, UM91, *Ostrya*, *Fraxinus*, 08.08.2000, TN leg.: 1 m, 1 f - 561/2000; Tublje near Hrpelje, VL15, *Carpinus*, *Tilia*, forest edge meadow, beneath stones, 20.07.1999, LS, TN leg.: 2 iuv. - 176/1999; Goče, VL17, along the Branica stream, 11.07.1997, 200 m, on *Apodemus flavicollis*, TT leg.: 1 pullus - 278/2000.

The possibility that the attachment of a young *H. dentipalpe* on the *Apodemus* is a case of a phoresy, must be proved by further findings, as it was found on a dead mouse within a trap (T. Trilar, pers. comm.).

Nemastoma bidentatum bidentatum ROEWER, 1914

Panovec, UL98, Nova Gorica, near the forester's cabin, 17.08.2000, TN leg.: 1 m, 2 ff - 668/2000; Replje, UL98, Vogrsko, 08.04.1992, SB leg.: 1 m - 649/1998; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 2 mm - 285/2000; 300 m SE of Solarji, UM91, *Ostrya*, *Fraxinus*, 08.08.2000, TN leg.: 1 m, 3 ff - 562/2000; Šmarje - Štanjel - Hrastje, VL07, grass, sieving, 17.08.2000, TN leg.: 4 ff - 674/2000; 500 m S of Velike Žablje, VL07, *Acer*, *Robinia*, sieving, 17.08.2000, TN leg.: 1 f - 677/2000; Lepenka valley, UM90, Doblar, on a limestone wall, 25.09.1998, LS, TN leg.: 1 m - 1795/1998; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 31.07.1998, LS, TN leg.: 2 mm - 1337/1998; *ibid.*, 25.09.1998, LS, TN leg.: 1 m, 1 f - 1809/1998; Mt. Vremščica, VL26, 640 m, 10.03.1994, SB leg.: 1 f - 680/1998.

The species is sparsely distributed in northern localities; it is not common in the Sub Mediterranean.

Nemastoma bidentatum sparsum GRUBER & MARTENS, 1968

Along the Medljanščica stream, UL93, 1 km W Padna, 22.06.2000, litter sieving, *Ostryetum*, BB, BO, TN leg.: 1 m - 217/2000; 100 m E of stone plates in the Dragonja river bed, UL93, *Arundo*, grass, sieving, 20.07.1999, LS, TN leg.: 1 f - 194/1999; 200 m S of the Koper -

Dragonja - Ivankovec road crossing, UL93, 20 m, dry stream bed, sieving, 23.09.1998, LS, TN leg.: 2 mm, 3 ff - 1791/1998; Korte, UL93, 60 m, *Ostryetum*, 23.09.1998, LS, TN leg.: 1 m - 1821/1998; along the Medjanščica stream, UL93, brush shrubs, 21.08.1999, TN leg.: 33 mm, 30 ff - 239/1999; Padna, UL93, 19.07.1999, sieving, *Cotinus*, *Rubus*, *Q. pubescens*, LS, TN leg.: 1 m - 168/1999; Seča, UL93, *Arundo*, sieving, 1-3 m, 10.10.1998, LS, TN leg.: 1 f - 1844/1998; *ibid.*, *Arundo*, 1-3 m, sieving, LS, TN leg., 24.10.1998: 1 m, 1 f - 1881/1998; *ibid.*, *Arundo*, *Rubus* itd.; *ibid.*, sieving, brushwood, 21.08.1999, MŠ, TN leg.: 15 mm, 21 ff - 231/1999; *ibid.*, *Ostrya*, *Quercus* itd.; sieving, brushwood, 21.08.1999, MŠ, TN leg.: 3 ff - 236/1999; St. Peter (Raven), UL93, 220 m, *Quercus*, grass, sieving, 11.10.1998, LS, TN leg.: 1 m - 1850/1998; dry bed of the Dragonja river, UL93, ca. 500 m SW of Abrami, *Carpinetum*, sieving, 19.07.1999, LS, TN leg.: 4 ff, 1 iuv. - 148/1999; *ibid.*, sieving, 20.07.1999, LS, TN leg.: 2 ff - 188/1999; St. Duh, UL93, Padna, sieving, *Quercus*, grass, beneath stones, 19.07.1999, LS, TN leg.: 4 mm, 2 ff - 151/1999; ca. 1 km E of Ankaran, VL04, 29.09.1999, sieving, LS, TN leg.: 1 f - 5/1999; Hrpelje, VL14, 520 m, 02.04.1993, SB leg.: 1 m - 651/1998.

The subspecies is disjunctively and sparsely distributed in the Sub Mediterranean region of Slovenia. The hybrids between both subspecies would also be expected in the region.

Nemastoma dentigerum CANESTRINI, 1873

Lucija - Seča - Debernardo, UL93, *Arundo*, peach orchard, dry grass, beneath stones, 22.09.1998, LS, TN leg.: 1 f - 1817/1998; along the Medljanščica stream, UL93, 1 km W of Padna, 22.06.2000, litter sieving, *Ostryetum*, BB, BO, TN leg.: 1 f - 218/2000; Novelo - Kostanjevica na Krasu, UL97, *Castanea*, sieving, 17.08.2000, TN leg.: 1 f - 662/2000; Grgar, UL99, shrubs, cemetery, litter sieving, 02.08.2000, TN leg.: 1 m, 1 f - 341/2000; 350 m NE of Grgarske Ravne, UL99, *Tilia*, *Corylus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 m - 316/2000; 250 m SE of Zabrdo (Grgar), UL99, *Quercus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 m - 307/2000; 1,5 km N of Senik, UM80, *Fraxinus*, *Alnus*, sieving, 09.08.2000, TN leg.: 1 m - 521/2000; 300 m SSE of Senik, UM80, *Ostrya*, sieving, 09.08.2000, TN leg.: 3 mm, 2 ff - 513/2000; Velendol, UM80, *Tilia*, beneath stones, sieving, 09.08.2000, TN leg.: 1 f - 517/2000; Avče, UM90, *Corylus*, *Tilia*, grass, 02.08.2000, TN leg.: 2 ff - 298/2000; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 1 m, 4 ff - 284/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 2 mm, 2 ff - 554/2000; Levpa - Seniški breg, UM90, *Ulmus*, *Fraxinus*, *Juglans*, sieving, 02.08.2000, TN leg.: 1 m - 319/2000; 350 m NNW of Lig,

UM90, *Ostrya*, *Tilia*, sieving, 09.08.2000, TN leg.: 4 mm, 1 f - 508/2000; 400 m SW of Lovišče, Britof, UM90, *Fagetum* edge, sieving, 09.08.2000, TN leg.: 1 f - 523/2000; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 1 f - 293/2000; Livške Ravne, UM91, sieving, 08.08.2000, TN leg.: 1 m - 535/2000; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 25.09.1998, LS, TN leg.: 10 mm, 5 ff - 1808/1998; *ibid.*, 31.07.1998: 2 mm, 4 ff - 1338/1998; Ladra, UM92, 50 m from the Soča river, forest edge, litter sieving, 25.09.1998, LS, TN leg.: 1 m - 1811/1998; Tublje pri Hrpeljah, VL15, *Carpinus*, *Tilia*, forest edge meadow, beneath stones, 20.07.1999, LS, TN leg.: 7 mm, 1 f - 174/1999.

Common species in deep humus soils.

Mitostoma chrysomelas (HERMANN, 1804)

200 m S of the Koper - Dragonja - Ivankovec road crossing, UL93, 20 m, dry water bed, sieving, 23.09.1998, LS, TN leg.: 2 iuv. - 1789/1998; along the Medjanščica stream, UL93, Padna - Korte, brushwood, 21.08.1999, TN leg.: 2 ff - 238/1999; ca. 300 m SE of St. Onofrij, Parecag, UL93, 19.07.1999, LS, TN leg.: 2 ff - 160/1999; Padna, UL93, 19.07.1999, sieving, *Cotinus*, *Rubus*, *Q. pubescens*, LS, TN leg.: 1 f - 167/1999; Seča, UL93, *Arundo*, *Rubus* itd.; sieving, brushwood, 21.08.1999, MŠ, TN leg.: 2 mm, 1 f, 1 iuv. - 229/1999; Sečovlje wine cellar 107, UL93, ca. 400 m N of St. Onofrij, 19.07.1999, grass near a wall, LS, TN leg.: 1 f - 147/1999; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 1 f - 281/2000; Zarečica - Koseze - V. Bukovica, VL34, 22.08.1998, forest edge meadow, 22.08.1998, LS, TN leg.: 1 f - 1518/1998.

This common species is sparsely distributed in the Sub Mediterranean region of Slovenia in well-spaced, humid habitats, like brushwood and stone heaps.

Paranemastoma quadripunctatum (PERTY, 1833)

Near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 1 m - 282/2000; 350 m NNW of Lig, UM90, *Ostrya*, *Tilia*, sieving, 09.08.2000, TN leg.: 2 ff - 510/2000; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 1 m, 1 f - 290/2000; Livške Ravne, UM91, sieving, 08.08.2000, TN leg.: 1 m, 1 f - 533/2000; Na Gradu, UM91, grass, 08.08.2000, TN leg.: 2 mm - 540/2000; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 31.07.1998, LS, TN leg.: 1 f - 1336/1998; *ibid.*, 25.09.1998: 2 pulli - 1803/1998.

The species occurs only in the marginal parts of the region, in cold, especially higher localities; it is not common in the Sub Mediterranean.

DICRANOLASMATIDAE

Dicranolasma scabrum (HERBST, 1799)

450 m SWW of Stan, UL99, Grgar - Čepovan, *Corylus*, *Fagus*, litter sieving, 02.08.2000, TN leg.: 1 f - 333/2000; Avče, UM90, *Corylus*, *Tilia*, grass, 02.08.2000, TN leg.: 2 ff - 297/2000; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 1 iuv. - 283/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 m - 552/2000; Lepenka valley, UM90, Doblar, on a limestone wall, 25.09.1998, LS, TN leg.: 2 ff - 1831/1998; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 2 mm - 291/2000; Nagnoj, UM91, grass, 08.08.2000, TN leg.: 1 f - 558/2000; Na Gradu, UM91, grass, 08.08.2000, TN leg.: 1 m - 541/2000; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, LS, TN leg., 31.07.1998: 1 m - 1335/1998; Štorje, VL16, Griže, 590 m, 02.04.1993, SB leg.: 1 f - 635/1998.

The species is sparsely distributed in dry places at higher altitudes; it is not common in the Sub Mediterranean.

TROGULIDAE

Trogulus falcipenis KOMPOSCH, 2000

1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, LS, TN leg., 31.07.1998: 1 m - 1333/1998.

This Dinaric and East-Alpine species (Komposch, 2000) is not common in Sub Mediterranean.

Trogulus gr. *nepaeformis*

200 m S of the Koper - Dragonja - Ivankovec crossing, UL93, 20 m, dry water bed, sieving, 23.09.1998, LS, TN leg.: 7 iuv. - 1790/1998; Korte, UL93, 350 m NNW of Parecag, 60 m, *Ostryetum*, 23.09.1998, LS, TN leg.: 1 f - 1823/1998; along the Medjanščica stream, UL93, Padna - Korte, *Ostryetum*, brushwood, 21.08.1999, TN leg.: 17 mm, 7 ff, 6 iuv. - 241/1999; *ibid.*, 22.06.2000, litter sieving, BB, BO, TN leg.: 1 f - 216/2000; Dragonja valley, 600 m E of Abrami, UL93, 21.06.2000, *Quercus*, litter, dry bed of the Dragonja river, BB, BO, TN leg.: 3 iuv. - 219/2000; 1 km W of Novi Brič (312 m), UL93, the road crossing for Puče, 110 m, 11.10.1998, LS, TN leg.: 2 ff, 2 iuv. - 1840/1998; Seča, UL93, *Arundo*, sieving, 1-3 m, 10.10.1998, LS, TN leg.: 2 mm, 1 f - 1845/1998; *ibid.*, *Arundo*, *Rubus* itd.; sieving, brushwood, 21.08.1999, MŠ, TN leg.: 2 mm, 1 f, 3 iuv. - 232/1999; Korita na Krasu, UL97, sieving, forest edge, 17.08.2000, TN leg.: 1 f, 2 iuv. - 659/2000; Lipa - Temnica, UL97, sieving, forest edge, 17.08.2000, TN leg.: 1 iuv. - 666/2000; Bazara, UL98, Volčja Draga, *Quercus*, *Ostrya*, *Robinia*, *Fraxinus*, sieving, 27.08.2000, TN leg.: 2 ff, 1 iuv. - 697/2000; Panovec, UL98,

Nova Gorica, near the forester's cabin, 17.08.2000, TN leg.: 3 mm, 5 ff, 3 iuv. - 667/2000; Breg, Grgar, UL99, *Corylus*, *Tilia*, *Ostrya*, litter sieving, 02.08.2000, TN leg.: 1 iuv. - 336/2000; Grgar, UL99, shrubs, cemetery, litter sieving, 02.08.2000, TN leg.: 1 f, 2 iuv. - 338/2000; 350 m NE of Grgarske Ravne, UL99, *Tilia*, *Corylus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 m, 2 ff - 317/2000; 250 m SE of Zabrdno, Grgar, UL99, *Quercus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 f, 1 iuv. - 310/2000; 300 m SSE of Senik, UM80, *Ostrya*, sieving, 09.08.2000, TN leg.: 1 m, 3 ff, 6 iuv. - 511/2000; 300 m W of Proj, Brdice pri Kožbani, UM80, by the Kožbanjšček stream, *S. aria*, *Fraxinus*, *Robinia*, *Corylus*, forest edge, sieving, 09.08.2000, TN leg.: 2 mm, 3 iuv. - 527/2000; Avče, UM90, *Corylus*, *Tilia*, grass, brushwood, 02.08.2000, TN leg.: 2 mm - 299/2000; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 5 mm, 1 f, 3 iuv. - 288/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 m, 1 iuv. - 551/2000; 350 m NNW of Lig, UM90, *Ostrya*, *Tilia*, sieving, 09.08.2000, TN leg.: 2 ff, 1 iuv. - 509/2000; 400 m SW of Lovišče, Britof, UM90, *Fagetum* edge, sieving, 09.08.2000, TN leg.: 3 mm, 2 ff - 522/2000; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 1 m, 3 ff, 1 subad. - 292/2000; Lepenka valley, UM90, Doblar, litter sieving, 25.09.1998, LS, TN leg.: 1 m, 3 ff, 12 iuv. - 1796/1998; Sukavec, UM90, grass, 02.08.2000, TN leg.: 1 m - 305/2000; Livške Ravne, UM91, sieving, 08.08.2000, TN leg.: 1 m, 2 ff - 536/2000; 300 m SE Solarji, UM91, *Ostrya*, *Fraxinus*, 08.08.2000, TN leg.: 1 f, 2 iuv. - 559/2000; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 25.09.1998, LS, TN leg.: 3 mm, 4 ff, 7 iuv. - TN 1807/1998; Ladra, UM92, 50 m from the Soča river, forest edge, litter sieving, 25.09.1998, LS, TN leg.: 1 f - 1810/1998; Župančiči - Fiejeroga, VL03, under stones, 230 m, 10.11.1998, LS, TN leg.: 1 m - 1856/1998; ca. 1 km E of Ankaran, VL04, 29.09.1999, sieving, LS, TN leg.: 1 iuv. - 6/1999; Šmarje - Štanjel - Hrastje, VL07, grass, sieving, 17.08.2000, TN leg.: 1 m, 1 f - 673/2000; 500 m S Velike Žablje, VL07, *Acer*, *Robinia*, sieving, 17.08.2000, TN leg.: 2 ff, 1 iuv. - 676/2000; Čaven, VL08, Trnovski gozd, at the alpine chalet, 11.07.1995, TN leg.: 1 m - 98/1997; *ibid.*, Veverica, VL08, under stones, 18.06.1999, TN leg.: 2 mm - 56/1999; Mt. Slavnik, VL14, *Coryletum/Fagetum*, 21.06.2000, litter, below the peak of Grmada, BB, BO, TN leg.: 4 mm, 3 ff, 3 iuv. - 107/2000; Povir, VL16, Brestovica, 420 m, 10.03.1994, SB leg.: 1 iuv. - 638/1998; Štorje, VL16, Griže, 590 m, 02.04.1993 SB leg.: 1 m - 634/1998; Vrabče, VL17, Podnanos, 300 m, 10.03.1994, SB leg.: 2 iuv. - 631/1998; Bač pri Materiji, VL24, LS, TN leg., 24.10.1998: 1 f - 1883/1998; Materija, VL24, litter sieving, under stones, 24.05.1995, LS, TN leg.: 1 m, 1 iuv. - 90/1997; Medvedjak, VL24, Kozina, Notranjski muzej

Postojna No. O-039, 11.04.1992, SP leg.: 2 mm - 644/1998; Bača pri Modreju, VM01, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 iuv. - 557/2000.

In both troguli groups, *T. gr. nepaeformis* and *T. gr. tricarinatus*, the revisions at the genetic level have started (Martens in litt; Schönhofer, 2004)

Trogulus gr. tricarinatus

Korita na Krasu, UL97, sieving, forest edge, 17.08.2000, TN leg.: 1 m - 660/2000; 250 m SE of Zabrdno (Grgar), UL99, *Quercus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 m - 309/2000; Lepenka valley, UM90, Doblar, litter sieving, 25.09.1998, LS, TN leg.: 1 iuv. - 1797/1998; Mt. Slavnik, VL14, 21.06.2000, litter, *Coryletum/Fagetum*, below the peak of Grmada, BB, BO, TN leg.: 2 mm, 1 f - 108/2000; Šmarje - Štanjel - Hrastje, VL07, grass, sieving, 17.08.2000, TN leg.: 1 f - 672/2000.

Trogulus tingiformis C. L. KOCH, 1847

1 km S of the Tolmin - Kobarid - Kamno crossing, UM91, 200 m, sieving, LS, TN leg., 25.09.1998: 1 iuv. - 1806/1998.

This species is also in need of revision.

PHALANGIIDAE

Amilenus aurantiacus (SIMON, 1881)

Ponor polne Lune pothole, UM90, - 60 m, Kanalski vrh, 04.05.1997, SP leg.: 1 f - 653/1998; 1 km S of the crossing Tolmin - Kobarid - Kamno, UM91, 200 m, sieving, LS, TN leg., 25.09.1998: 1 iuv. - 1800/1998; Idsko - Livek, UM92, 08.08.2000, TN leg.: 1 iuv. - 529/2000; 1 km N of Sušak, VL34, 640 m, under the bridge, 07.11.1998, LS, TN leg.: 1 subad. - 1889/1998.

The species occurs in the marginal parts of the region, in cold places, especially at higher altitudes; it is not common in the Sub Mediterranean.

Dasylobus graniferus (CANESTRINI, 1871)

Čaven, VL08, Trnovski gozd, near the alpine chalet, 11.07.1995, TN leg.: 1 m - 93/1997; Kucelj, VL08, Trnovski gozd, 14.07.1996, TN leg.: 1 m - 12/1997.

The species is sparsely distributed at higher altitudes; it is not common in the Sub Mediterranean.

Lacinius dentiger (C. L. KOCH, 1847)

Mrzli studenec, 260 m, UL93, 350 m E of the Padna - Nova vas - Križišče crossing, 23.09.1998, LS, TN leg.: 1 f - 1816/1998; the mountain chalet below Ježa (949 m), UM91, on walls, 08.08.2000, TN leg.: 2 iuv. - 537/2000; Čaven, VL08, Trnovski gozd, near the alpine chalet, 11.07.1995, TN leg.: 1 iuv. - 96/1997; Mt. Slav-

nik, VL14, 21.06.2000, litter, *Coryletum/Fagetum*, below the peak of Grmada, BB, BO, TN leg.: 1 iuv. - 110/2000; 1 km N of Sušak, VL34, 640 m, under the bridge, 07.11.1998, LS, TN leg.: 2 mm - 1888/1998.

This oligothermophilous species occurs in the marginal parts of the region, especially at higher altitudes, and proves to be hygrophilous in the region; it is not common in the Sub Mediterranean.

Lacinius ephippiatus (C. L. KOCH, 1835)

Čaven, VL08, Trnovski gozd, near the alpine cabin, 11.07.1995, TN leg.: 2 iuv. - 95/1997; Kucelj, VL08, Trnovski gozd, 11.05.1995, TN leg.: 1 iuv. - 91/1997; Grgar, UL99, shrubs, cemetery, litter sieving, 02.08.2000, TN leg.: 1 f - 339/2000; 350 m NE of Grgarske Ravne, UL99, *Tilia*, *Corylus Fraxinus*, sieving, 02.08.2000, TN leg.: 2 ff - 315/2000.

The hygrophilous species is sparsely distributed within the Sub Mediterranean region, but it is common at higher altitudes.

Lacinius horridus (PANZER, 1794)

Čedola, UL93, grass near the Jernejski potok stream, 50 m, 11.10.1998, LS, TN leg.: 2 mm, 1 f - 1866/1998; Kaštinjol, UL93, grass, 11.10.1998, LS, TN leg.: 2 mm - 1869/1998; Korte, UL93, 350 m N-NW Parecag, 60 m, *Ostryetum*, 23.09.1998, LS, TN leg.: 1 m - 1824/1998; Lucija - Seča - Debernardo, UL93, *Arundo*, peach orchard, dry grass, under stones, 22.09.1998, LS, TN leg.: 2 ff - 1818/1998; Mrzli studenec, 300 m, UL93, 300 m E of the Padna - Nova vas - Križišče crossing, 23.09.1998, LS, TN leg.: 1 m, 1 f - 1815/1998; ca. 150 m SE of St. Onofrij, Parecag, UL93, 110 m, 19.07.1999, LS, TN leg.: 4 iuv. - 170/1999; *ibid.*: 1 iuv. - 162/1999; Padna, UL93, sieving, *Cotinus*, *Rubus*, *Q. pubescens*, 19.07.1999, LS, TN leg.: 1 iuv. - 166/1999; Pišine, UL93, near the Drnica stream, grass around a tree, 19.07.1999, LS, TN leg.: 2 iuv. - 154/1999; *ibid.*: 1 iuv. - 159/1999; *ibid.*, 28.09.1999: 1 m, 1 iuv. - 250/1999; grass near stone plates in the Dragonja river bed, UL93, below Abrami, 19.07.1999, LS, TN leg.: 2 iuv. - 143/1999; 100 m E of stone plates in the Dragonja river bed, UL93, *Arundo*, grass, sieving, 20.07.1999, LS, TN leg.: 3 iuv. - 191/1999; Sečovelje wine cellar 107, UL93, 19.07.1999, grass near a wall, LS, TN leg.: 1 iuv. - 146/1999; Korita na Krasu, UL97, sieving, forest edge, 17.08.2000, TN leg.: 1 iuv. - 658/2000; ca. 500 m SE of Preval, UM90, Ročinj, forest edge, 26.09.1998, LS, TN leg.: 1 f - 1799/1998; Sukavec, UM90, grass near a rock wall, 02.08.2000, TN leg.: 3 iuv. - 304/2000; 500 m E of the Koper - Ljubljana - Ankaran road crossing, VL04, *Arundo*, *Clematis*, *Urtica*, 23.09.1998, LS, TN leg.: 1 iuv. - 1784/1998; 300 m W of Miši (Dekani), VL04, on the bridge over the Rižana river, 20 m, 11.10.1998, LS,

TN leg.: 2 mm - 1832/1998; Čaven, Veverica, VL08, Trnovski gozd, under stones, 18.06.1999, TN leg.: 1 iuv. - 57/1999; Mt. Slavnik, VL14, litter, *Coryletum/Fagetum*, below the peak of Grmada, 21.06.2000, BB, BO, TN leg.: 1 iuv. - 109/2000.

This is a common species in the Sub Mediterranean region of Slovenia.

Lophopilio palpinalis (HERBST, 1799)

Grgar, UL99, shrubs, cemetery, litter sieving, 02.08.2000, TN leg.: 1 iuv. - 340/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 iuv. - 555/2000; Na Gradu, UM91, grass, 08.08.2000, TN leg.: 2 iuv. - 539/2000; 300 m SE of Solarji, UM91, *Ostrya*, *Fraxinus*, 08.08.2000, TN leg.: 3 iuv. - 560/2000; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, LS, TN leg., 31.07.1998: 1 iuv. - 1334/1998; *ibid.*, 25.09.1998: 1 m - 1801/1998; Mt. Slavnik, VL14, litter, *Coryletum/Fagetum* pod Grmado, 21.06.2000, BB, BO, TN leg. 1 iuv. - 111/2000; Materija, VL24, litter sieving, beneath stones, 24.05.1995, LS, TN leg.: 1 pullus - 89/1997; Zarečica, along the Molja torrent, VL34, *Mentha*, *Urtica*, 22.08.1998, LS, TN leg.: 2 iuv. - 1525/1998; Zarečica - Koseze - Velika Bukovica, VL34, forest edge meadow, 22.08.1998, LS, TN leg.: 2 iuv. - 1517/1998.

The species is sparsely distributed within the Sub Mediterranean region, but common at higher altitudes.

Mitopus morio (FABRICIUS, 1799)

Livške Ravne, UM91, sieving, 08.08.2000, TN leg.: 1 m - 532/2000; Čaven, VL08, Trnovski gozd, near the alpine chalet, 11.07.1995, TN leg.: 1 subad., 1 iuv. - 94/1997; Kucelj, VL08, Trnovski gozd, 11.05.1995, TN leg.: 1 iuv. - 92/1997; *ibid.*, 14.07.1996: 2 ff - 11/1997.

The species is not common in the Sub Mediterranean region, although it occurs frequently at higher altitudes.

Oligolophus tridens (C. L. KOCH, 1836)

Zarečica - Koseze - Velika Bukovica, VL34, forest edge meadow, 22.08.1998, LS, TN leg.: 1 m, 2 ff, 2 iuv. - 1520/1998.

This hygrophilous species is not common in the Sub Mediterranean region; it occurs, however, at higher marginal localities.

Odiellus spinosus (BOSC, 1792)

Below Abrami, UL93, grass, 19.07.1999, LS, TN leg.: 1 iuv. - 177/1999; Čedola, UL93, grass near the Jernejski potok stream, 50 m, 11.10.1998, LS, TN leg.: 1 m - 1867/1998; Fenendra, UL93, Draga, grass, 22.08.1999, MŠ, TN leg.: 1 iuv. - 225/1999; 1 km W of Novi Brič

(312 m), UL93, the road crossing for Puče, 110 m, 11.10.1998, LS, TN leg.: 1 m - 1841/1998; ca. 150 m SE of St. Onofrij, Parecag, UL93, 110 m, 19.07.1999, LS, TN leg.: 1 iuv. - 169/1999; 300 m SE of St. Onofrij, UL93, 110 m, under stones, LS, TN leg., 10.10.1998: 1 m - 1836/1998; *ibid.*, 02.09.2000: 2 iuv. - 702/2000; *ibid.*, 19.07.1999: 1 iuv. - 161/1999; *ibid.*, 21.08.1999, grass, TN leg.: 1 iuv. - 227/1999; 900 m SSE of Paderno (Seča), UL93, 5 m, near the bridge, 10.10.1998, LS, TN leg.: 2 mm - 1853/1998; Padna, UL93, 19.07.1999, sieving, *Cotinus*, *Rubus*, *Q. pubescens*, LS, TN leg.: 1 iuv. - 165/1999; 500 m E of Padna, UL93, 220 m, beneath stones, 23.09.1998, LS, TN leg.: 2 mm, 2 ff - 1783/1998; Pišine, UL93, near the bridge over the Drnica stream, grass around a tree, 19.07.1999, LS, TN leg.: 2 iuv. - 155/1999; *ibid.*, 28.09.1999: 1 m - 249/1999; Seča, UL93, dry grass, 23.09.1998, LS, TN leg.: 2 mm, 2 ff, 1 subad. - 1814/1998; Sečoveljske soline (Sečovelje saltpans), UL93, 100 m W of Droga, 1-2 m, 10.10.1998, LS, TN leg.: 2 mm - 1873/1998; St. Duh, UL93, Padna, sieving, *Quercus*, grass, beneath stones, 19.07.1999, LS, TN leg.: 2 iuv. - 152/1999; St. Peter (Raven), UL93, 220 m, *Quercus*, grass, sieving, 11.10.1998, LS, TN leg.: 1 f - 1852/1998; drainage ditch S of Šempeter, UL98, 17.08.2000, TN leg.: 1 iuv. - 680/2000; Župančiči - Fiejeroga, VL03, beneath stones, 230 m, 10.11.1998, LS, TN leg.: 1 f - 1857/1998; Saksid, VL08, along the Vipava river, 17.08.2000, TN leg.: 1 f, 1 subad. - 684/2000; Ajdovščina - Vipavski Križ, VL18, near the influx of the Hubelj river, brushwood, 17.08.2000, TN leg.: 1 f, 1 subad. - 665/2000; Vipavski Križ - Cesta, VL18, cemetery, 17.08.2000, TN leg.: 1 f - 679/2000.

This is a common species in the Sub Mediterranean region of Slovenia.

Opilio dinaricus ŠILHAVÝ, 1938

Along the Medljanščica stream, UL93, 1 km W of Padna, litter, *Ostryetum*, sieving, 22.06.2000, BB, BO, TN leg.: 2 mm, 2 ff - 215/2000; Kucelj, VL08, Trnovski gozd, 14.07.1996, TN leg.: 2 iuv. - 13/1997; *ibid.*, 07.06.1997: 3 iuv. - 426/1998; *ibid.*, under stones, 18.06.1999, TN leg.: 1 iuv. - 58/1999.

The species is sparsely distributed within the Sub Mediterranean region, but common at higher altitudes.

Opilio saxatilis C. L. KOCH, 1839

Čedola, UL93, near the Jernejski potok stream, 50 m, grass, 11.10.1998, LS, TN leg.: 2 mm, 1 f - 1868/1998; 1 km E of Dragonja, UL93, grass, 40 m, 11.10.1998, LS, TN leg.: 1 m, 1 f, 1 iuv. - 1838/1998; 2 km E of Dragonja, UL93, 40 m, grass, 11.10.1998, LS, TN leg.: 1 iuv. - 1864/1998; Grič, 3 km E of Dragonja, UL93, 40 m, 11.10.1998, LS, TN leg.: 1 m, 1 f - 1834/1998;

Kaštinjol, UL93, grass, 11.10.1998, LS, TN leg.: 3 mm - 1871/1998; Nova vas, 260 m, UL93, meadow, 11.10.1998, LS, TN leg.: 9 mm, 2 ff, 1 iuv. - 1862/1998; 1 km W of Novi Brič (312 m), UL93, the road crossing for Puče, 110 m, 11.10.1998, LS, TN leg.: 1 m - 1842/1998; 900 m SSE of Paderno (Seča), UL93, 5 m, at the bridge, LS, TN leg., 10.10.1998: 3 mm, 3 ff - 1855/1998; 500 m E of Padna, UL93, under stones, 220 m, 23.09.1998, LS, TN leg.: 1 f - 1876/1998; Pišine, UL93, grass around a tree, 28.09.1999, LS, TN leg.: 3 mm, 3 ff - 253/1999; Seča, UL83, *Arundo*, sieving, 1-3 m, LS, TN leg., 10.10.1998: 1 m, 1 f - 1848/1998; Sečoveljske soline, UL93, 1-2 m, 100 m W of Droga, 10.10.1998, LS, TN leg.: 1 m - 1874/1998; St. Peter (Raven), UL93, 220 m, *Quercus*, grass, sieving, 11.10.1998, LS, TN leg.: 1 m - 1851/1998; Župančiči - Fiejeroga, VL03, under stones, 230 m., 10.11.1998, LS, TN leg.: 1 m, 1 f - 1858/1998; 500 m E of the Koper - Ljubljana - Ankaran road crossing, VL04, *Arundo*, *Clematis*, *Urtica*, 23.09.1998, LS, TN leg.: 2 ff, 2 iuv. - 1787/1998; Saksid, VL08, along the Vipava river, 17.08.2000, TN leg.: 1 iuv. - 687/2000.

This thermophilous species is common in the Sub Mediterranean region of Slovenia.

Opilio transversalis ROEWER, 1956

Pišine, UL93, near the bridge over the Drnica stream, grass around a tree, 19.07.1999, LS, TN leg.: 3 mm, 1 f, 5 iuv. - 156/1999; 100 m E of stone plates in the Dragonja river bed, UL93, *Arundo*, grass, sieving, 20.07.1999, LS, TN leg.: 1 f - 190/1999; Lucija - Seča - Banjole, UL94, peach orchard, MS-N, TN leg., 07.09.1998: 1 f - 1782/1998; Strunjan, UL94, grass, 22.08.1999, MŠ, TN leg.: 1 f - 226/1999; Črniče, UL98, 17.08.2000, TN leg.: 1 m, 2 iuv. - 669/2000; drainage ditch S of Šempeter, UL98, 17.08.2000, TN leg.: 3 mm, 2 ff - 683/2000; 400 m NW Velike Žablje, VL07, *Rubus*, 17.08.2000, TN leg.: 1 m - 696/2000; Saksid, VL08, along the Vipava river, 17.08.2000, TN leg.: 1 m, 1 iuv. - 686/2000; Potok pri Dornberku, VL08, by the bridge, 17.08.2000, TN leg.: 1 f - 655/2000; Zarečica - Koseze - Velika Bukovica, VL34, 22.08.1998, forest edge meadow, 22.08.1998, LS, TN leg.: 1 m, 1 f - 1515/1998.

This is a common species in the Sub Mediterranean region of Slovenia.

Phalangium opilio LINNAEUS, 1758

Grič, 3 km E of Dragonja, UL93, 40 m, 11.10.1998, LS, TN leg.: 1 f - 1835/1998; Mlini, UL93, 10 m, 23.09.1998, LS, TN leg.: 1 f - 1825/1998; Nova vas, UL93, meadow, 260 m, 11.10.1998, LS, TN leg.: 1 m, 1 f - 1875/1998; Pišine, UL93, near the bridge over the Drnica stream, grass around a tree, 28.09.1999, LS, TN leg.: 2 mm, 1 f, 2 iuv. - 252/1999; grass near stone plates in the Dragonja river bed, UL93, below Abrami,

19.07.1999, LS, TN leg.: 1 iuv - 144/1999; 100 m E of stone plates in the Dragonja river bed, UL93, *Arundo*, grass, sieving, 20.07.1999, LS, TN leg.: 1 m, 1 f, 1 f subad., 2 iuv. - 193/1999; Menik, Šmartno, UL89, grass, 09.08.2000, TN leg.: 1 f - 518/2000; Neblo, along the Kožbanjšček stream, UL89, 09.08.2000, TN leg.: 1 m - 515/2000; Korita na Krasu, UL97, sieving, forest edge, 17.08.2000, TN leg.: 1 f - 657/2000; drainage ditch S of Šempeter, UL98, 17.08.2000, TN leg.: 1 f - 681/2000; along the Lijak stream, UL98, Dombrava, 17.08.2000, TN leg.: 1 m - 675/2000; Marijino Celje, UM90, Lig, grass, 08.08.2000, TN leg.: 1 f - 542/2000; Gornje Nakovo, UM90, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 1 f - 550/2000; Sukavec, UM90, grass, 02.08.2000, TN leg.: 1 f - 303/2000; Ladra, UM92, 50 m away of the Soča river, forest edge, litter sieving, 25.09.1998, LS, TN leg.: 1 m, 1 f - 1812/1998; 500 m E of the road crossing Koper - Ljubljana - Ankaran, VL04, *Arundo*, *Clematis*, *Urtica*, 23.09.1998, LS, TN leg.: 1 m - 1785/1998; Čaven, VL08, Trnovski gozd, near the alpine cabin, 11.07.1995, TN leg.: 1 iuv. - 97/1997; Potok pri Dornberku, VL08, near a bridge, 17.08.2000, TN leg.: 1 m - 654/2000; Saksid, VL08, along the Vipava river, 17.08.2000, TN leg.: 1 m - 685/2000; Vipavski Križ - Cesta, VL18, cemetery, 17.08.2000, TN leg.: 1 m, 1 f - 678/2000; Zarečica - Koseze - Velika Bukovica, VL34, 22.08.1998, forest edge meadow, LS, TN leg., 22.08.1998: 1 m - 1516/1998.

This thermophilous species is common in the Sub Mediterranean region of Slovenia.

Platybunus bucephalus (C. L. KOCH, 1835)

1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 25.09.1998, LS, TN leg.: 11 iuv. - 1805/1998.

This montanous species occurs only in the margins of the Sub Mediterranean region of Slovenia.

SCLEROSOMATIDAE

Astrobonus helleri (AUSSERER, 1867)

300 m W of Proj, Brdice near Kožbana, UM80, along the Kožbanjšček stream, *S. aria*, *Fraxinus*, *Robinia*, *Corylus*, forest edge, sieving, 09.08.2000, TN leg.: 1 f - 526/2000; Avče, UM90, grass, 02.08.2000, TN leg.: 1 f - 296/2000; near the bridge at Doblar power station, UM90, *Fraxinus*, *Acer*, *Robinia*, litter sieving, 02.08.2000, TN leg.: 2 mm, 3 ff - 286/2000; Lepenka valley, UM90, Doblar, on a limestone wall, 25.09.1998, LS, TN leg.: 1 f - 1793/1998; 1 km S of the Tolmin - Kobarid - Kamno road crossing, UM91, 200 m, sieving, 25.09.1998, LS, TN leg.: 1 m - 1802/1998; Tublje near Hrpelje, VL15, *Carpinus*, *Tilia*, forest edge meadow, beneath stones, 20.07.1999, LS, TN leg.: 3 iuv. - 175/1999; Bač pri Materiji, VL24, 24.10.1998, LS, TN leg.: 1 f - 1885/1998.

This montanous species is not common in the Sub Mediterranean region of Slovenia; it occurs only in the marginal regions of the territory.

Astrobunus laevipes (CANESTRINI, 1872)

Šmarje - Štanjel - Hrastje, VL07, grass, sieving, 17.08.2000, TN leg.: 1 m - 671/2000; Boršt, VL03, 02.04.1995, SP leg.: 1 m - 660/1998.

The species is sparsely distributed within the Sub Mediterranean region; it is more common at higher altitudes.

Gyas annulatus (OLIVIER, 1791)

200 m NWW Ježa (949 m), UM91, on the bridge, 08.08.2000, TN leg.: 1 m - 530/2000; Vrabče, VL17, Podnanos, 300 m, 10.03.1994, SB leg.: 1 pullus - 633/1998.

This mountain-alpine species occurs only marginally in the Sub Mediterranean region, and in some cold habitats near flowing water.

Leiobunum roseum C. L. KOCH, 1839

Lepenka valley, UM90, Doblar, on a limestone wall, 25.09.1998, LS, TN leg.: 1 m - 1792/1998; Sleme, UM91, 08.08.2000, TN leg.: 1 m, 1 iuv. - 531/2000.

This Southeastern-Alpine species occurs marginally in the Sub Mediterranean region in warm rocky habitats.

Leiobunum rupestre (HERBST, 1799)

Britof - Ukanje, UM80, rock walls, 09.08.2000, TN leg.: 1 m - 520/2000; 100 m SSW of Vogrinski, UM91, Srednje - Solarji, 08.08.2000, TN leg.: 1 m, 2 ff - 538/2000; Idrsko - Livek, UM92, on a cabin, 08.08.2000, TN leg.: 1 iuv. (f) - 528/2000.

The species is sparsely distributed within the parts of the Sub Mediterranean region that are marginal for its hygrophilous oligothermophilous character.

Nelima doriae (CANESTRINI, 1871)

Seča, Ribič, UL83, 21.08.1999, grass, MŠ, TN leg.: 1 f, 1 iuv. - 228/1999; Nova vas, 260 m, UL93, meadow, 11.10.1998, LS, TN leg.: 1m, 1 f, cf. 2 iuv. - 1860/1998; Seča, UL93, *Arundo*, 1-3 m, 10.10.1998, LS, TN leg.: 3 mm - 1846/1998; Sečoveljske soline, UL93, 100 m W of Droga, 1-2 m, 10.10.1998, LS, TN leg.: 2 mm, 1 f - 1872/1998.

N. doriae is a Mediterranean species, common in the region's warm and moderately humid places.

Nelima narcisi NOVAK & SLANA, 2003

100 m E of stone plates in the Dragonja river bed,

UL93, *Arundo*, grass, sieving, 20.07.1999, LS, TN leg.: 4 iuv. - 195/1999; 1 km E of Dragonja, UL93, grass, 40 m, 11.10.1998: 1 iuv. - 1839/1998; 2 km E of Dragonja, UL93, 40 m, grass, 11.10.1998: 1 iuv. - 1863/1998; Nova vas, 260 m, UL93, meadow, LS, TN leg., 11.10.1998: 3 iuv. - 1861/1998; 1 km W of Novi Brič (312 m), UL93, the road crossing for Puče, 110 m, 11.10.1998, LS, TN leg.: 1 f - 1843/1998; 500 m E of Padna, UL93, beneath stones, 220 m, 23.09.1998, LS, TN leg.: 3 mm, 2 ff, 5 iuv. - 1877/1998; ca. 300 m SE of St. Onofrij, Parecag, UL93, 02.09.2000, LS, TN leg.: 6 mm - 701/2000; *ibid.*, under stones, 10.10.1998: 3 mm, 1 f, 1 iuv. - 1837/1998; Seča, UL93, by the road; *Arundo*, sieving, 1-3 m, 10.10.1998, LS, TN leg.: 4 mm - 1849/1998; *ibid.*, *Ostrya*, *Quercus*, sieving, brushwood, 21.08.1999, MŠ, TN leg.: 1 iuv. - 235/1999; Župančiči - Fiejeroga, VL03, beneath stones, 230 m, 10.11.1998, LS, TN leg.: 2 ff, 1 iuv. - 1859/1998.

N. narcisi is a Northern-Adriatic species, common in the region's warm and moderately humid places. At Debeli rtič, specimens are not as small as described in Novak & Slana (2003; Martens *in lit.*); it is possible that very small individuals occur only in extremely dry, sunward places, where they were collected for the type series.

Nelima sempronii SZALAY, 1951

Grass near stone plates in the Dragonja river bed, UL93, below Abrami, 19.07.1999, LS, TN leg.: 1 f - 145/1999; Fenendra, UL93, Draga, grass, 22.08.1999, MŠ, TN leg.: 1 m - 224/1999; Kaštinjol, UL93, grass, 11.10.1998, LS, TN leg.: 1 m, 3 ff - 1870/1998; Korte, UL93, 350 m NNW of Parecag, 60 m, *Ostryetum*, 23.09.1998, LS, TN leg.: 1 m, 2 ff - 1822/1998; Lucija - Seča - Debernardo, UL93, *Arundo*, beneath stones, 22.09.1998, LS, TN leg.: 8 mm, 4 ff - 1819/1998; the bridge over the Medjanščica stream, UL93, Padna - Korte, 21.08.1999, TN leg.: 1 m, 2 ff - 237/1999; Mlini - Dragonja, UL93, grass along the Dragonja river, 21.08.1999, TN leg.: 4 m - 234/1999; 900 m SSE of Paderno (Seča), UL93, 5 m, near a bridge, 10.10.1998, LS, TN leg.: 2 mm - 1854/1998; Pišine, UL93, near the bridge over the Drnica stream, grass around a tree, 19.07.1999, LS, TN leg.: 4 iuv. - 157/1999; *ibid.*, 28.09.1999, LS, TN leg.: 2 mm - 251/1999; Lucija - Seča - Banjole, under the bridge, 07.09.1998, UL94, MSN, TN leg.: 2 ff - 1781/1998; drainage ditch S of Šempeter, UL98, 17.08.2000, TN leg.: 2 mm, 2 ff - 682/2000; Ajševica, UL99, the bridge over the Lijak stream, 17.08.2000, TN leg.: 1 f - 661/2000; 350 m NE of Grgarske Ravne, UL99, *Tilia*, *Corylus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 iuv. - 318/2000; Avče, UM90, grass, 02.08.2000, TN leg.: 1 iuv. - 295/2000; Marija Snežna, UM90, *Luzula silvestris*, grass, sieving, 02.08.2000, TN leg.: 1 m, 2 ff, 3 iuv. - 289/2000; Marijino Celje, UM90, Lig, grass, 08.08.

2000, TN leg.: 1 iuv. - 543/2000; Sukavec, UM90, grass, 02.08.2000, TN leg.: 1 f, 11 iuv. - 302/2000; 250 m SE of Zabrdo (Grgar), UL99, *Quercus*, *Fraxinus*, sieving, 02.08.2000, TN leg.: 1 iuv. - 306/2000; Velendol, UM80, *Tilia*, beneath stones, sieving, 09.08.2000, TN leg.: 1 m - 516/2000; Ladra, UM92, 50 m from the Soča river, forest edge, litter sieving, LS, TN leg., 25.09.1998: 4 mm, 2 ff - 1813/1998; 300 m W Miši, VL04, Dekani, near the bridge over the Rižana river, 20 m, 11.10.1998, LS, TN leg.: 4 mm, 1 f - 1833/1998; Bača pri Modreju, VM01, *Ostrya*, grass, sieving, 09.08.2000, TN leg.: 3 mm, 3 ff, 1 iuv. - 556/2000; 500 m E of the Koper – Ljubljana – Ankaran road crossing, VL04, *Arundo*, *Clematis*, *Urtica*, 23.09.1998, LS, TN leg.: 4 mm, 3 ff - 1786/1998; Šmarje - Štanjel - Hrastje, VL07, grass, sieving, 17.08.2000, TN leg.: 2 ff - 670/2000; Potok near Dornberk, VL08, near bridge, 17.08.2000, TN leg.: 1 f - 656/2000; the road crossing for Brezovica, VL14, 80 m, along the Rižana river, 23.09.1998, LS, TN leg.: 2 mm - 1820/1998; Ajdovščina - Vipavski Križ, VL18, near the influx of the Hubelj river, brushwood, 17.08.2000, TN leg.: 1 f - 663/2000; *ibid.*: 1 m, 4 ff - 664/2000; Bač pri Materiji, VL24, 24.10.1998, LS, TN leg.: 1 f - 1884/1998; Rečica, VL34, Ilirska Bistrica, near the bridge over the Reka river, 400 m, *Urtica*, *Rubus*, 22.08.1998, LS, TN leg.: 2 mm, 3 ff - 1512/1998; Zarečica - Koseze - Velika Bukovica, VL34, 22.08.1998, forest edge meadow, 22.08.1998, LS, TN leg.: 3 mm, 5 ff - 1519/1998.

This hygrophilous species is locally distributed in the Sub Mediterranean region, occurring in humid, mostly shady places along flowing water.

DISCUSSION

To date, 34 species and one subspecies have been recorded in the Sub Mediterranean territory of Slovenia. Additionally, more troguli species belonging to the groups of *T. nepaeformis* and *T. tricarinatus* are expected. The juvenile *Trogulus* from Strunjan in the Jochen Martens Collection (JM 1617), presumably belonging to *T. coriziformis* C. L. KOCH, 1839, was found to be *T. tingiformis* (Schönhofer *in lit.*). Not all of the recorded species are common in the region. According to their distribution, the following 16 species, plus at least four troguli species of the groups *T. nepaeformis* and *T. tricarinatus*, are to be considered as characteristic of the territory: *Scotolemon doriae*, *Carinostoma carinatum*, *Nemastoma bidentatum sparsum*, *N. dentigerum*, *Mitostoma chrysomelas*, *Trogulus coriziformis*, *T. gr. nepaeformis*, *T. gr. tricarinatus*, *Lacinius horridus*, *Metaphalangium cirtanum*, *Odiellus spinosus*, *Opilio dinari-*

cus, *O. saxatilis*, *O. transversalis*, *Phalangium opilio*, *Nelima doriae*, *N. narcisi* and *N. sempronii*.

In the region, some further species can be expected locally, such as *Anelasmoecephalus hadzii* MARTENS, 1978, *Trogulus closanicus* AVRAM, 1971, and *Holoscotolemon unicolor* ROEWER, 1915, at higher altitudes, since they are known in adjacent regions. For the same reasons, perhaps locally an *Ischyropsalis* species would be expected, such as *Ischyropsalis hellwigii hellwigii* (PANZER, 1794), in higher cold places, and *I. muellneri* HAMANN, 1898, in caves in the very northern part of the region. *Platybunus pinetorum* (C. L. KOCH, 1839) has not been found in Slovenia; perhaps it inhabits some isolated, wet habitat in the very northern part of the region.

Opilio canestrinii THORELL, 1876, has been expected, but not yet found in bigger towns, like Koper. This species is expanding all over Central Europe and will sooner or later also appear in this region. Although it seems no longer very probable, *Astrobanus dinaricus* ROEWER, 1915, would still be expected to occur in the region, as it has been described from Opatija (Croatia). The discovery of some further, laniatorid and/or nemastomatid subterranean opilionid species in the region cannot be excluded, but because of the sparse limestone territory and very limited accessibility of the hypogean habitats, the chances are relatively poor. Such discoveries could be expected in the future, if a convenient sampling method for epikarstic biota is introduced.

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SUHE JUŽINE (ARACHNIDA: OPILIONES) SUBMEDITERANSKE REGIJE SLOVENIJE – II

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POVZETEK

V članku so predstavljene nove najdbe suhih južin v submediteranski regiji Slovenije ter dodani komentarji k nekaterim aktualnim problemom v zvezi z določenimi vrstami. Predvidoma smo našli vse v regiji živeče vrste, razen morebitne neodkrite troglobiontske vrste. V regiji je bilo brez upoštevanja ploščkov iz skupin *Trogulus* gr. nepaeformis in *T. gr. tricarinatus*, kjer je pričakovanih več vrst, skupno najdenih 34 vrst in ena podvrsta. Za regijo je značilnih kakih 20 vrst suhih južin, medtem ko druge živijo na obrobju habitatov, ki mejijo na druge zoogeografske regije.

Ključne besede: pajkovci, suhe južine, Slovenija, submediteran

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SUPPLEMENT

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