Soil Gamasina Mites (Acari, Parasitiformes, Mesostigmata) from Hungary. I.

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Abstract: Material collected in various habitats of Hungary was investigated. Fifty four Gamasina species were found and along with 3 figures are listed in the present paper. Forty one Gamasina species were new to the fauna of Hungary.

Key words: Acari, Gamasina, Hungary, fauna.

Introduction

Until now few data are available on the fauna of Gamasina mites (Acari, Parasitiformes, Mesostigmata) in Hungary. L. Karpelles (1893) first mentioned Gamasina mites from Hungary. J. Balogh (1938a; 1938b) published data on several species in the beginning of the last century. M. Kandil (1978; 1980) investigated the genera *Epicriopsis* and *Lasioseius*, and described several new species. M. Ambros (1981-1982; 1984), E. Molnos (1981-1982) and M. Mrciak (1979) published data on several Mesostigmata species from small mammals and birds. The Hungarian nature parks and conservation areas have been investigated since 1981. M. Kandil (1981) investigated fauna of Hortobágy National Park, I. Komlovszky (1987) gave faunistic data of the Kiskunsági National Park and M. Ambros (1996) published the Mesostigmata of the Bükki National Park. Recently J. Kontschán (2003, 2004) published some findings of those mites.

Material and Methods

Soil and litter samples were collected from various habitats in Hungary. Identified mite specimens are deposited in the Institute of Biology, University of Latvia. Species identification was made after keys of N. Bregetova (1977), K. Hyatt (1980), W. Karg (1993), G. Shcherbak (1980) and P. Mašán (2003).

List of the localities

Location of Gamasina sampling sites in Hungary is given in Figure 1.

Zempén Mountains: (county Borsod-Abaúj-Zemplén)

L.1. 16.04.2003. Hidasnémeti, soil, leg. J. Kontschán

L.2. 16. 04.2003. Ináncs, soil, leg. J. Kontschán
L.4. 16. 04. 2003. Zsujta, soil, leg. J. Kontschán
L.5. 16. 04.2003. Vizsoly, soil, leg. J. Kontschán
L.10. 16.04.2003. Hidasnémeti, ant nest, leg. J. Kontschán
Transdanubian Mountains: Northern part of lake Balaton (county Veszprém)
L.3. 12.02.2004. Tihany, beach, Institute of Limnology of HAS, leg. J. Kontschán
L.7. 12. 02.2004. Tihany, Eastern beach, reed litter, leg. J. Kontschán
L.13. 10.03.2003. Tihany, alga on a beach, leg. J. Kontschán
Transdanubian Mountains: Vértes Mts and Bársonyos (county Komárom-Esztergom)
L.8. 25. 10.2003. Környei tó (small ponds near village Környe), litter, leg. J. Kontschán
L.9. 23. 09.2003. Oroszlány, bank of stream, litter, leg. J. Kontschán
L.15. 28. 04.2002. Oroszlány, Majk, beach of stream, litter, leg. J. Kontschán
L.16. 22. 06.2004. Oroszlány, Majk, alder forest, litter, leg. J. Kontschán
County Tolna
L.3. 12. 05.2003. Paks, popular forest, litter, leg. J. Kontschán
L.6. 12. 05.2003. Paks, wattle forest, soil, leg J. Kontschán
L.11. 12. 05.2003. Paks, pine forest, soil, leg. J. Kontschán
County Győr-Sopron-Moson
L.14. 14. 05.2003. Szigetköz, Kisbodak, soil, leg. J. Kontschán

Figure 1. Location of the sampling sites, Hungary.

Results and discussion

A total of 54 Gamasina species from 12 families were found in soil, litter, ant nests and other substrates. Forty one of them were recorded for the first time in the

fauna of Hungary. The most abundantly represented families were Parasitidae with 10 species, Aceosejidae with 9, Rhodacaridae with 6 and Laelaptidae with 6 species.

Mainly there were representatives of the European (25 species) and Palaearctic (15) region fauna, as well as several Holarctic species (Bregetova 1977; Karg 1993). Never the less, some Gamasina are known to be widely distributed, like *Hypoaspis vacua* (Holarctic, Africa, South America), *Rhoadacarellus silesiacus* (Holarctic, Australia) and *Hypoaspis aculeifer* (Holarctic, South America). The most diverse species composition was found for the litter near the stream (13 species, most abundant *Parasitus fimetorum*, *Proctolaelaps bickleyi*) and pine forest soil (14 species, most abundant *Pergamasus robustus*, *Leioseius minusculus*).

Abbreviations used in the text: * - species new to fauna of Hungary, L. – sampling localities.

List of the species

Gamasina LEACH, 1815
Parasitidae OUDEMANS, 1901
1. **Parasitus beta* OUDEMANS et VOIGTS, 1904
L.: 2., 7.; distribution – Europe.
2. **Parasitus (Coleogamasus) fimetorum* BERLESE, 1904
L.: 6., 9., 13.; distribution – Palaearctic.
3. **Parasitus cavernicola* TRÄGÅRDH, 1912
L.: 10.; distribution – Europe.
4. **Holoparasitus excipuliger* (BERLESE, 1905)
L.: 5., 8., 11.; distribution – Europe.
5. **Pergamasus misellus* BERLESE, 1904
L.: 1., 4., 5.; distribution – Europe.
6. **Pergamasus lapponicus* TRÄGÅRDH, 1910
L.: 1., 10.; distribution – Palaearctic.
7. *Pergamasus crassipes* (LINNAEUS, 1758)
L.: 1., 5., 9., 11., 13.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution - Holarctic.
8. **Pergamasus septentrionalis* (OUDEMANS, 1902)
L.: 5., 9., 14.; distribution – Palaearctic.
9. **Pergamasus mirabilis* WILLMANN, 1951
L.: 4.; distribution – Palaearctic.
10. **Pergamasus robustus* (OUDEMANS, 1902)
L.: 11.; distribution – Europe.
Veigaiaidae OUDEMANS, 1939
11. **Veigaia nemorensis* (C.L. KOCH, 1839)
L.: 1., 4., 5.; distribution – Palaearctic.
12. **Veigaia exigua* (BERLESE, 1917)
L.: 1.; distribution – Europe.
13. *Veigaia* sp.
L.: 4.
Ameroseiidae (BERLESE, 1919) EVANS, 1961
14. **Ameroseius lidiae* BREGETOVA, 1977
L.: 8.; distribution - East-Europe.

15. ***Ameroseius corbiculus*** (SOWERBY, 1806)
L.: 9., 13., 14.; distribution – Palaearctic.
16. ***Epicriopsis horridus*** (KRAMER, 1876)
L.: 1., 11.; distribution – Europe.
Aceosejidae BAKER, WHARTON, 1952 (sensu EVANS, 1958)
17. ***Neojordensia levis*** (OUDEMANS et VOIGTS, 1904)
L.: 11.; distribution - Europe, West Siberia.
18. ***Lasioseius confusus*** EVANS, 1958
L.: 2., 5., 7., 8., 9., 11.; distribution – Holarctic.
19. ***Cheiroseius nepalensis*** EVANS et HYATT, 1960
L.: 13.; distribution – Asia.
20. ***Leioseius (Arctoseius) halophilus*** (WILLMANN, 1949)
L.: 3., 6., 7.; distribution – Europe.
21. ***Leioseius (Arctoseius) minutus*** (HALBERT, 1915)
L.: 11.; distribution – Europe.
22. ***Leioseius minusculus*** (BERLESE, 1905)
L.: 3., 5., 7., 9., 11.; distribution – Europe.
23. ***Leioseius bicolor*** (BERLESE, 1918)
L.: 9.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Europe.
24. ***Platyseius italicus*** (BERLESE, 1905)
L.: 8.; distribution - Europe, West-Siberia.
25. ***Proctolaelaps bickleyi*** (BRAM, 1956)
L.: 10.; distribution – Holarctic.
Phytoseiidae BERLESE, 1916
26. ***Amblyseius meridionalis*** (BERLESE, 1914)
L.: 6.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Europe.
27. ***Proprioseiopsis messor*** WAINSTEIN, 1960
L.: 11.; distribution – Palaearctic.
28. ***Typhlodromus cotoneastri*** WAINSTEIN, 1961
L.: 9.; distribution - East-Europe.
Rhodacaridae OUDEMANS, 1902
29. ***Rhodacarellus silesiacus*** WILMANN, 1935
L.: 1.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution - Holarctic, Australia.
30. ***Rhodacarus mandibularis*** BERLESE, 1921
L.: 1., 4., 10.; distribution - Europe, West-Russia.
31. ***Dendrolaelaps zwoelferi*** HIRSCHMANN, 1960
L.: 7.; distribution - Europe, Russia.
32. ***Dendrolaelaps punctatulus*** HIRSCHMANN, 1960
L.: 11.; distribution - Europe, West-Russia.
33. ***Dendrolaelaps trapezoides*** HIRSCHMANN, 1960
L.: 14.; distribution – Europe.
34. ***Asca bicornis*** (CANESTRINI et FANZAGO, 1877)
L.: 9., 11.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Europe.
Macrochelidae VITZTHUM, 1930
35. ***Macrocheles montanus*** WILLMANN, 1951
L.: 1, 11.; previous finding in Hungary: Bükk Mts (Ambros 1996), Hortobágy (Kandil 1981); distribution – Europe.
36. ***Macrocheles peniciliger*** (BERLESE, 1904)

L.: 13.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Europe.

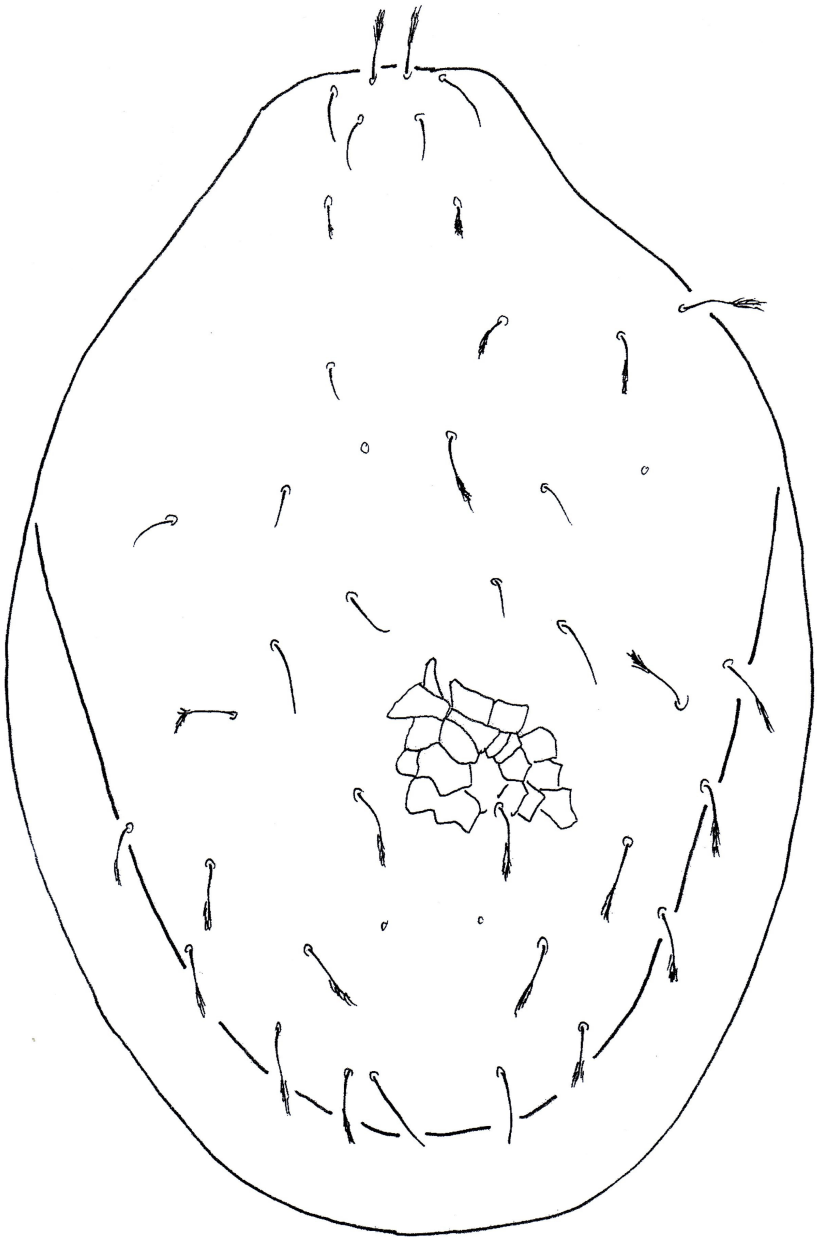

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Figure 2. Morphology of *Macrocheles tardus* (C.L. KOCH, 1844): dorsal side (J. Kontschán del.).

37. *Macrocheles matrius matrius* (HULL, 1925)
L.: 13.; previous finding in Hungary: Bükk Mts (Ambros 1996); distribution – Palaearctic.
38. *Macrocheles tardus* (C.L. KOCH, 1844) (Fig. 2, 3)
L.: 16.; distribution – Europe.
39. *Geholaspis (Longicheles) mandibularis* (BERLESE, 1904)
L.: 4.; distribution – Europe.

40. ***Geholaspis longispinosus*** (KRAMER, 1876)
L.: 15.; distribution – Europe.
41. ***Holostaspella exornata*** FILIPPONI et PEGAZZANO, 1967
L.: 9.; distribution – Europe.
Pachylaelaptidae VITZTHUM, 1931
42. ***Pachylaelaps (Pachylaelaps) pectinifer*** (G. et R. CANESTRINI, 1882)
L.: 1., 9.; distribution - Europe, East Russia.
43. ***Pachylaelaps (Pachylaelaps) littoralis*** HALBERT, 1915
L.: 1.; distribution – Europe.
44. ***Pachylaelaps siculus*** BERLESE, 1892
L.: 2.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Europe.
45. ***Pachylaelaps magnus*** HALBERT, 1915
L.: 4.; distribution – Europe.
Laelaptidae BERLESE, 1892
46. ***Hypoaspis (Geolaelaps) aculeifer*** (CANESTRINI, 1883)
L.: 1.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution - Holarctic, South-America.
47. ***Hypoaspis (Geolaelaps) praesternalis*** WILLMANN, 1949
L.: 5., 10.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution - Palaearctic, Africa.
48. ***Hypoaspis (Cosmolaelaps) vacua*** (MICHAEL, 1891)
L.: 1., 10.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution - Holarctic, Africa, South-America.
49. ***Hypoaspis (Cosmolaelaps) neocuneifer*** EVANS et TILL, 1966
L. : 5.; distribution – Palaearctic.
50. ***Hypoaspis incertus*** BERNHARD, 1955
L.: 11.; distribution – Europe.
51. ***Ololaelaps placentula*** (BERLESE, 1887) (Fig. 4.)
L.: 2., 15.; distribution - Europe, West-Siberia.
Eviphidae BERLESE, 1913
52. ***Alliphis siculus*** OUDEMANS, 1905
L.: 4., 6., 9., 11.; previous finding in Hungary: Hortobágy (Kandil 1981); distribution – Palaearctic.
Zerconidae CANESTRINI, 1891
53. ***Prozercon kochi*** Sellnick, 1943
L.: 10.; previous finding in Hungary: Csarodai swamp (Karg 1993); distribution – Europe.
54. ***Zercon spatulatus*** C.L. KOCH, 1839
L.: 14.; previous finding in Hungary: Mátra Mts, Pilis Mts, Budai Mts (Karg 1993); distribution – Europe.

Kopsavilkums

Rakstā ietverti dati par dažādos Ungārijas biotopos ievāktajām Gamasina ērcēm. Kopumā noteiktas 54 sugas, no kurām 41 ērču suga ir jauna Ungārijas faunai.

References

Ambros M. 1981-1982. Three species of mites (Acari: Mesostigmata) parasiting small

mammals in Hungary. - Parasitologica Hungarica 14: 95-97.
Ambros M. 1984. Mite species (Acari: Mesostigmata), new to the Hungarian fauna. - Miscellanea Zoologica Hungarica 2: 43-44.
Ambros M. 1996. Mites (Acari: Mesostigmata) from small mammals (Insectivora and Rodentia) in the Bükk Mts (Hungary). - In. Mahunka S. (ed). The fauna of the Bükk National Park II. The Hungarian Natural History Museum, Budapest: 449-453.
Balogh J. 1938a. Neue Milben-Faunistische Angaben aus dem Karpatenbecken (Gamasina). - Fragmenta Faunistica Hungarica 1, (1-4): 72-74.
Balogh J. 1938b. Studien über Myrmecophilen Milben Ungarns I. - Folia Entomologica Hungarica 3, (1-4): 106-109 (in Hungarian, German abstract).
Bregetova N.G. (Брегетова Н.Г.) 1977. [Identification key for soil inhabiting mites. Mesostigmata.] Nauka, Leningrad: 1-717 (in Russian).
Hyatt K.H. 1980. Mites of the subfamily Parasitinae (Mesostigmata: Parasitidae) in the British Isles. - Bulletin of the British Museum (Natural History), Zoology series 38, 5: 344-347.
Kandil M.M. 1978. The genus Epicriopsis Berlese, 1916 in Hungary (Acarina: Ameroseiidae). - Folia Entomologica Hungarica 31, (2): 179-185.
Kandil M.M. 1980. Three new Lasoiseius species from Hungary (Acari: Mesostigmata: Podocinidae). - Folia Entomologica Hungarica 41, (1): 75-86.
Kandil M.M. 1981. The Mesostigmata fauna of the Hortobágy National Park (Acari). – In: Mahunka S. (ed). The fauna of the Hortobágy National Park I. Akadémiai Kiadó, Budapest: 365-373.
Karg W. 1993. Acari (Acarina), Milben Parasitiformes (Anactinochaeta) Cohors Gamasina Leach. Raubmilben. Gustav Fischer Verlag, Jena: 1-524.
Karpelles L. 1893. Data to the Acari fauna of Hungary. - Mathematikai és Természettudományi Közlemények 25, (3): 401-453 (in Hungarian, English abstract).
Komlovszky I.Sz. 1987. Some data to the knowledge of mesostigmatid and prostigmatid mites of the Kiskunság (Acari). – In: Mahunka S. (ed). The fauna of the Kiskunság National Park I. Akadémiai Kiadó, Budapest: 343-345.
Kontschán J. 2003. First record of the family Antennophoridae (Acari: Mesostigmata) from Hungary. - Folia Entomologica Hungarica 64: 347-349 (in Hungarian, English abstract).
Kontschán J. 2004. Data to the Hungarian Mesostigmata (Acari) fauna. - Folia Entomologica Hungarica 65: 233-236 (in Hungarian, English abstract).
Mašán P. 2003. Macrochelid mites of Slovakia (Acari, Mesostigmata, Macrochelidae). Slovak Academy of Science, Institute of Zoology, Bratislava: 1-149.
Molnos E. 1981-1982. Data on Dermanyssidae (Acarina) living on small mammals and birds in Hungary. - Parasitologica Hungarica 14: 91-93.
Mrciak M. 1979. Contribution to the knowladge of Gamasid mites (Acari, Gamasoidea) of small mammals in Hungary. - Parasitologica Hungarica 12: 99-104.
Shcherbak G. I. 1980. The family Rhodacaridae in the Palaearctic. Naukova Dumka, Kiev: 1-215 (in Russian, English abstract)

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Figure 3. Morphology of *Macrocheles tardus* (C.L. KOCH, 1844): ventral side (J. Kontschán del.).

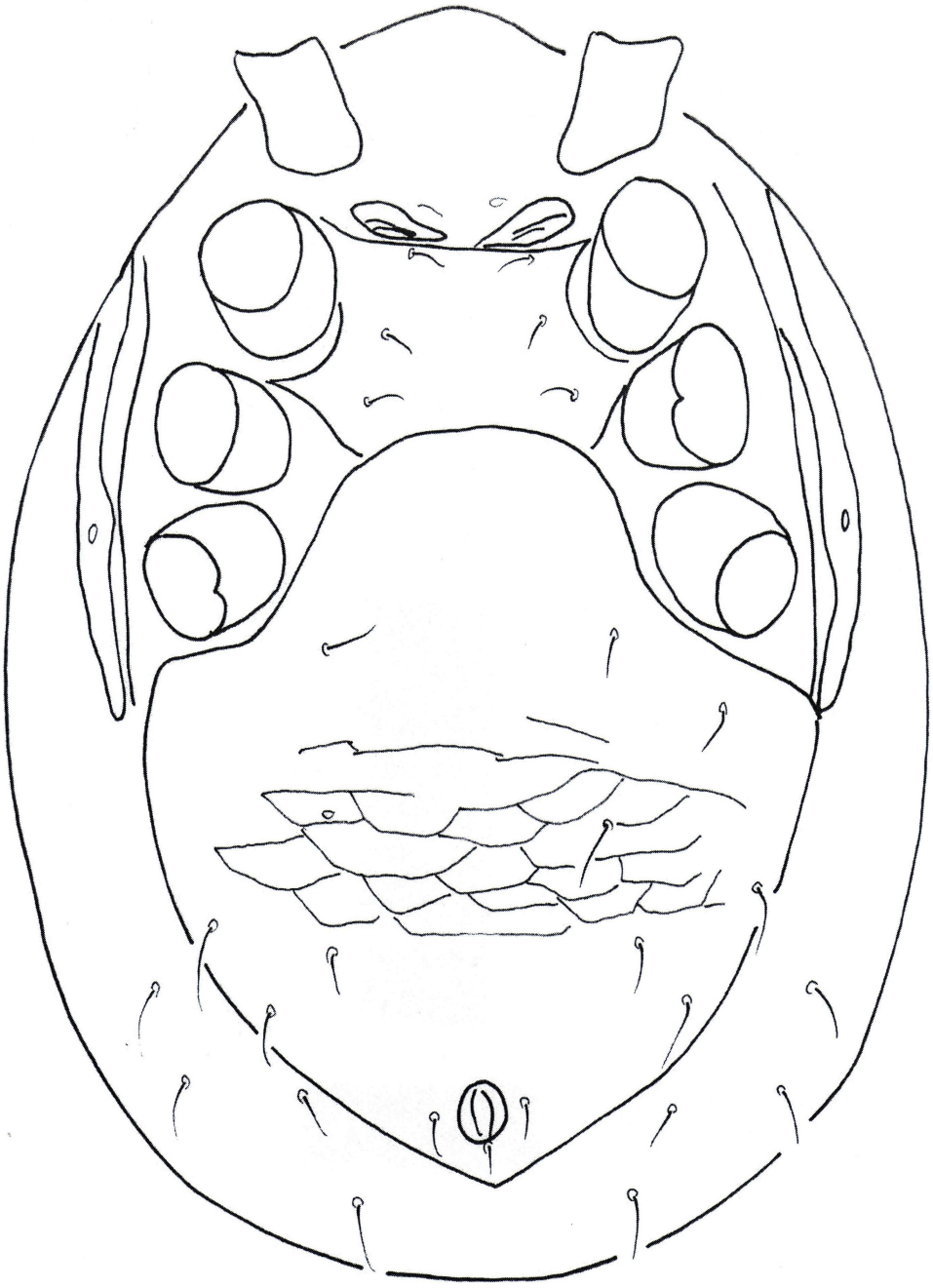

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Figure 4. Morphology of *Ololaelaps placentula* (BERLESE, 1887): ventral side (J. Kontschán del.).