

REVIEW ON LITHUANIAN EXPEDITION RECORDS OF ORIBATID MITES (ACARI: ORIBATIDA) ALONG THE COAST OF BALTIC SEA IN THE TERRITORY OF LATVIA BACK IN THE YEAR OF 1965

Uģis Kagainis, Irena Eitminavičiūtė

Kagainis U., Eitminavičiūtė I. 2011. Review on Lithuanian expedition records of oribatid mites (Acari: Oribatida) along the coast of Baltic Sea in the territory of Latvia back in the year of 1965. *Acta Biol. Universit. Daugavpil.*, 11 (2): 237-246.

Results of unpublished 46 years old historical records of Lithuanian expeditors are presented. 62 species and 25 morphospecies are registered in seven different districts along the coastal area of Baltic Sea in the territory of Latvia. 10 species are new for the fauna of Latvia.

Key words: Oribatida, species, fauna, Latvia, historical records, coastal area of Baltic Sea.

Uģis Kagainis, Institute of Biology, University of Latvia. Address: 3 Miera Street, LV-2169, Salaspils, Latvia, oribatida@inbox.lv

Irena Eitminavičiūtė, Institute of Ecology of Nature Research Center. Address: 2 Akademijas Street, LT-08412, Vilnius, Lithuania, i.eitminaviciute@gmail.com

INTRODUCTION

The status of oribatid species list of Latvia has been unclear until the checklist was published (Kagainis 2011). Besides, a significant error in species counting was detected in the work of Karppinen & Krivolutsky (1982). In this publication 51 species were counted incorrectly to the fauna of Latvia. Both authors no longer work in science and are unavailable for discussions. However, mistake could be explained as an incorrectness in referring Lithuanian publications (Kagainis 2011).

An expedition by researchers from Lithuania was performed to study soil invertebrates of the coastal area in the East Baltic region and results

were published (Eitminavichute 1965; Eitminavichute et al. 1976; Eitminavichute 2003). Oribatid species also were listed but unfortunately without any data on their territorial distribution (Eitminavichute 1976). So it was left unknown whether the species were actually registered in the territory of Latvia or not. It was posted to be possible that in the work of Karppinen & Krivolutsky (1982) all species were counted as sampled also in the territory of Latvia (Kagainis 2011). Anyway, it is cleared out that there are no published Lithuanian data of species mentioned for the fauna of Latvia and all records are deposited in the Institute of Ecology of Natural Research Center (Eitminavičiūtė pers. comm.). The aim of this investigation is to gather and to publish the records of oribatid mites that were registered in

the territory of Latvia during the investigation of the coastal area in the East Baltic region in the year 1965.

MATERIAL AND METHODS

Current research was carried out during the investigation of soil invertebrate fauna of the coastal area in the East Baltic region. Oribatid mites were collected at seven different districts on 5th and 6th September, 1965, in Latvia. 47 samples were taken from soil in 12 various habitats using soil borers (volumes: 250 and 500 cm³). Mites were extracted on Tullgren funnels and adult individuals were identified. Sex was not determined (Eitminavičiūtė 1976). Sampling and identification was carried out as well as the list of species and data on habitats were published by Irena Eitminavičiūtė.

Description of three habitats that were found more detailed explained in the records, are given further. Forest with black alder *Alnus glutinosa* has swampy podzol soils, dominant plants are *Urtica dioica*. Mounded embryonic dunes consists of small mounds with *Salix repens*, *S. daphnoides*, *Festuca arenaria*, *Artemisia campestris*, *Thymus serpyllum*, *Polystrichum aculeatum*, also lichens *Cladonia arbuscula*, *C. fimbriata*, *Cetraria islandica* can be present. Soil is not developed. Meadows at Roja and Mērsrags municipality are with sandy soils, containing plant species like *Festuca rubra*, *Carex arenaria*, *Viola litoralis*, *Thymus serpyllum* and *Corynephorus canescens* that covers 60-100% of the area. Remains of grazing are visible. Organic layer reaches the thickness of 2 cm. Meadow at Ventspils municipality is very dry, with oligotrophic sandy soils and poor vegetation that covers less than 10 % of the area. *Carex arenaria* and *Tussilago farfara* are dominant plant species.

During the work with the historical data (in total 495 records) Latvian species were compared following to the taxonomy of Weigmann (2006) and data were ordered by locality, habitat and sample number by the first author.

RESULTS

List of Oribatid Species

The order of Oribatida families follows to the taxonomical principles and the species are ordered alphabetically. Records are ordered alphabetically by name of municipality (all underlined) and localities (if registered), sampling dates (dd. mm.yyyy) – chronologically. Then habitat and substrate data alphabetically, number of collected individuals (in total 5474) and number of the sample (four digit code indicated in brackets) chronologically. Morphospecies are not numbered. No vowel mutations are used (ñ, e, ä, ö, ü, å, ‘, etc.) (e.g. Trägårdh = Tragardh).

Abbreviations used in the text: m. – municipality, ind. – individuals, * - new species for the fauna of Latvia

Brachychthoniidae Thor, 1934

Brachychthonius Berlese, 1910

Brachychthonius sp.

Limbaži m., Vītupe, 06.09.1965, pine forest edge, soil, 14 ind., (1825a); pine forest, soil, 15 ind., (1830); 6 ind., (1832); young spruce forest, soil, 7 ind., (1828); 11 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 2 ind., (1795); 2 ind., (1796); Rīga m., 06.09.1965, pine forest, soil, 2 ind., (1806); 3 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 14 ind., (1781); 19 ind., (1782); 2 ind., (1783); Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 1 ind., (1812); 1 ind., (1813); 1 ind., (1814); pine forest, soil, 7 ind., (1815); 2 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 5 ind., (1766).

Hypochthoniidae Berlese, 1910

Hypochthonius C.L. Koch, 1835

1. *Hypochthonius rufulus* C.L. Koch, 1835

Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1796); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1806); 3 ind., (1807); Saulkrasti m., 06.09.1965, pine forest, soil, 4 ind., (1815); 5 ind., (1816); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 1 ind., (1770).

Eniochthoniidae Grandjean, 1947

Eniochthonius Grandjean, 1933

2. *Eniochthonius minutissimus* (Berlese, 1903)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 14 ind., (1830); Roja m., Ģipka, 05.09.1965, pine forest, soil, 19 ind., (1782); 4 ind., (1783); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 5 ind., (1770); 8 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1769).

Phthiracaridae Perty, 1841

Haplophthiracarus Jacot, 1933

Haplophthiracarus sp.

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 6 ind., (1830); 8 ind., (1832); young spruce forest, soil, 1 ind., (1827); Mērsrags m., 05.09.1965, pine forest, soil, 10 ind., (1796); 1 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 3 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 16 ind., (1781); young pine forest, soil, 2 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 4 ind., (1815); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1770); 1 ind., (1771).

Phthiracarus Perty, 1841

Phthiracarus sp.

Limbaži m., Vītupe, 05.09.1965, young spruce forest, soil, 2 ind., (1828); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1770).

Steganacarus Ewing, 1917

3. *Steganacarus (Atropacarus) striculus* (C.L. Koch, 1835)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 2 ind., (1825b); young spruce forest, soil, 7 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 11 ind., (1795); 33 ind., (1796); 14 ind., (1797); Roja m., Ģipka, 05.09.1965, pine forest, soil, 39 ind., (1783).

4. *Steganacarus (Tropacarus) carinatus* forma *carinata* (C.L. Koch, 1841)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 10 ind., (1831); 17 ind., (1832); young spruce forest, soil, 10 ind., (1828); Mērsrags m.,

05.09.1965, pine forest, soil, 34 ind., (1795); 21 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 10 ind., (1807); 2 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil 3 ind., (1781); 8 ind., (1782); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1815); 4 ind., (1816); 2 ind., (1817).

Euphthiracaridae Jacot, 1930

Euphthiracarus Ewing, 1917

5. *Euphthiracarus monodactylus* (Willmann, 1919)

Rīga m., 06.09.1965, pine forest, soil, 6 ind., (1807).

Oribotritia Jacot, 1924

6. *Oribotritia berlesei* (Michael, 1898)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 2 ind., (1830); Mērsrags m., 05.09.1965, pine forest, soil, 8 ind., (1796).

Oribotritia sp.

Rīga m., 06.09.1965, pine forest, soil, 43 ind., (1806); Saulkrasti m., 06.09.1965, pine forest, soil, 2 ind., (1817).

Rhysotritia Markel et Meyer, 1959

7. *Rhysotritia duplicata* (Grandjean, 1953)*

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1831); 1 ind., (1832); young spruce forest, soil, 1 ind., (1827); Mērsrags m., 05.09.1965, pine forest, soil, 11 ind., (1795); 5 ind., (1796); 7 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 38 ind., (1806); 4 ind., (1807); 3 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 7 ind., (1781); 11 ind., (1782); 35 ind., (1783).

Malacoethridae Berlese, 1916

Trimalaconothrus Berlese, 1916

Trimalaconothrus sp.

Roja m., Ģipka, 05.09.1965, young pine forest, soil, 1 ind., (1785).

Nothridae Berlese, 1896

Nothrus C.L. Koch, 1835

8. *Nothrus silvestris* Nicolet, 1855

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 8 ind., (1831); 4 ind., (1832); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795); 1 ind., (1796); Rīga m., 06.09.1965, pine forest, soil,

4 ind., (1806); 2 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 2 ind., (1781); 1 ind., (1782); 2 ind., (1783).

Camisiidae Oudemans, 1900

Platynothrus Berlese, 1913

9. *Platynothrus peltifer* (C.L. Koch, 1839)
Mērsrags m., 05.09.1965, pine forest, soil, 8 ind., (1795); 15 ind., (1796); 9 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1803); 7 ind., (1806); Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1781); 1 ind., (1783); Ventspils m., beach of Ventspils, 05.09.1965, 2 ind., (1766); 3 ind., (1767).

Nanhermanniidae Sellnick, 1928

Nanhermannia Berlese, 1913

10. *Nanhermannia elegantula* Berlese, 1913
Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1830); Mērsrags m., 05.09.1965, pine forest, soil, 21 ind., (1795); 3 ind., (1796); 7 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 8 ind., (1806); 4 ind., (1807); Roja m., Ģipka, 05.09.1965, pine forest, soil, 3 ind., (1781).

11. *Nanhermannia komareki* KUNST, 1956*
Limbaži m., Vītupe, 05.09.1965, young spruce forest, soil, 3 ind., (1829).

12. *Nanhermannia nana* (NICOLET, 1855)
Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1782); 19 ind., (1783).

Nanhermannia sp.

Limbaži m., Vītupe, 05.09.1965, young spruce forest, soil, 1 ind., (1828).

Hermannielliidae Grandjean, 1934

Hermanniella Berlese, 1908

13. *Hermanniella granulata* (NICOLET, 1855)
Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 6 ind., (1770); 6 ind., (1771). Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1769).

Damaeidae Berlese, 1896

Belba von Heyden, 1826

Belba sp.

Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795).

Metabelba Grandjean, 1936

14. *Metabelba pulverosa* Strenzke, 1953

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1832); young spruce forest, soil, 1 ind., (1829); Rīga m., 06.09.1965, pine forest, soil, 2 ind., (1807); 5 ind., (1808); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, 2 ind., (1771).

Metabelba sp.

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 2 ind., (1831); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1781); Saulkrasti m., 06.09.1965, pine forest, soil, 3 ind., (1816).

Cepheidae Berlese, 1896

Cepheus C.L. Koch, 1835

15. *Cepheus cepheiformis* (NICOLET, 1855)
Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1832); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1815).

Cepheus sp.

Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1796).

Eremaeidae Oudemans, 1900

Eremaeus C.L. Koch, 1835

Eremaeus sp.

Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817).

Eueremaes Mihelcic, 1963

16. *Eueremaes silvestris* (FORSSLUND, 1956)*
Saulkrasti m., 06.09.1965, pine forest, soil, 3 ind., (1815); 1 ind., (1816).

Astegistidae Balogh, 1961

Cultroribula Berlese, 1908

17. *Cultroribula bicultrata* (Berlese, 1905)*
Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1815).

Liacaridae Sellnick, 1928

Adoristes Hull, 1916

18. *Adoristes ovatus* (C.L. Koch, 1839)
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 6 ind., (1825a); 4 ind., (1826); pine

- forest, soil, 4 ind., (1830); 2 ind., (1831); 1 ind., (1832); young spruce forest, soil, 1 ind., (1828); 1 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 20 ind., (1795); 3 ind., (1796); 6 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 3 ind., (1806); 3 ind., (1807); 6 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 2 ind., (1782); Saulkrasti m., 06.09.1965, pine forest, soil, 26 ind., (1815); 10 ind., (1816); 5 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 13 ind., (1766); 14 ind., (1767); 5 ind., (1768).
- Liacarus* Michael, 1898
19. *Liacarus coracinus* (C.L. Koch, 1841)
Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1831); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 1 ind., (1770).
- Xenillus* Robineau-Desvoidy, 1839
20. *Xenillus clypeator* Robineau-Desvoidy, 1839*
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825b).
21. *Xenillus tegeocranus* (Hermann, 1804)
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a).
- Carabodidae** C.L. Koch, 1843
Carabodes C.L. Koch, 1835
22. *Carabodes areolatus* Berlese, 1916
Roja m., Ģipka, 05.09.1965, young pine forest, soil, 1 ind., (1784).
23. *Carabodes labyrinthicus* (Michael, 1879)
Roja m., Ģipka, 05.09.1965, young pine forest, soil, 3 ind., (1785).
24. *Carabodes marginatus* (Michael, 1884)
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a); pine forest, soil, 3 ind., (1832); Roja m., Ģipka, 05.09.1965, young pine forest, soil, 3 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 4 ind., (1817).
25. *Carabodes ornatus* Storkan, 1925
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a).
26. *Carabodes tenuis* Forsslund, 1953*
Roja m., Ģipka, 05.09.1965, young pine forest, soil, 17 ind., (1784); 22 ind., (1785); 1 ind., (1786).
- Carabodes* sp.
Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1808); Roja m., Ģipka, 05.09.1965, young pine forest, soil, 2 ind., (1785); 1 ind., (1786).
- Tectocephidae** Oudemans, 1900
Tectocephus Berlese, 1895
27. *Tectocephus velatus sarekensis* Tragardh, 1910
Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1796).
28. *Tectocephus velatus velatus* (Michael, 1880)
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a); pine forest, soil, 5 ind., (1830); 7 ind., (1831); 59 ind., (1832); young spruce forest, soil, 5 ind., (1828); 28 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 2 ind., (1781); 13 ind., (1782); young pine forest, soil, 10 ind., (1784); 4 ind., (1785); 8 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1815); 14 ind., (1816); 2 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 13 ind., (1770); 13 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 12 ind., (1769); pine forest, sandy loam, 3 ind., (1766); 10 ind., (1768).
Tectocephus sp.
Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1806); Roja m., Ģipka, 05.09.1965, young pine forest, soil, 2 ind., (1785).
- Quadropiidae** Balogh, 1983
Quadroppia Jacot, 1939
29. *Quadroppia quadricarinata* (Michael, 1885)
Saulkrasti m., 06.09.1965, pine forest, soil, 2 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 3 ind., (1766).
- Oppidae** Grandjean, 1951
Dissorhina Hull, 1916
30. *Dissorhina ornata* (Oudemans, 1900)
Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 73 ind., (1825a); 1 ind., (1825b); 36 ind., (1826); pine forest, soil, 10 ind., (1831); 8 ind.,

(1832); young spruce forest, soil, 25 ind., (1829); Roja m., Ģipka, 05.09.1965, young pine forest, soil, 2 ind., (1785); 4 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 12 ind., (1816).

Microppia Balogh, 1983

31. *Microppia minus* (Paoli, 1908)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 47 ind., (1825a); pine forest, soil, 5 ind., (1830); 64 ind., (1831); 125 ind., (1832); young spruce forest, soil, 3 ind., (1828); Mērsrags m., 05.09.1965, beach, sandy soil, 1 ind., (1789); dunes, soil, 1 ind., (1791); meadow, sandy soil, 7 ind., (1793); Rīga m., 06.09.1965, pine forest, soil, 3 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1782); Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 31 ind., (1813); pine forest, soil 2 ind., (1815); 1 ind., (1816); 37 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 2 ind., (1766); 27 ind., (1768).

Oppiella Jacot, 1937

32. *Oppiella (Oppiella) nova* (Oudemans, 1902)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 7 ind., (1825a); 10 ind., (1826); pine forest, soil, 15 ind., (1830); 52 ind., (1831); 20 ind., (1832); young spruce forest, soil, 39 ind., (1828); 28 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 49 ind., (1795); 4 ind., (1796); Rīga m., 06.09.1965, pine forest, soil, 6 ind., (1807); 65 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 164 ind., (1781); 17 ind., (1782); 25 ind., (1783); young pine forest, soil, 1 ind., (1784); Saulkrasti m., 06.09.1965, pine forest, soil, 17 ind., (1815); 147 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1770); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 12 ind., (1766); 62 ind., (1767); 9 ind., (1768).

33. *Oppiella (Rhinoppia) obsoleta* (Paoli, 1908)*

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 4 ind., (1830); young spruce forest, soil, 1 ind., (1828); Mērsrags m., 05.09.1965, pine forest, soil, 2 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 6 ind., (1807); Roja m., Ģipka, 05.09.1965, pine forest, soil, 29 ind., (1781); Saulkrasti m., 06.09.1965, pine forest, soil, 43 ind., (1815); 9 ind., (1816); 48 ind., (1817).

Oppiella sp.1

Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 5 ind., (1812); 4 ind., (1814); pine forest, soil, 1 ind., (1815).

Oppiella sp.2

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 2 ind., (1831); young spruce forest, soil, 17 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795); Saulkrasti m., 06.09.1965, pine forest, soil, 6 ind., (1815).

Oppia C.L. Koch, 1836

Oppia sp.

Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1816).

Suctobelbidae Jacot, 1938

Suctobelba Paoli, 1908

34. *Suctobelba trigona* (Michael, 1888)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 35 ind., (1830); 28 ind., (1831); 26 ind., (1832); young spruce forest, soil, 83 ind., (1829); Mērsrags m., 05.09.1965, meadow, sandy soil, 1 ind., (1792); 1 ind., (1793); 1 ind., (1974); pine forest, soil, 46 ind., (1795); 15 ind., (1796); Rīga m., 06.09.1965, pine forest, soil, 3 ind., (1804); 19 ind., (1807); 31 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 120 ind., (1781); 61 ind., (1782); 22 ind., (1783); young pine forest, soil, 1 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 57 ind., (1815); 35 ind., (1816); 15 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 5 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 14 ind., (1766); 26 ind., (1767); 5 ind., (1768).

Suctobelba sp.

Limbaži m., Vītupe, 05.09.1965, young spruce forest, soil, 25 ind., (1828); Rīga m., 06.09.1965, pine forest, soil, 4 ind., (1803); 2 ind., (1806); Roja m., Ģipka, 05.09.1965, young pine forest, soil, 2 ind., (1785); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 4 ind., (1770).

Suctobelbella Jacot, 1937

35. *Suctobelbella duplex* (Strenzke, 1950)*

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 4 ind., (1831).

36. *Suctobelbella subtrigona* (Oudemans, 1916) Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 8 ind., (1830); 4 ind., (1831); Mērsrags m., 05.09.1965, pine forest, soil, 19 ind., (1795); Rīga m., 06.09.1965, pine forest, soil, 4 ind., (1807); 3 ind., (1808); Saulkrasti m., 06.09.1965, pine forest, soil, 12 ind., (1816); 3 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 8 ind., (1766).

Autognetidae Grandjean, 1960

Autogmeta Hull, 1916

37. *Autogmeta longilamellata* (Michael, 1885) Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 5 ind., (1830); 687 ind., (1831); 27 ind., (1832); Mērsrags m., 05.09.1965, beach, sandy soil, 1 ind., (1789); Ģipka, 05.09.1965, pine forest, soil, 14 ind., (1781); 33 ind., (1782); young pine forest, soil, 1 ind., (1784); 3 ind., (1785); Saulkrasti m., 06.09.1965, pine forest, soil, 16 ind., (1815); 10 ind., (1816); 16 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 1 ind., (1771).

Conchogneta Grandjean, 1963

38. *Conchogneta dalecarlica* (Forsslund, 1947) Saulkrasti m., 06.09.1965, pine forest, soil, 57 ind., (1815); 2 ind., (1817).

Oppioidea sp.

Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817).

Hydrozetidae Grandjean, 1954

Hydrozetes Berlese, 1902

Hydrozetes sp.

Ventspils m., 05.09.1965, meadow, sandy soil, 1 ind., (1772).

Passalozetidae Grandjean, 1954

Passalozetes Grandjean, 1932

39. *Passalozetes africanus* Grandjean, 1932 Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 5 ind., (1812); 6 ind., (1813); 2 ind., (1814).

Scutoverticidae Grandjean, 1954

Scutovertex Michael, 1879

40. *Scutovertex minutus* (C.L. Koch, 1835)

Limbaži m., Vītupe, 05.09.1965, sandy soil, 1 ind., (1822); Mērsrags m., 05.09.1965, dunes, soil, 1 ind., (1790); meadow, sandy soil, 2 ind., (1793); 1 ind., (1794); Rīga m., 06.09.1965, sandy soil, 2 ind., (1801); 3 ind., (1802); 1 ind., (1802a); Roja m., Ģipka, 05.09.1965, meadow, sandy soil, 1 ind., (1786); Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 3 ind., (1813).

Phenopelopidae Petrunkevich, 1955

Eupelops Ewing, 1917

41. *Eupelops occultus* (C.L. Koch, 1835)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 8 ind., (1770); 8 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 7 ind., (1769).

42. *Eupelops plicatus* (C.L. Koch, 1835)

Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 2 ind., (1766).

43. *Eupelops torulosus* (C.L. Koch, 1840)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a); pine forest, soil, 1 ind., (1831); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1806); 1 ind., (1807); Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1781); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 4 ind., (1766).

Eupelops sp.

Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 1 ind., (1767); 1 ind., (1768).

Peloptulus Berlese, 1908

44. *Peloptulus phaenotus* (C.L. Koch, 1844)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1826); Mērsrags m., 05.09.1965, meadow, sandy soil, 1 ind., (1792); 1 ind., (1793); 1 ind., (1794).

Achipteriidae Thor, 1929

Parachipteria van der Hammen, 1952

45. *Parachipteria punctata* (Nicolet, 1855)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 4 ind., (1830); 5 ind., (1832); young spruce forest, soil, 3 ind., (1829); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1803); 1 ind., (1806); 5 ind., (1807); Roja m., Ģipka, 05.09.1965, pine forest,

soil, 9 ind., (1781); 1 ind., (1782); Saulkrasti m., 06.09.1965, pine forest, soil, 23 ind., (1815); 15 ind., (1816); 27 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 16 ind., (1770); 15 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 14 ind., (1769); pine forest, sandy loam, 22 ind., (1766); 1 ind., (1767); 7 ind., (1768).

Achipteriidae sp.

Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 5 ind., (1770); 1 ind., (1771).

Oribatellidae Jacot, 1925

Oribatella Banks, 1895

Oribatella sp.

Roja m., Ģipka, 05.09.1965, pine forest, soil, 5 ind., (1783); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 3 ind., (1769).

Galumnidae Jacot, 1925

Galumna von Heyden, 1826

46. *Galumna lanceata* (Oudemans, 1900)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1832); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1796); Saulkrasti m., 06.09.1965, pine forest, soil, 2 ind., (1815); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 3 ind., (1771).

47. *Galumna obvia* (Berlese, 1915)

Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 3 ind., (1770).

Galumna sp.

Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817).

Pergalumna Grandjean, 1936

48. *Pergalumna nervosa* (Berlese, 1914)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1831); young spruce forest, soil, 1 ind., (1828); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1817).

Pilogalumna Grandjean, 1956

49. *Pilogalumna tenuiclava* (Berlese, 1908)

Roja m., Ģipka, 05.09.1965, pine forest, soil, 1

ind., (1781).

Ceratozetidae Jacot, 1925

Ceratozetes Berlese, 1908

50. *Ceratozetes minimus* Sellnick, 1928*

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 3 ind., (1830); 4 ind., (1831); young spruce forest, soil, 39 ind., (1828); 5 ind., (1829); Rīga m., 06.09.1965, pine forest, soil, 2 ind., (1806); 72 ind., (1807); 42 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 5 ind., (1781); Saulkrasti m., 06.09.1965, pine forest, soil, 2 ind., (1815); 5 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 41 ind., (1770); 8 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 2 ind., (1769).

Ceratozetes sp.

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1832); young spruce forest, soil, 1 ind., (1828); Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1781); Saulkrasti m., 06.09.1965, pine forest, soil, 1 ind., (1815).

Melanozetes Hull, 1916

51. *Melanozetes mollicomus* (C.L. Koch, 1839)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 1 ind., (1832).

Trichoribates Berlese, 1910

52. *Trichoribates incisellus* (Kramer, 1897)

Rīga m., 06.09.1965, sandy soil, 1 ind., (1801).

53. *Trichoribates novus* (Sellnick, 1928)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 1 ind., (1825a).

Chamobatidae Grandjean, 1954

Chamobates Hull, 1916

54. *Chamobates borealis* (Tragardh, 1902)*

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 3 ind., (1832); young spruce forest, soil, 3 ind., (1829); Mērsrags m., 05.09.1965, pine forest, soil, 1 ind., (1795); 06.09.1965, pine forest, soil, 5 ind., (1806); 1 ind., (1807); 7 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 9 ind., (1781); 1 ind., (1782); 1 ind., (1783); young pine forest, soil, 1 ind., (1784); 1 ind., (1785); Saulkrasti m., 06.09.1965, pine forest, soil, 5 ind., (1815); 9 ind., (1816); 4 ind., (1817); Ventspils

m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 25 ind., (1766); 21 ind., (1767).

Chamobates sp.

Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 7 ind., (1768).

Mycobatidae Grandjean, 1954

Minunthozetes Hull, 1916

55. *Minunthozetes semirufus* (C.L. Koch, 1841)

Mērsrags m., 05.09.1965, pine forest, soil, 22 ind., (1795); 2 ind., (1796).

Punctoribates Berlese, 1908

56. *Punctoribates hexagonus* Berlese, 1908

Roja m., Ģipka, 05.09.1965, pine forest, soil, 1 ind., (1783).

Euzetidae Grandjean, 1954

Euzetes Berlese, 1908

57. *Euzetes globulus* (Nicolet, 1855)

Mērsrags m., 05.09.1965, pine forest, soil, 9 ind., (1795); 2 ind., (1796).

Scheloribatidae Grandjean, 1933

Liebstadia Oudemans, 1906

58. *Liebstadia similis* (Michael, 1888)

Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 14 ind., (1770); 52 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 17 ind., (1769).

Scheloribates Berlese, 1908

59. *Scheloribates (Hemileius) initialis* (Berlese, 1908)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 3 ind., (1831); young spruce forest, soil, 2 ind., (1828); Mērsrags m., 05.09.1965, pine forest, soil, 7 ind., (1795); 5 ind., (1796); 5 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 14 ind., (1806); 10 ind., (1807); 30 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 8 ind., (1781); 2 ind., (1783); young pine forest, soil, 1 ind., (1786); Saulkrasti m., 06.09.1965, pine forest, soil, 24 ind., (1815); 44 ind., (1816); 4 ind., (1817); Ventspils m., beach of Ventspils, 05.09.1965, pine forest, sandy loam, 1 ind., (1767).

60. *Scheloribates laevigatus* (C.L. Koch, 1836)

Limbaži m., Vītupe, 05.09.1965, pine forest,

soil, 15 ind., (1830); 3 ind., (1831); 2 ind., (1832); young spruce forest, soil, 3 ind., (1828); Mērsrags m., 05.09.1965, pine forest, soil, 5 ind., (1795); 3 ind., (1796); 2 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 1 ind., (1803); 1 ind., (1808); Roja m., Ģipka, 05.09.1965, pine forest, soil, 3 ind., (1781); 11 ind., (1782); Saulkrasti m., 06.09.1965, pine forest, soil, 8 ind., (1815); 6 ind., (1816); 8 ind., (1817); Ventspils m., 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 52 ind., (1770); 48 ind., (1771); Ventspils m., beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 19 ind., (1769); pine forest, sandy loam, 1 ind., (1766); 1 ind., (1768).

61. *Scheloribates latipes* (C.L. Koch, 1844)

Limbaži m., Vītupe, 05.09.1965, pine forest, soil, 32 ind., (1830); 3 ind., (1832); young spruce forest, soil, 11 ind., (1828); 1 ind., (1829); Saulkrasti m., 06.09.1965, pine forest, soil, 3 ind., (1815).

Oribatulidae Thor, 1929

Oribatula Berlese, 1895

62. *Oribatula tibialis* (Nicolet, 1855)

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 4 ind., (1825a).

Oribatula sp.

Saulkrasti m., 06.09.1965, pine forest, soil, 9 ind., (1817).

Nymphs and Larvae

Limbaži m., Vītupe, 05.09.1965, pine forest edge, soil, 5 ind., (1825a); pine forest, soil, 83 ind., (1830); 65 ind., (1831); 284 ind., (1832); young spruce forest, soil, 10 ind., (1827); 56 ind., (1828); 89 ind., (1829); Mērsrags m., 05.09.1965, beach, sandy soil, 1 ind., (1789); pine forest, soil, 192 ind., (1795); 222 ind., (1796); 12 ind., (1797); Rīga m., 06.09.1965, pine forest, soil, 26 ind., (1803); 1 ind., (1804); 39 ind., (1806); 23 ind., (1807); 30 ind., (1808); sandy soil, 2 ind., (1801); 1 ind., (1802); 2 ind., (1802a); Roja m., Ģipka, 05.09.1965, pine forest, soil, 83 ind., (1781); 27 ind., (1782); 118 ind., (1783); young pine forest, soil, 3 ind., (1784); 11 ind., (1785); 5 ind., (1786); Saulkrasti m., 06.09.1965, mounded embryonic dunes, sandy soil, 1 ind., (1812); 33 ind., (1813); 6 ind., (1814); pine forest, soil,

82 ind., (1815); 49 ind., (1817); *Ventspils m.*, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 199 ind., (1770); 78 ind., (1771); *Ventspils m.*, beach of Ventspils, 05.09.1965, forest with black alder *Alnus glutinosa*, soil, 31 ind., (1769); pine forest, sandy loam, 60 ind., (1766); 13 ind., (1767); 52 ind., (1768).

DISCUSSION

After 46 years long period Lithuanian data of Latvian oribatids are gathered and published. In total 62 species (including one form-species) and 25 morphospecies were registered in seven different districts along the coastal area of Baltic Sea in the territory of Latvia. The following 10 species are registered for the first time for the fauna of Latvia: *Rhysotritia duplicata* (Grandjean, 1953), *Nanhermannia komareki* Kunst, 1956, *Eueremaes silvestris* (Forsslund, 1956), *Cultroribula bicultrata* (Berlese, 1905), *Xenillus clypeator* Robineau-Desvoidy, 1839, *Carabodes tenuis* Forsslund, 1953, *Oppiella (Rhinoppia) obsoleta* (Paoli, 1908), *Suctobelbella duplex* (Strenzke, 1950), *Ceratozetes minimus* Sellnick, 1928, *Chamobates borealis* (Tragardh, 1902). From now 186 oribatid species are known for the fauna of Latvia.

Localities and habitats in the historical records in many cases have been poorly described and hardly can be associated or compared with data of related studies (Eitminavichute 1965; Eitminavichute et al. 1976; Eitminavichute 2003). In return, all samples were numbered that can be useful for further investigations.

ACKNOWLEDGMENTS

Both authors are grateful to Audronė Matusevičiūtė (Institute of Ecology of Natural Research Center, LT) for locating and rewriting historical records digitally. The first author is thankful to Ineta Salmane (Institute of Biology, University of Latvia, LV) and Voldemārs Spunģis (Faculty of Biology, University of Latvia, LV) for their valuable comments during the preparation of the manuscript.

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Received: 01.06.2011.

Accepted: 01.08.2011.

Welcome to the EREMITA MEADOWS!

Latvia is still proud of the intact, ancient forests, natural meadows and old trees surrounded by meadows and forests, a place of shelter for countless animal and plant species. This diversity is provided by habitats, formed during decades, hundreds and thousands of years, which are unaltered or only slightly affected by human activity. It is also supported by human pursuit, knowledge and responsible action in protection of nature values.

EREMITA MEADOWS project, carried out by Institute of Systematic Biology, Daugavpils University, and financially supported by EC LIFE Nature programme, will implement measures for protection of Fennoscandian wooded meadows and two rare beetle species - *Osmoderma eremita* un *Phryganophilus ruficollis*. Nonetheless, we wish to achieve more - we want to explain to the society the importance of intact forests and old trees, growing individually, including the dry and fallen, in the meadows surrounded by forests. It is important for us to allow to see, to explore and to understand more clearly the unique treasures of Latvian nature.

Institute of Systematic Biology, Daugavpils University, Latvia



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