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COLLECTIONS OF ORIBATID MITES FROM SOUTHERN PORTUGAL, WITH DESCRIPTION OF A NEW SPECIES OF *ORIBATULA* (ACARI: ORIBATIDA: ORIBATULIDAE)

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ABSTRACT: In the course of studies of oribatid mites from 12 localities of southern Portugal we found representatives of 121 species, 77 genera, and 45 families, of which 63 species/subspecies are registered for the first time for Portugal. A checklist, collection localities and known distribution of these species are presented. A new species, *Oribatula polytuberculata* sp. n., is described and illustrated; it is clearly distinguishable from all other species of the genus by having a tuberculate notogastral surface.

KEY WORDS: Oribatida, *Oribatula*, new species, fauna, checklist, southern Portugal

INTRODUCTION

The oribatid fauna of Portugal is relatively poorly known, compared to that of other European countries (Dias Bello 1949; Sellnick 1952; Baeta Neves and Brandão da Graça 1957; Gil and Subías, 1990; Subías and Gil 1990, 1991; Gil et al. 1991; Subías and Gil-Martín 1995; Subías 2000; Subías and Mínguez 2001; Weigmann 2008, 2009a, b, 2010, 2011; Ermilov et al. 2012). Herein, we report the results from studying the oribatid mite specimens collected from several localities in southern Portugal. A checklist is presented, along with specific locality data and the known distribution of all recorded taxa. One previously undescribed species of *Oribatula* Berlese, 1896 (Oribatulidae) was among this material, and it is described below as *Oribatula polytuberculata* sp. n.

MATERIALS AND METHODS

All specimens reported here were collected by L.S. Subías on 04 March 1983. They originated from 12 localities in southern Portugal, as follows.

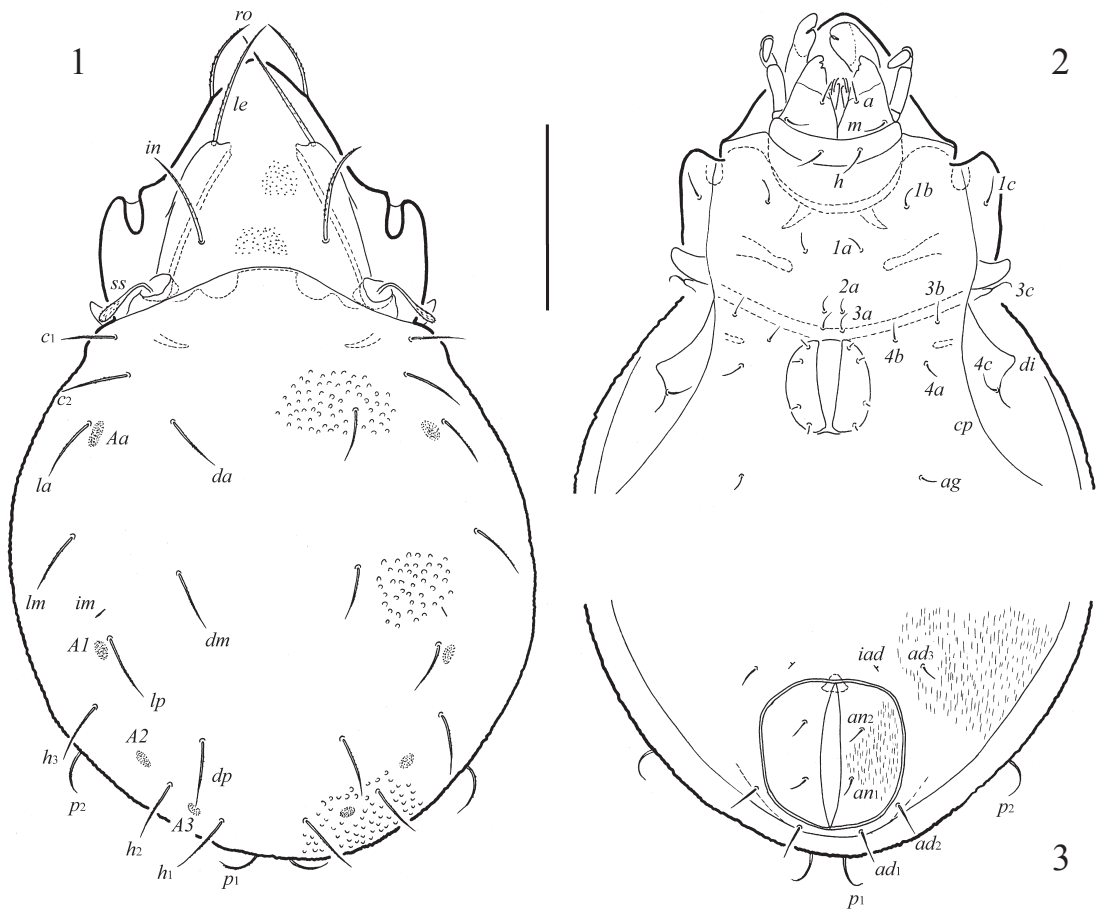
1. Silves (37°11'13" N, 8°26'20" W): soil under *Ceratonia siliqua*.
2. Barranco do Velho (37°14'0" N, 7°56'0" W): soil under *Ceratonia siliqua*.
3. Aguiar (41°7'21" N, 8°31'52" W): soil under *Quercus suber*.
4. Vila do Bispo (37°5'0" N, 8°53'0" W): soil under *Quercus coccifera*.
5. Monte Gordo (37°10'56" N, 7°26'57" W): soil in pine forest.
6. Luzianes (37°35'0" N, 8°29'0" W): soil under *Quercus suber*.
7. Abela (38°0'0" N, 8°34'0" W): soil under *Quercus ilex*.
8. San Luiz (37°42'53" N, 8°39'53" W): soil under *Cistus ladaniferus*.
9. Sines (37°55'48" N, 8°46'12" W): soil of mattorale on dunes.
10. Almadena (37°6'0" N, 8°46'0" W): soil in ruit garden.
11. Monchique (37°19'04" N, 8°33'21" W): soil in *Quercus* forest.
12. Marco (37°19'02" N, 8°33'21" W): moss in *Quercus* forest.

Specimens of the new species were studied and illustrated in lactic acid, mounted on temporary cavity slides for the duration of the study. All body measurements are presented in micrometers. Body length was measured in lateral view. Notogastral width refers to the maximum width in dorsal aspect. Formulae for leg setation are given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (famulus included). Formulae for leg solenidia are given in square brackets according to the sequence genu–tibia–tarsus.

RESULTS

We found representatives of 121 species, 77 genera, and 45 families of oribatid mites of which 63 species/subspecies are registered for the first time for Portugal. Appendix indicates the specific localities where they were collected, and notes their overall known distribution.

At present, 218 species, 120 genera and subgenera, 59 families (including data of this paper) are recorded for Portugal. The geographical analy-



Figs. 1–3. *Oribatula polytuberculata* sp. n., adult: 1 — dorsal view, legs not shown; 2 — gnathosomal, epimeral and genital regions, ventral view, legs not shown; 3 — anal region, ventral view. Scale bar 100 µm.

sis of Portuguese oribatid mites of studied region has shown that widespread species (with cosmopolitan, semicosmopolitan, holarctic and palearctic distributions) comprise only one-third of the fauna (40 species). The majority of species (> 50%) are included in the Mediterranean oribatid mite group. This group comprises Mediterranean (23), West Mediterranean (7), Iberian (27) and South European (4) species. The other groups are presented by species with southern palearctic (10), western palearctic (6), southern holarctic (2) and tropical (2) distribution. In our data, the rate of endemism of species is 22%. It is consistent with previous results (Gil and Subías 1990) concerning southern Portugal (endemism near 21%).

Description of *Oribatula polytuberculata* Ermilov, Shtanchaeva, Subías et Orobitg sp. n.

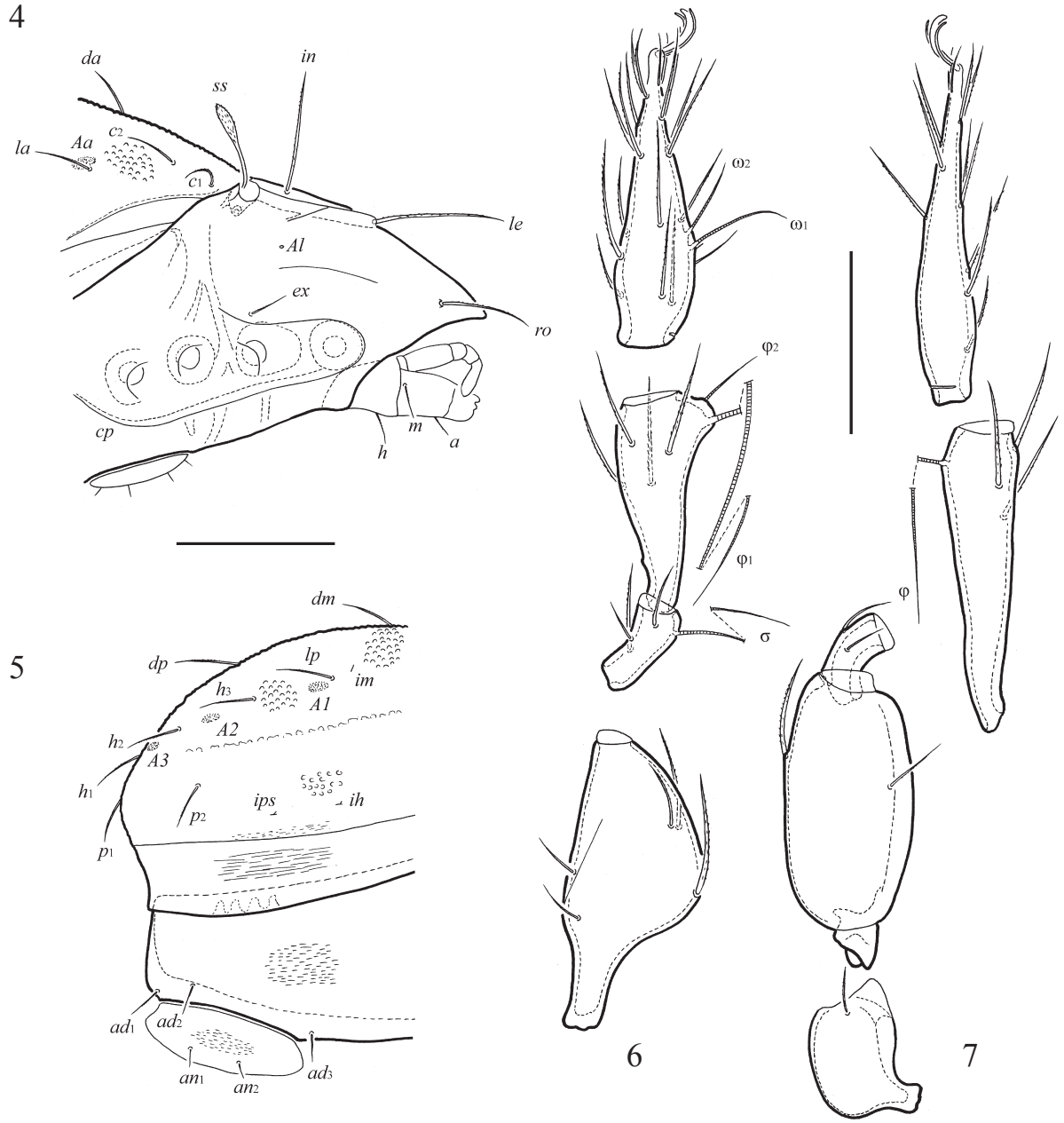
Figs. 1–7

Diagnosis. This species is distinguished from other members of *Oribatula* by the following combination of character states: body size 440–525 × 275–345; body color light brown to dark brown; prodorsal surface with poorly visible microtubercles; notogastral surface tuberculate; anogenital region and anal plates with short, longutudial striae; lamella broad, slightly widened anteriorly, pair converging anteriorly; sensillus with long stalk and oblong, rounded or distally narrowed head; 13 pairs of notogastral setae setiform, of medium size; four pairs of oval porose areas on notogaster.

Description. *Measurements*. Body length 445 (holotype, female), 440–525 (24 paratypes); body width 280 (holotype), 275–345 (24 paratypes).

Integument (Figs. 1, 3). Body color light to dark brown. Prodorsal surface with microtubercles. Notogaster surface densely tuberculate (up to 6 in diameter). Anogenital region and anal plates with dense, short, longitudinal striae. Epimeral region and genital plates smooth.

Prodorsum (Figs. 1, 4, 8, 9). Rostrum rounded in dorsal view. Lamella broad, slightly widened anteriorly, pair converging anteriorly. Translamella absent, without rudiments. Rostral (*ro*: 53–61), lamellar (*le*: 73–86) and interlamellar (*in*: 69–73) setae setiform, barbed. Rostral seta inserted on small tubercle. Sensillus (*ss*: 48–58) with long stalk (24–28) and oblong, rounded or distally narrowed, barbed head (24–30).

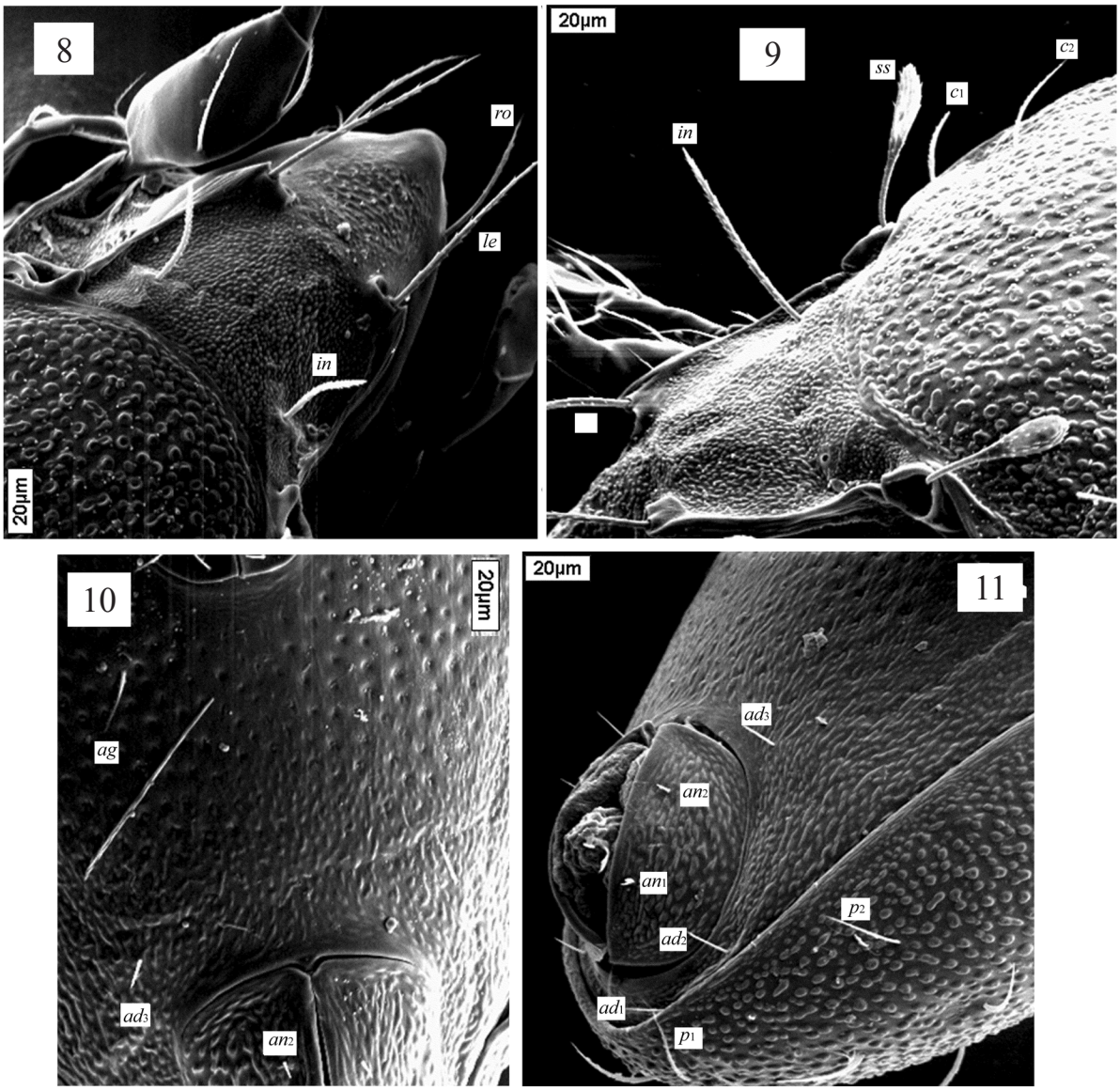


Figs. 4–7. *Oribatula polytuberculata* sp. n., adult: 4 — prodorsum, lateral view, epimeral setae and legs not shown; 5 — notogaster partially, lateral view; 6 — leg I, without trochanter, left, antiaxial view; 7 — leg IV, left, antiaxial view. Scale bar 100 μm (4, 5); scale bar 50 μm (6, 7).

Notogaster (Figs. 1, 4, 5, 8, 9, 11). Dorsosejugal furrow slightly convex. Humeral projections distinct. Thirteen pairs of setiform, barbed notogastral setae present. Setae p_3 absent in all specimens. Setae p_1 and p_2 curved, others more or less straight. Setae c_1, p_1 and p_2 (30–34) little shorter than others (36–41). Four pairs of oval porose areas developed dorsally: *Aa* 16–20 × 10–12, *A1* 12–16 × 8, *A2* 10–12 × 6, and *A3* 8–10 × 6. Opisthonotal gland opening and lyrifissures developed in typical arrangement for genus, but only *im* well visible.

Lateral part of body (Fig. 4, 5). Exobothridial seta (24–28) setiform, thin, barbed. A thin, poorly visible line present in the place of localization of a tutorium. Sublamellar line distinct. Sublamellar porose area (*Al*) very small (2–4), rounded. Porose area *Ah* not found. Discidium (*di*) and circumpedal carina (*cp*) well developed. Lyrifissures *ih* and *ips* distinct.

Gnathosoma (Figs. 2, 4). Subcapitulum longer than wide: 102 × 73. Hypostomal and adoral setae setiform, slightly barbed; *h* and *m* (both 24) longer than *a* (20) and or_1, or_2 (12). Length of palp 77. All setae (except distal ones on tarsi) barbed. Length of chelicera 102. Cheliceral setae setiform, slightly thickened, barbed, *cha* (32) longer than *chb* (20).



Figs. 8–11. *Oribatula polytuberculata* sp. n., SEM micrographs of adult: 8 — prodorsum and anterior part of notogaster, dorsal view; 9 — prodorsum and anterior part of notogaster, dorso-lateral view; 10 — anogenital region, ventral view; 11 — anogenital region, lateral view. Scale bar 20 µm.

Table. Leg setation and solenidia of *Oribatula polytuberculata* sp. n.

Leg	Trochanter	Femur	Genu	Tibia	Tarsus
I	*v′*	*d, (l), bv″, v″*	*(l), v′*, σ	*(l), (v)*, φ_1, φ_2	*(ft), (tc), (it), (p), (u), (a), s, (pv), v′, (pl), l″, e*, ω_1, ω_2
II	*v′*	*d*, l_1', l_2', *bv″, v″*	*l′, v′*, σ	*(l), (v)*, φ	*(ft), (tc), (it), (p), (u), (a), s, (pv)*, ω_1, ω_2
III	*l′, v′*	*d, l′, ev′*	*l′*, σ	*l′, (v)*, φ	*(ft), (tc), (it), (p), (u), (a), s, (pv)*
IV	*v′*	*d, ev′*	*d, l′*	*l′, (v)*, φ	*ft″, (tc), (p), (u), (a), s, (pv)*

Epimeral region (Fig. 2). All epimeral setae (16–20) setiform, slightly barbed. Seta *3c* inserted on oblong cylindrical tubercle. Sejugal epimeral border complete.

Anogenital region (Figs. 2, 3, 5, 10, 11). Four pairs of genital setae (8–12), one pair of aggenital setae (*ag*, 12–16), two pairs of anal setae (an_1, an_2 8–12), three pairs of adanal setae (ad_1, ad_2 20, ad_3 16); all setiform, slightly barbed. Lyrifissures *iad* in preanal position.

Legs (Figs 6, 7). Tarsi with three simple claws, median claw obviously thicker than lateral claws. Formulae of leg setation and solenidia: I (1–5–3–4–20) [1–2–2], II (1–5–2–4–15) [1–1–2], III (2–3–1–3–15) [1–1–0], IV (1–2–2–3–12) [0–1–0]; homology of setae and solenidia indicated in Table.

Material examined. Holotype (female), paratypes (24 specimens) were obtained from Locality 8 (see *Material and Methods* section).

Type deposition. The holotype and 22 paratypes are deposited in the collection of the Complutense University, Madrid, Spain; two paratypes are in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia.

Etymology. The specific name "*polytuberculatus*" refers to the numerous tubercles on the notogaster.

Remarks. *Oribatula polytuberculata* sp. n. is most similar morphologically (body size, structure lamella, morphology of porose areas, prodorsal and notogastral setae and ventral side of body) to *Oribatula tibialis* (Nicolet, 1855), but differs from latter and also from the other species of *Oribatula* by the presence of numerous and dense tubercles on notogaster (tubercles absent in the other species).

REFERENCES

Baeta Neves, C.M. and Brandão da Graça, C. J. 1957. Nota sobre a mesofauna (Acarina) dos solos florestais de Portugal. *Portugaliae Acta biologica (B)*, 6 (1): 40–43.

Dias Bello, A.J. 1949. *Fauna da Manta Morta Florestal (Contribuição para o seu estudo na Mata Nacional das Virtudes)*. Relatório Final de Curso de Engenheiro Silvicultor. Instituto Superior de Agronomia, Lisboa, 70 p.

Ermilov, S.G, Shtanchaeva, U.Ya. and Subías, L.S. 2012. A new species of *Metabelbella* (Acari: Oribatida: Damaeidae) from *Quercus* forests of Southern Portugal. *International Journal of Acarology,* 38 (4): 282–289.

Gil, J. and Subías, L.S. 1990. Oribátidos del cabo de San Vicente (Portugal) (Acari, Oribatida). *Boletin de la Asociacion Española de Entomologica*, 14: 137–151.

Gil, J., Subías, L.S. and Candelas, E. 1991. La familia Cosmochthoniidae Grandjean, 1947, en la Península Ibérica (Acari: Oribatida). *Zoologica Baetica*, 2: 47–70.

Sellnick, M. 1952. *Haffenrefferiella nevesi* n. g., n. sp., and new genus and species from Portugal, and *Haffenrefferia glivipes* (C.L. Koch) (Acari, Oribatei). *Portugaliae Acta biologica (B)*, 3 (4): 228–237.

Subías, L.S. 2000. Nuevos oribátidos (Acariformes, Oribatida) para la fauna de la peninsula Ibérica. *Graellsia*, 56: 21–25.

Subías, L.S. 2004. Listado sistemático, sinonímico y biogeográfico de los ácaros oribátidos (Acariformes: Oribatida) del mundo (excepto fósiles). *Graellsia*, 60 (número extraordinario), 3–305. Online version accessed in February 2011, 561 p.; http://www.ucm.es/info/zoo/Artropodos/Catalogo.pdf

Subías, L.S. and Gil, J. 1990. Tres nuevas especies de oribátidos (Acari: Oribatida) de Portugal. Boletin *de la Real Sociedad Espanola de Historia Natural*, 86 (1–4), 195–202.

Subías, L.S. and Gil, J. 1991. Tres nuevas especies de la familia Brachychthoniidae (Acari, Oribatida) de sur de Portugal. *Arquivos do Museu Bocage. Nova serie*, 2 (1), 1–10.

Subias, L.S. and Gil-Martín, J. 1995. Nuevas citas oribatológicas (Acari, Oribatida) para la fauna española. *Boletin de la Asociacion Espanola de Entomologia*, 19 (1–2), 25–51.

Subías, L.S. and Mínguez, M.E. 2001. Listado sistemático de los oribátidos (Acariformes, Oribatida) del noroeste de la peninsula Ibérica. *Graellsia*, 57, 15–27.

Weigmann, G. 2008. Oribatid mites (Acari: Oribatida) from the coastal region of Portugal. I. Peloptulus sacculiferus n. sp., an aberrant species of Phenopelopidae compared with similar European species of the genus. *Soil Organisms*, 80 (1): 133–143.

Weigmann, G. 2009a. Oribatid mites (Acari: Oribatida) from the coastal region of Portugal. II. The genera *Zachvatkinibates* and *Punctoribates* (Mycobatidae). *Soil Organisms*, 81 (1): 85–105.

Weigmann, G. 2009b. Oribatid mites (Acari: Oribatida) from the coastal region of Portugal. III. New species of Scutoverticidae and Scheloribatidae. *Soil Organisms*, 80 (1): 107–127.

Weigmann, G. 2010. Oribatid mites (Acari: Oribatida) from the coastal region of Portugal. IV. The genera *Coronoquadroppia*, *Scheloribates*, *Haplozetes* and *Pilobates*. *Soil Organisms*, 82 (3): 383–406.

Weigmann, G. 2011. Oribatid mites (Acari: Oribatida) from the coastal region of Portugal. V. *Xenillus*, *Oribatella*, *Galumna*, *Eupelops* and *Lucoppia*. *Soil Organisms*, 83 (2): 287–306.

APPENDIX

Oribatid mites collected from southern Portugal

Oribatid taxa	Locality (see text)												Distribution[1]
	1	2	3	4	5	6	7	8	9	10	11	12	
Acaronychidae Grandjean, 1932													
Acaronychus Grandjean, 1932													
1. *Acaronychus traegardhi* Grandjean, 1932*									X				Holarctica south
Ctenacaridae Grandjean, 1954													
Beklemishevia Zachvatkin, 1945													
2. *Beklemishevia hispaniola* Pérez-Íñigo, 1997*											X		Mediterranea west
Ctenacarus Grandjean, 1939													
3. *Ctenacarus araneola* (Grandjean, 1932)*	X	X								X		X	Tropics
Brachychthoniidae Thor, 1934													
Brachychthonius Berlese, 1910													
4. *Brachychthonius pseudoimmaculatus* Subías and Gil-Martín, 1991					X								Mediterranea
Liochthonius Hammen, 1959													
5. *Liochthonius brevis* (Michael, 1888)									X				Holarctica
6. *Liochthonius propinquus* Niedbała, 1972*					X								Palearctica west
Poecilochthonius Balogh, 1943													
7. *Poecilochthonius italicus* (Berlese, 1910)				X									Holarctica
Sellnickochthonius Krivolutsky, 1964													
8. *Sellnickochthonius fuentesi* Ruiz, Subías and Kahwash, 1991*												X	Mediterranea
9. *Sellnickochthonius furcatus* (Weis-Fogh, 1948)*					X								Palearctica west
10. *Sellnickochthonius jacoti* (Evans, 1952)*					X								Holarctica
Cosmochthoniidae Grandjean, 1947													
Cosmochthonius Berlese, 1910													
11. *Cosmochthonius foliatus* Subías, 1982				X					X	X			Mediterranea west
12. *Cosmochthonius perezinigoi* Morell, 1988*									X				Iberia
13. *Cosmochthonius semifoveolatus* Subías, 1982*	X												Iberia
Haplochthoniidae Hammen, 1959													
Haplochthonius Willmann, 1930													
14. *Haplochthonius sanctaeluciae* Bernini, 1973*									X				Semicosmopolitan
Sphaerochthoniidae Grandjean, 1947													
Sphaerochthonius Berlese, 1910													
15. *Sphaerochthonius splendidus* (Berlese, 1904)											X		Cosmopolitan
Lohmanniidae Berlese, 1916													
Papillacarus Kunst, 1959													
16. *Papillacarus pseudoaciculatus* Mahunka, 1980											X	X	Mediterranea west
Euphthiracaridae Jacot, 1930													
Acrotritia Jacot, 1923													

[1] See Subías (2004, online version 2011)

17. *Acrotritia ardua monodactyla* (Niedbała, 2002)*		X										X	Holarctica south
18. *Acrotritia hyeroglyphica* (Berlese, 1916)											X		Semicosmopolitan
Phthiracaridae Perty, 1841													
Hoplophthiracarus Jacot, 1933													
19. *Hoplophthiracarus illinoisensis* (Ewing, 1909)											X		Semicosmopolitan
Phthiracarus Perty, 1841													
20. *Phthiracarus laevigatus* (Koch, 1841)											X		Palearctica
Steganacarus Ewing, 1917													
21. *Steganacarus applicatus* (Sellnick, 1920)*						X			X				Palearctica west
22. *Steganacarus magnus* (Nicolet, 1855)											X		Holarctica
Hermanniellidae Grandjean, 1934													
Hermanniella Berlese, 1908													
23. *Hermanniella picea* (Koch, 1839)*	X												Holarctica
Licnodamaeidae Grandjean, 1954													
Licnoliodes Grandjean, 1931													
24. *Licnoliodes adminensis* Grandjean, 1933											X	X	Mediterranea west
25. *Licnoliodes andrei* Grandjean, 1931*												X	Palearctica
Licnobelbidae Grandjean, 1965													
Licnobelba Grandjean, 1931													
26. *Licnobelba latiflabellata* (Paoli, 1908)											X		Palearctica west
Gymnodamaeidae Grandjean, 1954													
Adrodamaeus Paschoal, 1984													
27. *Adrodamaeus hispanicus* (Grandjean, 1928)								X	X		X		Palearctica south
Jacotella Banks, 1947													
28. *Jacotella* sp.												X	Iberia
Damaeidae Berlese, 1896													
Belba Heyden, 1826													
29. *Belba corynopus* (Hermann, 1804)	X										X		Holarctica
Metabelbella Bulanova-Zachvatkina, 1967													
30. *Metabelbella janae* Pérez-Íñigo jr., 1991								X			X		Iberia
Porobelba Grandjean, 1936													
31. *Porobelba grandjeanica* Subías, 1977*									X				Iberia
Neoliodidae Sellnick, 1928													
Neoliodes Berlese, 1888													
32. *Neoliodes theleproctus* (Hermann, 1804)*	X												Semicosmopolitan
33. *Neoliodes* sp.	X												Iberia
Compactozetidae Luxton, 1988													
Cepheus Koch, 1835													
34. *Cepheus latus* Koch, 1835								X	X		X		Holarctica
Zetorchestidae Michael, 1898													
Microzetorchestes Balogh, 1943													
35. *Microzetorchestes emeryi* (Coggi, 1898)	X										X	X	Palearctica south
Ceratoppiidae Kunst, 1971													
Ceratoppia Berlese, 1908													
36. *Ceratoppia bipilis* (Hermann, 1804)											X		Holarctica
Gustaviidae Oudemans, 1900													

Gustavia Kramer., 1879													
37. *Gustavia fusifer* (Koch, 1841)											X		Palearctica west
Liacaridae Sellnick, 1928													
***Adoristes* (*Gordeeviella*)** Shtanchaeva, Subías y Arillo, 2010													
38. *Adoristes* (*Gordeeviella*) *krivolutskyi* Shtanchaeva, Subías and Arillo, 2009						X							Mediterranea
***Liacarus* (*Dorycranosus*)** Woolley, 1969													
39. *Liacarus* (*Dorycranosus*) *splendens* (Coggi, 1898)*									X				Palearctica south
40. *Liacarus* (*Dorycranosus*) *zachvatkini* Kulijev, 1962*											X		Mediterranea
Xenillidae Woolley e Higgins, 1966													
Xenillus Robineau-Desvoidy, 1839													
41. *Xenillus clypeator* Robineau-Desvoidy, 1839				X					X				Holarctica
42. *Xenillus ybarrai* Morell, 1987*											X		Iberia
Ctenobelbidae Grandjean, 1965													
Ctenobelba Balogh, 1943													
43. *Ctenobelba pulchellula* Gil-Martín and Subías, 1997*							X		X		X	X	Iberia
Ameridae Bulanova-Zachvatkina, 1957													
Amerus Berlese, 1896													
44. *Amerus cuspidatus* Avanzati, Salomone, Baratti and Bernini, 2003*									X		X		Mediterranea
Oribellidae Kunst, 1971													
Oribella Berlese, 1908													
45. *Oribella pectinata* (Michael, 1885)*			X										Holarctica
Oppiidae Sellnick, 1937													
Graptoppia Balogh, 1983													
46. *Graptoppia paraanalis* Subías and Rodríguez, 1985*										X			Palearctica west
***Ramusella* (*R.*)** Hammer, 1962													
47. *Ramusella* (*R.*) *clavipectinata* (Michael, 1885)									X				Cosmopolitan
48. *Ramusella* (*R.*) *junonis* Pérez-Íñigo, 1986											X		Mediterranea west
49. *Ramusella* (*R.*) *sengbuschi* Hammer, 1968*									X				Tropics
50. *Ramusella* (*R.*) sp. 1		X									X		Iberia
51. *Ramusella* (*R.*) sp. 2												X	Iberia
***Ramusella* (*Rectoppia*)** Subías, 1980													
52. *Ramusella* (*Rectoppia*) *eduardoi* Arillo and Subías, 1996*					X								Iberia
Ramuselloppia Subías y Rodríguez, 1986													
53. *Ramuselloppia anomala* Subías and Rodríguez, 1986*						X			X				Iberia
Rhinoppia Balogh, 1983													
54. *Rhinoppia media* (Mihelčič, 1956)*									X			X	Mediterranea
55. *Rhinoppia obsoleta curtiramosa* Subías and Shtanchaeva, 2011*												X	Iberia
56. *Rhinoppia subpectinata* (Oudemans, 1900)											X		Holarctica
Serratoppia Subías and Mínguez, 1985													

57. *Serratoppia* sp.					X				X				Iberia
Berniniella Balogh, 1983													
58. *Berniniella conjuncta* (Strenzke, 1951)*									X				Europe south
Hypogeoppia Subías, 1981													
59. *Hypogeoppia terricola salmanticensis* Morell, 1987*										X			Iberia
Moritzoppia (***M***.) Subías and Rodríguez, 1988													
60. *Moritzoppia* (*M*.) *unicarinata* (Paoli, 1908)*	X												Holarctica
Moritzoppia (***Moritzoppiella***) Gordeeva, 2000													
61. *Moritzoppia* (*Moritzoppiella*) *neerlandica* (Oudemans, 1900)*											X		Holarctica
Neotrichoppia (***Confinoppia***) Subías y Rodríguez, 1986													
62. *Neotrichoppia* (*Confinoppia*) *confinis* (Paoli, 1908)*									X				Europe south
Oppiella Jacot, 1937													
63. *Oppiella nova* (Oudemans, 1902)									X		X		Cosmopolitan
Oxyoppia (***Dzarogneta***) Kulijev, 1978													
64. *Oxyoppia* (*Dzarogneta*) *intermedia* Subías and Rodríguez, 1986*							X						Iberia
Quadroppiidae Balogh, 1983													
Quadroppia (***Coronoquadroppia***) Ohkubo, 1995													
65. *Quadroppia* (*Coronoquadroppia*) *abchasica* Gordeeva and Tarba, 1990*									X		X		Mediterranea
Suctobelbidae Jacot, 1938													
Suctobelbella Jacot, 1937													
66. *Suctobelbella acutidens pilososetosa* Shtanchaeva and Subías, 2009*									X				Mediterranea
Carabodidae Koch, 1837													
Austrocarabodes Hammer, 1966													
67. *Austrocarabodes arrogans* Pérez-Íñigo, 1967*	X												Mediterranea
68. *Austrocarabodes ensifer* (Sellnick, 1931)										X			Palearctica south
Carabodes (***C***.) Koch, 1835													
69. *Carabodes* (*C*.) *perezinigoi* Salinas, 1971*						X							Iberia
70. *Carabodes* (*C*.) *quadrangulus* Bernini, 1979*	X												Mediterranea
71. *Carabodes* (*C*.) *femoralis* (Nicolet, 1855)		X											Palearctica
Carabodes (***Klapperiches***) Mahunka, 1979													
72. *Carabodes* (*Klapperiches*) *similis* Ruiz, Subías and Kahwash, 1989*		X					X		X				Mediterranea
73. *Carabodes* (*Klapperiches*) *willmanni* Bernini, 1975											X		Holarctica
Odontocepheus Berlese, 1913													
74. *Odontocepheus elongatus* (Michael, 1879)								X			X		Holarctica
Tectocepheidae Grandjean, 1954													
Tectocepheus Berlese, 1896													
75. *Tectocepheus velatus sarekensis* Trägårdh, 1910											X		Cosmopolitan
Cymbaeremaeidae Sellnick, 1928													
Scapheremaeus Berlese, 1910													

76. *Scapheremaeus corniger* (Berlese, 1908)						X	X		X				Mediterranea west
Licneremaeidae Grandjean, 1931													
Licneremaeus Paoli, 1908													
77. *Licneremaeus licnophorus* (Michael, 1882)*									X		X		Holarctica
Scutoverticidae Grandjean, 1954													
Scutovertex Michael, 1879													
78. *Scutovertex glaber* Mihelčič, 1957*												X	Mediterranea
79. *Scutovertex granulatus* Mihelčič, 1957*									X				Europe south
Passalozetidae Grandjean, 1954													
Bipassalozetes Mihelčič, 1957													
80. *Bipassalozetes reticulatus* (Mihelčič, 1957)*			X										Palearctica south
Passalozetes Grandjean, 1932													
81. *Passalozetes agricola* Mínguez and Subías, 1983			X										Iberia
82. *Passalozetes inlenticulatus* Mihelčič, 1959									X				Mediterranea
Phenopelopidae Petrunkevitch, 1955													
Eupelops Ewing, 1917													
83. *Eupelops acromios* (Hermann, 1804)											X		Palearctica
84. *Eupelops halophilus* Pérez-Íñigo, 1969*									X	X			Europe south
85. *Eupelops plicatus* (Koch, 1835)*									X				Holarctica
86. *Eupelops somalicus* (Berlese, 1916)							X						Mediterranea
87. *Eupelops torulosus meridionalis* Pérez-Íñigo, 1969*									X				Mediterranea
Peloptulus Berlese, 1908													
88. *Peloptulus ibericus* Subías, 2012*					X							X	Iberia
89. *Peloptulus phaeonotus* (Koch, 1844)				X			X						Palearctica
Oribatellidae Jacot, 1925													
Oribatella Banks, 1895													
90. *Oribatella berlesei* (Michael, 1898)*									X				Palearctica
91. *Oribatella tridactyla* Ruiz, Subías and Kahwash, 1991	X												Mediterranea west
Ceratozetidae Jacot, 1925													
Ceratozetes Berlese, 1908													
92. *Ceratozetes conjunctus* Mihelčič, 1956											X		Mediterranea
93. *Ceratozetes simulator* Pérez-Íñigo, 1970*											X		Mediterranea
94. *Ceratozetes* sp.									X				Iberia
Trichoribates (***Latilamellobates***) Shaldybina, 1971													
95. *Trichoribates* (*Latilamellobates*) *incisellus* (Kramer, 1897)*							X						Holarctica
96. *Trichoribates* (*Latilamellobates*) *latilamellatus* Mihelčič, 1956	X									X			Mediterranea
Chamobatidae Thor, 1937													
Chamobates Hull, 1916													
97. *Chamobates schuetzi* (Oudemans, 1902)				X					X				Holarctica
Iugoribates Sellnick, 1944*													
98. *Iugoribates* sp.												X	Iberia
Punctoribatidae Thor, 1937													
Minunthozetes Hull, 1916													

99. *Minunthozetes tarmani* Feider, Vasiliu and Călugăr, 1971*	X									X			Palearctica south
Punctoribates Berlese, 1908													
100. *Punctoribates punctum* (Koch, 1839)						X					X		Semicosmopolitan
Mochlozetidae Grandjean, 1960													
Podoribates Berlese, 1908													
101. *Podoribates longipes* (Berlese, 1887)							X						Holarctica
Oribatulidae Thor, 1929													
Lucoppia Berlese, 1908													
102. *Lucoppia burrowsi* (Michael, 1890)				X				X			X		Holarctica
Oribatula (***O***.) Berlese, 1896													
103. *Oribatula* (*O.*) *parisi* Travé, 1961*											X		Mediterranea
104. *Oribatula* (*O.*) *tibialis* (Nicolet, 1855)											X		Holarctica
105. *Oribatula* (*O.*) *torrijosi* Subías, Ruiz and Kahwash, 1990									X				Iberia
106. *Oribatula* (*O.*) *polytuberculata* sp. n.*								X	X				Iberia
Oribatula (***Zygoribatula***) Berlese, 1916													
107. *Oribatula* (*Zygoribatula*) *exarata* Berlese, 1916										X			Palearctica south
108. *Oribatula* (*Zygoribatula*) *frisiae* (Oudemans, 1900)										X	X		Holarctica
Phauloppia Berlese, 1908													
109. *Phauloppia* sp.									X				Iberia
Hemileiidae J. and P. Balogh, 1984													
Hemileius Berlese, 1916													
110. *Hemileius eperezinigoae* Subías, 2010											X		Mediterranea
Liebstadiidae J. and P. Balogh, 1984													
Liebstadia (***L***.) Oudemans, 1906													
111. *Liebstadia* (*L.*) *saifulmalukensis* (Hammer, 1977)*										X			Palearctica south
Liebstadia (***Lagenobates***) Weigmann and Miko, 2002													
112. *Liebstadia* (*Lagenobates*) *lagenula* (Berlese, 1904)*						X							Palearctica
Scheloribatidae Jacot, 1935													
Scheloribates Berlese, 1908													
113. *Scheloribates barbatulus* Mihelčič, 1956*	X								X	X		X	Palearctica south
114. *Scheloribates fimbriatus* Thor, 1930										X			Iberia
115. *Scheloribates minifimbriatus* Mínguez, Subías and Ruiz, 1986*		X									X		Semicosmopolitan
Haplozetidae Grandjean, 1936													
Lauritzenia (***Incabates***) Hammer, 1961													
116. *Lauritzenia* (*Incabates*) *similis* Subías and Gil-Martín, 1995		X				X							Iberia
117. *Lauritzenia* (*Incabates*) *sinuata* (Pérez-Íñigo jr., 1990)*												X	Iberia
Pilobates Balogh, 1960													
118. *Pilobates carpetanus* Pérez-Íñigo, 1969*										X			Mediterranea
Galumnidae Jacot, 1925													
Allogalumna Grandjean, 1936													
119. *Allogalumna parva* (Berlese, 1916)											X		Mediterranea

Galumna Heyden, 1826													
120. *Galumna gibbula* Grandjean, 1956*									X				Mediterranea
Pilogalumna Grandjean, 1956													
121. *Pilogalumna crassiclava* (Berlese, 1914)*	X		X						X		X		Palearctica south

* species are registered for the first time for Portugal