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Reference:

Salazar-Fillippo Andrés A., Miko Ladislav.- Checklist of the oribatid mites (Acari: Oribatida) of the Republic of Colombia
Zootaxa - ISSN 1175-5326 - 5087:1(2022), p. 35-58
Full text (Publisher's DOI): <https://doi.org/10.11646/ZOOTAXA.5087.1.2>
To cite this reference: <https://hdl.handle.net/10067/1845230151162165141>

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Checklist of the oribatid mites (Acari: Oribatida) of the Republic of Colombia

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Keywords: Catalogue, Neotropics, soil fauna, synonyms, microarthropods, biogeography.

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Data availability statement

Supporting data will be uploaded to Dryad repository.

27 Abstract

28 This checklist of oribatid mites of the Republic of Colombia compiles and provides a taxonomic
29 update of all records known up to 2020. It includes 192 entries accounting for 68 named and 47
30 unnamed species belonging to 73 genera and 58 families of non-astigmatid oribatid mites.
31 Specimens from the brachyphylina supercohort were dominant (54.7%), followed by Mixonomata
32 (30.7%). However, current knowledge is far from being complete and distribution patterns show
33 large gaps throughout the country due to this lacking knowledge and most existing
34 investigations only include group specific studies that prevent from any conclusions regarding the
35 real community composition of oribatids in Colombia. From 32 political-administrative
36 departments, oribatids have been reported in 20, but 5 account for 65% of the records. These are:
37 Cundinamarca -including Bogotá D.C.- (24.4%), Magdalena (21.8%), Nariño (6.3%), La Guajira
38 (6.3%), and Quindio (5.9%). Whereas most oribatid reports in the Neotropical region have taken
39 place during the past five decades, a map presented in this document shows that Colombia still
40 lags behind other Latin American countries. Mexico, Argentina, and Brazil, for instance, have
41 reported the highest number of species for the region and are the only nations that possess national
42 oribatid checklists in Latin America. The current work represents a national baseline of oribatids
43 encouraging further study of this clearly underrepresented group.

44

45 Introduction

46 Oribatid mites (Acari: Oribatida) are one of the most abundant and diverse arthropod groups in
47 soils (Maraun *et al.* 2007; Wissuwa *et al.* 2013) with over 11.000 described species (Subías 2004,
48 electronic update 2020). These actively contribute to decomposition and nutrient cycling, and
49 their fecal pellets are an integral component of the organic horizons in most soils (Behan-Pelletier
50 1999). Although primarily detritivores and fungivores, specimens from this group are often
51 described as ‘choosy generalists’ because they may feed on different resources in less favorable
52 conditions (Siepel & Ruiters-Dijkman 1993; Schneider *et al.* 2004). Such facultative behavior has
53 led them to inhabit litter and decaying surface from a broad range of habitats throughout the globe
54 (Luxton 1972; Walter & Behan-Pelletier 1999).

55

56 In the Neotropical region a total of 2312 oribatid species have been reported (Subías 2004,
57 electronic update 2020). Most of these observations have taken place during the past 50 years.
58 This shows a relatively recent interest in the topic, as only eight publications treated neotropical
59 oribatids before the twentieth century (Schatz 1997). By 2004 nearly 80% of these reported
60 species were considered to be restricted to the region (Schatz 2004). However, the study of this
61 group differs greatly between countries. Brazil leads the list with over 570 species (Oliveira *et al.*
62 2017), followed by more than 430 in Mexico (Palacios-Vargas & Iglesias 2004), and nearly 400

63 in Argentina (Fredes 2018). Partial catalogues of oribatid mites from rainforests in Venezuela and
64 Ecuador respectively reporting 150 (Behan-Pelletier *et al.* 1993) and 193 (Illig *et al.* 2007) species
65 also show a high species density in the region. In contrast, countries like French Guyana and
66 Nicaragua had no records for oribatids until very recently (Andrés & Pérez 2004; Miko 2016,
67 2019). The latter and other countries with a similar altitudinal gradient and ecosystem diversity
68 such as Surinam (<15 species), Guyana (5 species) or Colombia (40 species) are clearly
69 underrepresented (Schatz 2006) and much remains to be studied.

70

71 Studies on mites in the Republic of Colombia have traditionally focused on species relevant to
72 agriculture, veterinary applications, and zoonotic diseases. This has led to a disproportionate
73 report of non-oribatid species. Several species from the orders Mesostigmata (Parasitiformes) and
74 Trombidiformes (Acariformes), for example, have been reported as either detrimental to certain
75 crops or used as biological control agents for plagues such as aphids (Muñoz-Cárdenas *et al.*
76 2014; Rueda-Ramírez *et al.* 2021). Order Ixodida (Parasitiformes), in contrast, are well-studied
77 ectoparasitic mites known to disperse disease among mammals including humans (Valencia *et al.*
78 2017; Rivera-Páez *et al.* 2018). Also the cohort Astigmata, recently included as part of the order
79 Oribatida (Norton & Behan-Pelletier 2009), have received growing attention due to their
80 association to allergens and asthma affecting human health (Charlet *et al.* 1977; Puerta *et al.*
81 1993). In fact, nearly 12% of the non-astigmatid oribatid records were reported in studies
82 assessing the acarofauna present in domestic dust (Charlet *et al.* 2009; Meza-Navarro *et al.*
83 2008; Sánchez-Medina & Zarante 1996). To a lesser extent, Colombian mites have also been
84 studied with a more ecological focus, such as phoretic mites in hummingbirds (López-Orozco &
85 Cañón-Franco 2013) and parasitic mites attacking ant colonies (Pérez-Lachaud *et al.* 2019).

86

87 Reports of non-astigmatid oribatid mites in the Republic of Colombia date from 1930 (Grandjean
88 1930). Up till now, the works of Rueda-Ramírez (2016), Balogh (1984a, 1984b), Liu & OConnor
89 (2015), Charlet *et al.* (1977), and Ermilov (2017) have largely contributed to the local
90 oribatological literature. With nearly 150 reports, these account for approximately three-fourths
91 of the total contributions. The current checklist of non-astigmatid oribatids for the Republic of
92 Colombia includes 68 named and 47 unnamed species from 73 genera, 49 families, and 21
93 superfamilies. Another 39 from the 192 entries were only identified to family level and led to a
94 total of 58 families and 24 superfamilies. Unfortunately, many studies involving oribatid mites
95 could not be included because only total numbers were provided without further taxonomical
96 detail. From a total of 192 records, 103 were identified at least partly to species level, 50 to genera
97 level and 39 family level. Given these numbers and the high diversity potential of oribatids in
98 Colombia, a baseline checklist is needed to further study this group and promote international

99 collaborations. To our knowledge, there are no published checklists of oribatids for the Republic
100 of Colombia. Thus, the current work aims to summarise all known data and provide a taxonomic
101 update of existing records.

102

103 Material and methods

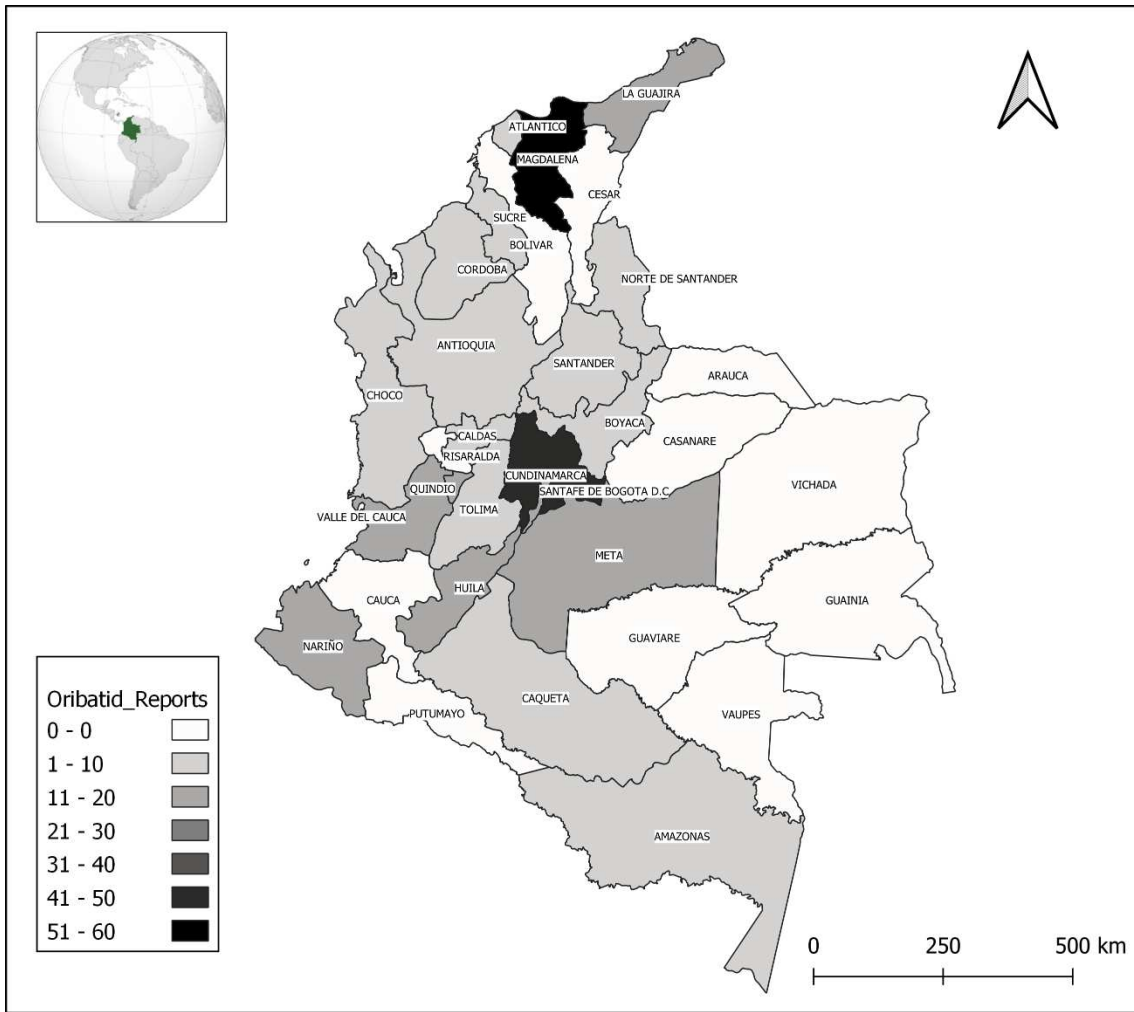
104 The checklist of oribatids from the Republic of Colombia includes all records published known
105 to the authors. From these, nearly 70% of the recorded specimens were reported during the last
106 decade (2010-2020). Both ‘Listado sistemático, sinonímico y biogeográfico de los ácaros
107 oribátidos (Acarifores: Oribatida) del mundo’ (Subías 2004, electronic update 2020) and an
108 unpublished database of oribatids from the world compiled by H. Schatz in 2020 also represented
109 important sources of references for this checklist. Albeit recent incorporation of the Astigmata as
110 part of the Oribatida, the current checklist does not include species from this cohort, which was
111 traditionally studied separately and is up today largely absent in oribatological literature.

112

113 In this checklist we follow the systematic classification Norton & Behan-Pelletier presented in
114 the Manual of Acarology (Norton & Behan-Pelletier 2009). Only the documents identifying
115 specimens at least to family level were included. The checklist includes specimens categorized
116 by superfamily (capital letter), family (bold), and species name (italic). Records identified to
117 genera are in the list considered as unspecified species (noted by “sp.”), and those identified only
118 broadly to family level are listed at the end of each family. For each record, synonyms or
119 combinations used in the original publication are given together with locality (Municipality and
120 Department), habitat, sampling year, and reference in this order. Localities are also briefly
121 described in a list (Appendix 1) and shown in a map (Figure 1).

122

Figure 1. Map of the Republic of Colombia. Tags of localities: 1-57.



- 126 Checklist
127 CTENACAROIDEA
128 **Aphelacaridae** Grandjean, 1954
129 1. *Aphelacarus* sp.
130 Soata (Boyaca) - Domestic dust, 1973 (Charlet *et al.* 2009).
131
132 HYPOCHTHONIOIDEA
133 **Hypochthoniidae** Berlese, 1910
134 2. *Eohypochthonius* sp.
135 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.* 2016).
136
137 **Mesoplophoridae** Ewing, 1917
138 3. *Mesoplophora (Mesoplophora) parabacilla* Niedbała, 2006
139 Carimagua (Meta) - Native pastures, savanna, 1983 (Niedbała & Starý 2015).
140
141 4. *Mesoplophora (Parplophora) subtilis* Niedbała, 1981
142 Quebrada Guacoche (Magdalena) - Litter, 1976 (Liu & OConnor 2015).
143
144 **Lohmanniidae** Berlese, 1916
145 5. *Xenolohmannia comosa* P. Balogh, 1984
146 Resina -Eastern Cordillera- (Santander) - Montane forest, 1956 (Balogh 1984a).
147
148 PROTOPLOPHOROIDEA
149 **Cosmochthoniidae** Grandjean, 1947
150 6. *Cosmochthonius* sp.
151
152 Catatumbo (Norte de Santander), Distracción (La Guajira), Espinal (Tolima), Garogoa
153 (Boyaca), Granada (Meta), Guaitarilla (Nariño), Isnos -Cienaga Chiquita- (Huila), Morrocroy
154 (Caqueta), Ocaña (Norte de Santander), Ospina (Nariño), Tenerife (Magdalena) - Domestic
155 dust, 1973 (Charlet *et al.* 2009).
156
157 Santa Marta (Magdalena) - Domestic dust, 2007/2008 (Acuña-Cantillo *et al.* 2012; Meza-
158 Navarro *et al.* 2008).
159
160 **Haplochthoniidae** Hammen, 1959
161 7. *Haplochthonius simplex* Willmann, 1930

- 162 Santa Marta (Magdalena) - Domestic dust, 2007/2008 (Acuña-Cantillo *et al.* 2012; Meza-
163 Navarro *et al.* 2008).
- 164 Barranquilla (Atlantico) - Domestic dust, 2011 (Acuña-Cantillo *et al.* 2012).
- 165
- 166 **Protoplophoridae** Ewing, 1917
- 167 8. *Prototritia glomerata* (Grandjean 1932)
168 - *Aedoplophora glomerata* Grandjean, 1932
- 169 Icononzo (Tolima) - Remainder of a natural forest, 1968 (Balogh 1984a).
- 170 Puerto Colombia (Atlantico) - Dead leaves and plant debris, 1926 (Grandjean 1932; Niedbała
171 2004a).
- 172
- 173 EUPHTHIRACAROIDEA
174 **Oribotritiidae** Grandjean, 1954
- 175 9. *Indotritia bellingeri* Niedbała & Schatz, 1996
- 176 Leticia (Amazonas) - Tropical forest litter, old broken termite nest, carrion, 1968 (Niedbała
177 2004b).
- 178
- 179 10. *Indotritia krakatauensis* Sellnick, 1923
- 180 Quebrada Guacoche (Magdalena) - Litter and humus from degraded coastal rainforest, 1965
181 (Liu & OConnor 2015).
- 182
- 183 11. *Oribotritia allocota* Niedbała, 2003
- 184 Páramo de Monserrate (Bogotá D.C.) - Moss on forest floor, 1968 (Niedbała 2004b).
- 185
- 186 12. *Oribotritia didyma* Niedbała & Schatz, 1996
- 187 Quebrada Guacoche (Magdalena), Rio Don Diego (Magdalena) - Litter and humus, 1976
188 (Liu & OConnor 2015).
- 189
- 190 **Euphthiracaridae** Jacot, 1930
- 191 13. *Acrotritia ardua* Koch, 1841
- 192 Cuchilla San Lorenzo (Magdalena) - Leaf litter, 1976 (Liu 2015).
- 193
- 194 14. *Acrotritia brasiliiana* (Mahunka, 1983)
195 - *Rhysotritia brasiliiana* Niedbała, 1998
- 196 Cuchilla San Lorenzo (Magdalena) - Leaf litter in rainforest, 1976 (Liu & OConnor 2015;
197 Liu 2015).

- 198 Leticia (Amazonas) - Tropical forest litter, old broken termite nest, carrion, 1974 (Niedbała
199 2004b).
- 200
- 201 15. *Acrotritia colombianus* Liu, 2015
- 202 Quebrada Guacoche (Magdalena) - Litter and humus from coastal rainforest, 1976 (Liu &
203 OConnor 2015).
- 204
- 205 16. *Acrotritia curticephala* (Jacot, 1938)
206 - *Acrotritia clavata* Märkel, 1964
- 207 Quebrada Guacoche (Magdalena) - Litter and humus, 1976. Rio Don Diego (Magdalena) -
208 Litter and humus, 1976 (Liu & OConnor 2015).
- 209 Cuchilla San Lorenzo (Magdalena) - Leaf litter in rainforest, 1976 (Liu & OConnor 2015;
210 Liu 2015).
- 211
- 212 17. *Acrotritia dikra* Niedbała & Schatz, 1996
- 213 Quebrada Guacoche (Magdalena) - Litter and humus from coastal rainforest, 1976 (Liu &
214 OConnor 2015).
- 215
- 216 18. *Acrotritia peruensis* Hammer, 1961
- 217 Cuchilla San Lorenzo (Magdalena) - Leaf litter in rainforest, 1976 (Liu & OConnor 2015;
218 Liu 2015).
- 219
- 220 19. *Acrotritia rustica* (Niedbała, 1991)
221 - *Acrotritia monodactyla* Niedbała, 2002
- 222 *Quebrada Guacoche (Magdalena)* - Leaf litter and humus, 1965/1976 (Liu 2015).
- 223
- 224 20. *Acrotritia vestita* (Berlese, 1913)
225 - *Rhysotritia comteae* Mahunka, 1983; *Acrotritia ischnos* Niedbała, 2004
- 226 Quebrada Guacoche (Magdalena) - Litter, 1976 (Liu & OConnor 2015, sub *A. ischnos*).
- 227 Quebrada Docordo, Río San Juan (Chocó) - Dry foliage, 1969 (Niedbała 2004b, sub *R.*
228 *comteae*).
- 229
- 230 Euphthiracaridae spp.
- 231 Vereda San Marcos, Supatá (Cundinamarca) - Stomach content of *Bolitoglossa* cf. *pandi*
232 (Caudata: Plethodontidae) captured in cloud forests under anthropogenic pressure (cattle
233 farming and agriculture), 2011 (Del Río-García *et al.* 2014).
- 234
- 235 PHTHIRACAROIDEA
236 **Phthiracaridae** Perty, 1841

- 237 21. *Hoplophorella andrei* (J. Balogh, 1958)
238 - *Atropacarus (Hoplophorella) andrei* J. Balogh, 1958
239 Quebrada Guacoche (Magdalena) - Litter and humus, 1976; Rio Don Diego (Magdalena) -
240 Litter and humus, 1976 (Liu & OConnor 2015).
241
- 242 22. *Hoplophorella cucullata* (Ewing, 1909)
243 - *Atropacarus (Hoplophorella) cucullatus* Ewing, 1909
244 Quebrada Guacoche (Magdalena) - Leaf litter and humus, 1965/1976 (Liu & OConnor
245 2015).
246
- 247 23. *Hoplophorella lanceoseta* (J. Balogh & Mahunka, 1981)
248 - *Atropacarus (Hoplophorella) neglectus* Niedbała, 1984
249 Riohacha (La Guajira) - Considerable growth of shrubs and small trees with much Croton,
250 Momosaceae, Opuntia and Caesalpina, Cactaceae, and Bromeliaceae, in thin layer of plant
251 decay, 1937 (Niedbała 2004b).
252 Rio Don Diego (Magdalena) - Litter, 1976 (Liu & OConnor 2015).
253
- 254 24. *Hoplophthiracarus (Hoplophthiracarus) kugohi* (Aoki, 1959)
255 - *Plonaphacarus kugohi* Aoki, 1959
256 Quebrada Guacoche (Magdalena) - Leaf litter and humus, 1965; Rio Don Diego
257 (Magdalena) - Leaf litter and humus, 1976 (Liu & OConnor 2015).
258
- 259 25. *Hoplophthiracarus (Besuchetacarus) colombianus* (Liu & OConnor, 2015)
260 - *Notophthiracarus colombianus* Liu & OConnor, 2015
261 Quebrada Guacoche (Magdalena) - Litter and humus, 1976; Rio Don Diego (Magdalena) -
262 Litter and humus, 1976 (Liu & OConnor 2015; Li & Zhang 2016).
263
- 264 26. *Hoplophthiracarus (Notophthiracarus) aculeatus* (Niedbała, 1988)
265 - *Notophthiracarus aculeatus* Niedbała, 1988
266 Carimagua (Meta) - Native pastures, savannas, 1983 (Niedbała & Starý 2015).
267
- 268 27. *Hoplophthiracarus (Notophthiracarus) parasaucius* (Niedbała, 2003)
269 - *Arphthiracarus parasaucius* Niedbała, 2003
270 Quebrada Docordo -between Cucurrupi and Noanama-, Río San Juan (Chocó) - Dry foliage,
271 1969 (Niedbała 2004b).
272
- 273 28. *Hoplophthiracarus (Notophthiracarus) striolatus* (Niedbała, 2004)
274 - *Arphthiracarus striolatus* Niedbała, 2004

- 275 Bosque de Chico (Bogotá D.C.) - Forest litter, 1968 (Niedbała 2004b).
276
- 277 29. *Hoplophthiracarus (Protophthiracarus) andinus* (P. Balogh, 1984)
278 - *Phthirarica andina* P. Balogh, 1984
- 279 Páramo de Monserrate (Bogotá D.C.) - Páramo, Unspecified (Balogh 1984a).
280
- 281 30. *Hoplophthiracarus (Protophthiracarus) diazae* (Ojeda, 1985)
282 - *Calyptophthiracarus cucundus* Niedbała, 1988
- 283 Carimagua (Meta) - Native pastures, savannas, 1983 (Niedbała & Starý 2015).
284
- 285 31. *Hoplophthiracarus (Protophthiracarus) espeletiae* (P. Balogh, 1984)
286 - *Sturmacarus espeletiae* P. Balogh, 1984; *Austrophthiracarus espeletius* P. Balogh 1984
- 287 Páramo de Monserrate (Bogotá D.C.) - Dead leaves of *Espeletia schultzei* (frailejón), 1978
288 (Balogh 1984a).
- 289 Páramo de Monserrate (Bogotá D.C.) - Forest litter and soil, 1968 (Niedbała 2004b).
290
- 291 32. *Phthiracarus (Archiphthiracarus) pygmaeus* J. Balogh, 1958
292 Quebrada Guacoche (Magdalena) - Litter and humus, 1976 (Liu & OConnor 2015).
293
- 294 33. *Phthiracarus (Neophthiracarus) hirtus* (P. Balogh, 1984)
295 - *Sturmacarus hirtus* P. Balogh, 1984; *Austrophthiracarus hirtus* P. Balogh, 1984
- 296 Páramo de Sumapaz (Bogotá D.C.) - 0-5 cm of *Espeletia* sp., 1978 (Balogh 1984a, sub *S.*
297 *hirtus*; Niedbała 2004b, sub *A. hirtus*).
298
- 299 34. *Phthiracarus (Neophthiracarus) sp.*
300 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
301
- 302 Phthiracaridae spp.
- 303 Vereda San Marcos, Supatá (Cundinamarca) - Stomach content of *Bolitoglossa cf. pandi*
304 (Caudata: Plethodontidae) captured in cloud forests under anthropogenic pressure (cattle
305 farming and agriculture), 2011 (Rio-García *et al.* 2014).
- 306 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
307 (Marín-Beitia *et al.* 2015).
308
- 309 CROTONIOIDEA
310 **Nothridae** Berlese, 1896

311 Nothridae spp.
312 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
313 (Marin-Beitia *et al.* 2015).
314
315 **Nanhermanniidae** Sellnick, 1928
316 35. *Masthermannia* cf. sp.
317 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016.)
318
319 Nanhermanniidae spp.
320 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
321 (Marin-Beitia *et al.* 2015).
322 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016).
323
324 **Trhypochthoniidae** Willmann, 1931
325 36. *Allonothrus* sp.
326 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.*
327 2016).
328
329 37. *Archegozetes magnus longisetosus* Aoki, 1965
330 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
331
332 Trhypochthoniidae spp.
333 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
334 (Marin-Beitia *et al.* 2015); Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016
335 (Rueda-Ramírez *et al.* 2016).
336
337 **Malaconothridae** Berlese, 1916
338 38. *Malaconothrus* sp.
339 Granada (Sucre), San Ciro (Huila) - Domestic dust, 1973 (Charlet *et al.* 2009).
340 La Calera (Cundinamarca) – Forest, 2016 (Rueda-Ramírez *et al.* 2016).
341
342 39. *Trimalaconothrus* sp.
343 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
344

345 Malaconotridae spp.
346 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
347 (Marin-Beitia *et al.* 2015).
348
349 **Hermanniellidae** Grandjean, 1934
350 40. *Hermannobates* sp.
351 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
352
353 41. *Sacculobates horologiorum* Grandjean, 1962
354 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
355
356 Hermanniellidae spp.
357 La Calera (Cundinamarca) – Forest, 2016 (Rueda-Ramírez *et al.* 2016).
358
359 HERMANNIELLOIDEA
360 **Plasmobatidae** Grandjean, 1961
361 Plasmobatidae spp.
362 Obonuco (Nariño), Pasto (Nariño) - Silvopastoral systems, potato crops/grass, potato
363 (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and *Tecoma*
364 *stans*, 2009 (Genoy *et al.* 2013).
365
366 NEOLIODOIDEA
367 **Neolididae** Sellnick, 1928
368 42. *Neolides* sp.
369 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016).
370
371 43. *Platyliodes* sp.
372 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.* 2016).
373
374 44. *Teleioliodes zikani* Sellnick, 1930
375 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
376
377 45. *Teleioliodes* sp.
378 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).

379

380 PLATEREMAEOIDEA

381 **Pheroliodidae** Paschoal, 1987

382 Pheroliodidae spp.

383 Obonuco (Nariño), Pasto (Nariño) - Forest, silvopastoral systems, potato crops/grass, potato
384 (Solanum tuberosum) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and Tecoma
385 stans, 2009 (Genoy *et al.* 2013).

386

387 CEPHEOIDEA

388 **Anderemaeidae** J. Balogh, 1972

389 46. *Anderemaeus capitatus* J. Balogh & P. Balogh, 1985

390 Páramo del Huila (Cundinamarca) - Berlese samples: Dead leaves of *Espeletia harwegiana*,
391 1878 (Balogh & Balogh 1985).

392

393 47. *Anderemaeus sturmi* J. Balogh & P. Balogh, 1985

394 Páramo de Monserrate (Bogotá D.C.) - Unspecified hábitat, 1960 (Balogh & Balogh 1985).

395 Puente Natural de Icononzo (Tolima) - Undisturbed forest, 1968 (Balogh & Balogh 1985).

396 Páramo de Cocuy (Boyaca) - *Calamagrostis* soil, 1978 (Balogh & Balogh 1985).

397

398 **Cepheidae** Berlese, 1896

399 - Cepheusidae Berlese, 1896 was proposed to replace the current name due to the homonymic
400 case of Cepheidae Agassiz, 1862 (Cnidaria). The case is discussed by Halliday & Norton (2019)
401 and is being addressed by the International Commission on Zoological Nomenclature (ICZN).

402 48. *Sadocephus breviseta* (P. Balogh, 1986)

403 - *Hamotegaeus breviseta* P. Balogh, 1986

404 Bogotá (Bogotá D.C.) - Unspecified habitat, 1969 (Balogh 1986).

405 Unspecified location - Unspecified habitat, 1969 (Balogh 1986); reported as *Hamotegaeus*
406 *microseta* likely as a lapsus of the author due to the in similarity of the meaning of *breviseta*
407 and *microseta*.

408

409 49. *Sadocephus longiseta* (P. Balogh, 1986)

410 - *Hamotegaeus longiseta* P. Balogh, 1986

411 Monterredondo (Cundinamarca) - Rainforest, 1969 (Balogh 1986).

412

413 **Microtegeidae** J. Balogh, 1972

414 50. *Microtegeus* sp.

- 415 Granada (Meta), Pitalito (Huila) - Domestic dust, 1973 (Charlet *et al.* 2009).
416
- 417 MICROZETOIDEA
418 **Microzetidae** Grandjean, 1936
- 419 51. *Dinozetes* sp.
420 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
421 52. *Mystacozetes* sp.
422 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
423
- 424 53. *Rhopalozetes* sp.
425 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
426
- 427 54. *Sturmozetes marginatus* (P. Balogh, 1984)
428 - *Gymnozetes marginatus* P. Balogh, 1984
429 Páramo del Huila (Cundinamarca) - Dead leaves of *Espeletia harwegiana*, 1978 (Balogh
430 1984b).
431
- 432 AMEROIDEA
433 **Heterobelbidae** J. Balogh, 1961
- 434 55. *Heterobelba* sp.
435 Forest: La Calera (Cundinamarca) - 2016 (Rueda-Ramírez *et al.* 2016).
436
- 437 **Rhynchoribatidae** J. Balogh, 1961
438 56. *Rhynchoribates* sp.
439 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
440
- 441 GUSTAVIOIDEA
442 **Liacaridae** Sellnick, 1928
- 443 57. *Liacarus (Procorynetes) andinus* (P. Balogh 1984)
444 - *Procorynetes andinus* P. Balogh, 1984
445 Páramo de Monserrate (Bogotá D.C.) - Dead leaves of *E. grandifolia*, 1968 (Balogh 1984b).
446
- 447 58. *Liacarus (Procorynetes) espeletiae* (P. Balogh, 1984)
448 - *Procorynetes espeletiae* P. Balogh, 1984

449 Páramo del Huila (Cundinamarca) - Dead leaves of *Espeletia harwegiana*, 1978 (Balogh
450 1984b).
451
452 59. *Liacarus (Rhaphidosus) alticola* (P. Balogh, 1984)
453 - *Rhaphidosus alticola* P. Balogh, 1984
454 Páramo de Monserrate (Bogotá D.C.) - Dead leaves of *E. grandifolia*, 1968 (Balogh 1984b).
455
456 60. *Xenillus columbianus* P. Balogh, 1984
457 Macarena (Meta) - Tropical rainforest litter, 1956 (Balogh, 1984b).
458 1 km from Rio Hacha (La Guajira) - Soil, leaves, and litter, 1937 (Ermilov 2017).
459
460 Liacaridae spp.
461 La Calera (Cundinamarca) - Forest, pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
462
463 **Peloppiidae** J. Balogh, 1943
464 61. *Ceratorchestes* sp.
465 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
466
467 62. *Metapyroppia* sp.
468 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.* 2016).
469
470 63. *Negroppia* sp.
471 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
472
473 Peloppiidae spp.
474 - Ceratoppiidae spp.
475 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.*
476 2016).
477
478 **Astegistidae** J. Balogh, 1961
479 64. *Cultroribula* sp.
480 Chibolo (Magdalena) - Domestic dust, 1973 (Charlet *et al.* 2009).
481

482 CARABODOIDEA
483 **Carabodidae** Koch, 1843
484 65. *Carabodes (Klapperiches)* sp.
485 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.*
486 2016).
487
488 66. *Carabodes (Phyllocarabodes) insolitus* (P. Balogh, 1984)
489 - *Pentabodes insolitus* P. Balogh, 1984
490 Monterredondo (Cundinamarca) - Undisturbed forest, litter, 1956 (Balogh 1984b).
491
492 Carabodidae spp.
493 Apure (Magdalena), Espinal (Tolima), Granada (Meta & Sucre), Tenerife (Magdalena),
494 Distracción (La Guajira) - Domestic dust, 1973 (Charlet *et al.* 2009).
495
496 **Otocephidae** J. Balogh, 1961
497 Otocephidae spp.
498 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
499 (Marin-Beitia *et al.* 2015).
500
501 **Dampfiellidae** J. Balogh, 1961
502 67. *Beckiella* sp.
503 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
504 Dampfiellidae spp.
505 Montenegro (Quindio) - Sub-Andean forest (50 years old), 2016 (Rueda-Ramírez *et al.*
506 2016).
507
508 **Carabocephidae** Aoki, 1961
509 68. *Flagellocephus sagittatus* P. Balogh, 1984
510 Resina (Santander) - Montane forest, 1956 (Balogh 1984a).
511
512 69. *Pseudotocephus sturmi* P. Balogh, 1984
513 Macarena (Meta) - Tropical rainforest, litter, 1956 (Balogh 1984a).
514
515 OPPIOIDEA
516 **Oppiidae** Sellnick, 1937

- 517 70. *Chavinia similis* P. Balogh, 1984
518 Páramo del Huila (Cundinamarca) - Dead lower leaves of *Espeletia* sp, 1978 (Balogh
519 1984a).
- 520
521 71. *Neoamerioppia (Amerigloboppia) espeletiarum* (P. Balogh, 1984)
522 - *Amerioppia espeletiarum* P. Balogh, 1984
- 523 Páramo de Sumapaz (Bogotá D.C.) - 0-5cm soil of *Espeletia*, 1968. Páramo el Tablazo
524 (Cundinamarca) - Dead leaves, 1968. Páramo de Monserrate (Bogotá D.C.) - Dead leaves
525 and 54cm trunk of *Espeletia grandifolia*, 1968. Cocuy (Boyaca) - Dead leaves of *E. lopezzi*,
526 1978 (Balogh 1984a).
- 527
- 528 72. *Neoamerioppia (Amerigloboppia) senecionis* (P. Balogh, 1984)
529 - *Amerioppia senecionis* P. Balogh, 1984
- 530 Ruiz Superpáramo (Caldas) - Living parts of *Senecio* species, 1978 (Balogh 1984a).
- 531
- 532 73. *Neoamerioppia (Neoamerioppia) cocuyana* (P. Balogh, 1984)
533 - *Amerioppia cocuyana* P. Balogh, 1984
- 534 Páramo Cocua, Correction: Páramo Cocuy (Boyaca) - Dead leaves from *E. columbiana*,
535 1978 (Balogh 1984a).
- 536
- 537 74. *Neoamerioppia (Neoamerioppia) sturmi* (P. Balogh, 1984)
538 - *Amerioppia sturmi* P. Balogh, 1984
- 539 Bogotá (Bogotá D.C.) - Unspecified habitat, 1969 (Balogh 1984a).
- 540
- 541 75. *Oppia* sp.
- 542 Granada (Meta), Unspecified locality (Monteria) - Domestic dust, 1973 (Charlet *et al.*
543 2009).
- 544
- 545 76. *Oppiella* cf. *nova* Oudemans, 1902
- 546 La Calera (Cundinamarca) - Forest, pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
- 547
- 548 77. *Oxyoppia (Oxyoppia) polita* P. Balogh, 1984
- 549 Páramo de Monserrate (Bogotá D.C.) - Dead leaves and 54cm on the trunk of *Espeletia* sp.,
550 1968 (Balogh 1984a).
- 551
- 552 78. *Oxyoppia (Oxyoppiella) suramericana* (Hammer, 1958)
553 - *Oxyoppia suramericana* cf. Hammer, 1958

- 554 La Calera (Cundinamarca) - Forest, pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
555
- 556 79. *Similoppia (Reductoppia) espeletiae* (P. Balogh, 1984)
557 - *Reductoppia espeletiae* P. Balogh, 1984
- 558 Páramo del Huila (Cundinamarca) - Dead lower leaves of *Espeletia harwegiana*, 1978
559 (Balogh 1984a).
560
- 561 Oppiidae spp.
- 562 Espinal (Tolima) - Domestic dust, 1973 (Charlet *et al.* 2009).
- 563 Obonuco (Nariño), Pasto (Nariño) - Silvopastoral systems, potato crops/grass, potato
564 (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and *Tecoma*
565 *stans*, 2009 (Genoy *et al.* 2013).
- 566 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
567 (Marin-Beitia *et al.* 2015).
568
- 569 **Machadobelbidae** J. Balogh, 1972
- 570 80. *Machadobelba* sp.
- 571 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
572
- 573 **Teratoppiidae** J. Balogh, 1983
- 574 Teratoppiidae spp.
- 575 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
576 (Marin-Beitia *et al.* 2015).
577
- 578 **Sternoppiidae** J. Balogh & Mahunka, 1969
- 579 81. *Sternoppia* sp.
- 580 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
581
- 582 **Granuloppiidae** J. Balogh, 1983
- 583 82. *Granuloppia* sp.
- 584 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
585
- 586 **Thyrisomidae** Grandjean, 1954
- 587 83. *Banksinoma* sp.

588 Surata (Santander) - Domestic dust, 1973 (Charlet *et al.* 2009).
589
590 **Suctobelbidae** Jacot, 1938
591 84. *Suctobelbella decorata* P. Balogh, 1984
592 Puente Natural de Icononzo (Tolima) - Undisturbed forest, 1968 (Balogh 1984b).
593
594 85. *Suctobelbella* sp.
595 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
596
597 TECTOCEPHEOIDEA
598 **Tectocephidae** Grandjean, 1954
599 Tectocephidae spp.
600 Obonuco (Nariño), Pasto (Nariño) - Grassland, 2009 (Genoy *et al.* 2013).
601 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
602 (Marin-Beitia *et al.* 2015).
603
604 HYDROZETOIDEA
605 **Hydrozetidae** Grandjean, 1954
606 86. *Hydrozetes* sp.
607 Páramo de Frontino o del Sol (Antioquia) - Lakes, 2002/2004 (Posada-García *et al.* 2008).
608
609 CYMBAEREMAEOIDEA
610 **Cymbaeremaeidae** Sellnick, 1928
611 87. *Scapheremaeus* sp.
612 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
613
614 PHENOPELOPOIDEA
615 **Phenopelopidae** Petrunkevitch, 1955
616 88. *Eupelops* sp.
617 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
618
619 ACHIPTERIOIDEA
620 **Achipteriidae** Thor, 1929
621 89. *Achipteria* sp.

622 La Calera (Cundinamarca) - Pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
623
624 90. *Parachipteria* sp.
625 La Calera (Cundinamarca) - Pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
626
627 **Tegoribatidae** Grandjean, 1954
628 Tegoribatidae spp.
629 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016).
630
631 **Epactozetidae** Grandjean, 1930
632 91. *Truncozetes sturmi* P. Balogh, 1984
633 Bogotá (Bogotá D.C.) - Unspecified habitat, 1969 (Balogh 1984b).
634
635 92. *Truncozetes* sp.
636 Forest: La Calera (Cundinamarca) - 2016 (Rueda-Ramírez *et al.* 2016).
637
638 ORIBATELLOIDEA
639 **Oribatellidae** Jacot, 1925
640 93. *Lamellobates* sp.
641 Unspecified locality - Unspecified habitat, Unspecified date (Behan-Pelletier & Ryabinin,
642 1991).
643
644 94. *Oribatella punctata* Hammer, 1958
645 Páramo de Cocuy (Boyaca) - *Calamagrostis* soil, 1978 (Balogh, 1984b).
646
647 95. *Oribatella* sp.
648 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
649
650 ORIPODOIDEA
651 **Mochlozetidae** Grandjean, 1960
652 96. *Dynatozetes obesus* Grandjean, 1960
653 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
654
655 97. *Mochlozetes flatus* Grandjean, 1930

656 Puerto Colombia (Atlántico) - Tree branches, 1926 (Grandjean 1930).
657
658 98. *Mochlozetes penetrabilis* Grandjean, 1960
659 Puerto Colombia (Atlántico) - Tree bark, 1926 (Grandjean 1930).
660
661 Mochlozetidae spp.
662 Obonuco (Nariño) - 2009, Pasto (Nariño) - Forest, silvopastoral systems, potato crops/grass,
663 potato (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and
664 *Tecoma stans*, 2009 (Genoy *et al.* 2013).
665
666 **Oribatulidae** Thor, 1929
667 99. *Liebstadia* sp.
668 Tuquerres (Nariño) - Domestic dust, 1973 (Charlet *et al.* 2009).
669
670 100. *Oribatula* sp.
671 La Calera (Cundinamarca) - Pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
672
673 101. *Phauloppia* sp.
674 - *Eporibatula* sp.
675 Tuquerres (Nariño) - Domestic dust, 1973 (Charlet *et al.* 2009).
676
677 Oribatulidae spp.
678 Catatumbo (Norte de Santander) - 1973, Guaitarilla (Nariño) - Domestic dust, 1973 (Charlet
679 *et al.* 2009).
680 Charta (Santander), Choconta (Cundinamarca), Garagoa (Boyaca), La Calera
681 (Cundinamarca), Obonuco (Nariño), Pitalito (Huila), Tenza (Boyaca), Tuquerres (Nariño),
682 Viso Elias (Huila) - Domestic dust, 1992/1993 (Sanchez-Medina & Zarante 1996).
683
684 **Haplozetidae** Grandjean, 1936
685 102. *Peloribates* sp.
686 Granada (Meta), Isnos (Huila), Piedecuesta (Santander), San Martin (Meta) - Domestic dust,
687 1973 (Charlet *et al.* 2009).
688
689 103. *Protoribates* sp.
690 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016).

691
692 104. *Protoribates (Triaungius)* sp.
693 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
694
695 105. *Rostrozetes ovulum* (Berlese, 1908)
696 - *Trachyoribates (Rostrozetes) foveolatus* Sellnick, 1925.
697 La Calera (Cundinamarca) - Forest, pasture land, 2016 (Rueda-Ramírez *et al.* 2016).
698
699 Haplozetidae spp.
700 Obonuco (Nariño), Pasto (Nariño) - Forest, silvopastoral systems, potato crops/grass, potato
701 (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and Tecoma
702 stans, 2009 (Genoy *et al.* 2013).
703
704 Haplozetidae spp. (sub Protoribatidae spp.)
705 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016).
706
707 **Parakalummidae** Grandjean, 1936
708 106. *Neoribates* sp.
709 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
710
711 **Oripodidae** Jacot, 1925
712 107. *Oripoda clavata* Woolley, 1961
713 Unspecified location - Crops of orange fruit - *Citrus paradisi* and *Citrus sinensis*, 1959/1960
714 (Woolley 1966).
715
716 108. *Oripoda lobata* Mahunka, 1985
717 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
718
719 109. *Oripoda longiseta* Woolley, 1961
720 Unspecified location - Coffee cutting, 1959/1960 (Woolley, 1966).
721
722 110. *Oripoda* sp.
723 La Calera (Cundinamarca) - Forest, 2016 (Rueda-Ramírez *et al.* 2016).
724

- 725 Oripodidae spp.
- 726 Capa Rosa (Huila), Charta (Santander), Choconta (Cundinamarca), Garagoa (Boyaca), La
727 Calera (Cundinamarca), Obonuco (Nariño), Pitalito (Huila), Tenza (Boyaca), Tuquerres
728 (Nariño), Viso Elias (Huila) - Domestic dust, 1992/1993 (Sanchez-Medina & Zarante 1996).
- 729 Espinal (Tolima), Guaitarilla (Nariño), Isnos (Huila), Morrocroy (Caqueta), Sabanilla
730 (Atlantico), San Martín (Meta), Soata (Boyaca), Tenerife (Magdalena) - Domestic dust, 1973
731 (Charlet *et al.* 2009).
- 732
- 733 **Schelorbitidae** Grandjean, 1933
- 734 111. *Schelorbitates praeincisus* Berlese, 1910
- 735 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).
- 736
- 737 112. *Schelorbitates* sp.
- 738 Catatumbo (Norte de Santander), Cerrito (Valle del Cauca); Espinal (Tolima), Granada
739 (Sucre), Rio Negro Sur (Antioquia), San Ciro (Huila), Tuquerres (Nariño) - Domestic dust,
740 1973 (Charlet *et al.* 2009).
- 741
- 742 Schelorbitidae spp.
- 743 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
744 (Marin-Beitia *et al.* 2015).
- 745
- 746 CERATOZETOIDEA
- 747 **Ceratozetidae** Jacot, 1925
- 748 Ceratozetidae spp.
- 749 Obonuco (Nariño), Pasto (Nariño) - Forest, silvopastoral systems, potato crops/grass, potato
750 (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and *Tecoma*
751 *stans*, 2013 (Genoy *et al.* 2013).
- 752
- 753 **Euzetidae** Grandjean, 1954
- 754 Euzetidae spp.
- 755 Obonuco (Nariño), Pasto (Nariño) - Forest, 2009 (Genoy *et al.* 2013).
- 756
- 757 GALUMNOIDEA
- 758 **Galumnidae** Jacot, 1925
- 759 113. *Galumna colombiana* Ermilov, 2017
- 760 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).

761

762 114. *Galumna innexa* Pérez-Íñigo & Baggio, 1986

763 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).

764

765 115. *Galumna naturalisi* Ermilov, 2017

766 1 km from Rio Hacha (La Guajira) - Soil, leaves, litter, 1937 (Ermilov 2017).

767

768 Galumnidae spp.

769 Granada (Meta) - Domestic dust, 1973 (Charlet *et al.* 2009).

770 Montenegro (Quindio) - Coffee crops, 2016 (Rueda-Ramírez *et al.* 2016)

771 Obonuco (Nariño), Pasto (Nariño) - Silvopastoral systems, potato crops/grass, potato
772 (*Solanum tuberosum*) crops, grassland, *Acacia melanoxylon*, *Verbesina arborea* and *Tecoma*
773 *stans*, 2009 (Genoy *et al.* 2013).

774 Vereda San Marcos, Supatá (Cundinamarca) - Stomach content of *Bolitoglossa cf. pandi*
775 (Caudata: Plethodontidae) captured in cloud forests under anthropogenic pressure (cattle
776 farming and agriculture), 2011 (Rio-García *et al.* 2014).

777 Chontaduro (Valle del Cauca) - Corn fields (different chemical/organic treatments), 2013
778 (Marín-Beitia *et al.* 2015).

779 Remarks and discussion

780 We found reports of 192 oribatid mite species in the Republic of Colombia, 68 named and 47
781 unnamed, belonging to 73 genera, 58 families, and 24 superfamilies. Specimens from six
782 superfamilies accounted for 70% of the total reports. These are Phthiracaroida (17.7%),
783 Euphthiracaroida (13%), Oripodoidea (13%), Oppioidea (10.9%), Crotonioidea (7.3%), and
784 Gustavioidea (5.7%). As such, over 85% of the specimens belong to the supercohort Mixonomata
785 and cohort Brachypylina (30.7% and 54.7%, respectively). Higher numbers from the cohort
786 Brachypylina were to be expected as this is the largest and most species rich group of oribatid
787 mites (Norton & Behan-Pelletier 2009). Latin American countries with broader knowledge on
788 oribatid mites have reported even higher numbers for this group. This is the case in Argentina and
789 Brazil, where 75% and 68% of their records respectively, were assigned to the cohort
790 Brachypylina (Fredes 2018; Oliveira *et al.* 2017). In contrast, Mixonomata diversity in the
791 Neotropics presents notably higher variation between countries (5-20%) and is often below the
792 numbers reported for Colombia (Oliveira *et al.* 2017). These high numbers might be partially
793 explained by a study on Ptyctimous mites from Colombia contributing with 19% of the total
794 reports (Liu & OConnor 2015). However, the current state of knowledge in the country is clearly
795 uneven and some of the described patterns are likely due to uneven sampling or group-specific
796 studies. This prevents from reaching any conclusions on the real composition of oribatid mites in
797 Colombia.

798

799 In terms of geographical distribution, oribatid mites were reported in 20 out of 32 political-
800 administrative departments. Cundinamarca (including Bogotá D.C.) (24.4%), Magdalena
801 (21.8%), Nariño (6.3%), La Guajira (6.3%), and Quindío (5.9%) accounted for over 65% of the
802 total reports. Following these five, Huila, Meta, and Valle del Cauca each accounted for
803 approximately 5% of the records. The remaining departments (12) added up to a total of 15%. It
804 also appears that one of the records of *Austrophthiracarus andinus* (P. Balogh, 1984) -syn.
805 *Sturmacarus espeletiae* (P. Balogh, 1984)- reported in Páramo ecosystems was incorrectly
806 assigned to Colombia while it belongs to Venezuela (Balogh 1984a). The overall numbers show
807 a disproportionate focus on regions located in the mountain-ranges, especially in the Eastern and
808 Western 'Cordilleras'. Road infrastructure facilitating sampling campaigns or an authentic
809 interest in the altitudinal gradient of the Cordilleras might have caused this irregular distribution.
810 The latter appears to be the case for P. Balogh (1984a, 1984b), as 20 out of 23 reports from his
811 publications took place in high mountain Páramo ecosystems. These alpine moorland-like
812 ecosystems are known for their unique vegetation and atypically high biodiversity given their
813 altitude (i.e. above 3400 m.a.s.l) (Gil-Leguizamón *et al.* 2020; Rangel-Churio 2006). Whereas in
814 comparable high mountain ecosystems from Venezuela, México, Costa Rica, and Panama species
815 richness of oribatids appears to be relatively low, local communities differ from those of the

816 surrounding lowlands (Olszanowski 1999; Schatz 2007). These particular patterns and a patchy
817 geographical distribution present unique opportunities to study oribatids in underrepresented
818 ecosystems.

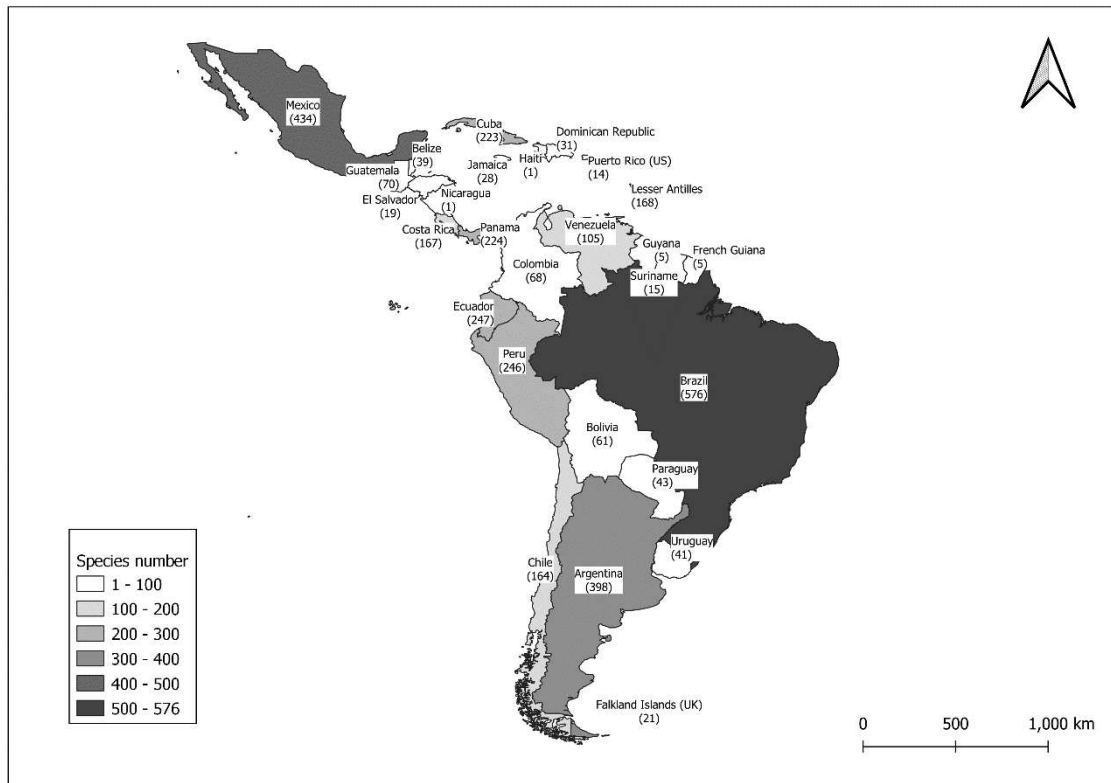
819 Partial catalogues from Brazil, Venezuela, and Ecuador reporting over 200 species in relatively
820 small areas portray the enormous potential for high species richness in Colombia. This is
821 particularly the case of biodiversity hotspots like the Amazon region or the Tumbes-Chocó-
822 Magdalena biogeographic region. The latter presents high ecosystem richness comprising of rain
823 forests, mist forests, and alpine ecosystems (Josse *et al.* 2009). In the Peruvian Andes oribatid
824 diversity increases from dry high altitudes on the Western slopes towards humid Eastern slopes
825 (Beck 1963). While the distribution of ecosystems along the Colombian Andes slightly differs
826 from that of Peru, rain- and mist-forests are obvious oribatid hotspots. Illig *et al.* (2007), for
827 example, reported nearly 200 species in a natural reserve of mountain rain forests in Ecuador. On
828 the other hand, over 40% of the Colombian territory belongs to the Amazon region and accounts
829 for more than 480.000 km². This region is also shared with seven other south American countries:
830 Bolivia, Brazil, Ecuador, Guyana, Perú, Venezuela, and Surinam. In the Central Amazon region
831 of Peru and Brazil, over 70% of nearly 450 collected oribatid taxa remain undescribed (Franklin
832 *et al.* 2006). This shows both high species richness and lack of taxonomic knowledge for the
833 region.

834

835 Moreover, microhabitats within rich ecosystems pose important sources of oribatids. For instance,
836 in the previously cited study on the Central Amazon, 120 species were identified exclusively from
837 trees in Peru (Franklin *et al.* 2006). Behan-Pelletier *et al.* (1993) described a similar scenario of
838 microhabitat diversity in epiphytes and bromeliads from forests of Northern Venezuela. Islands
839 also represent an entirely unexplored set of ecosystems. The Galapagos islands of Ecuador
840 represent an important share of the oribatid records with over 200 species (Schatz 1998; Schatz
841 1991). The Caribbean islands San Andrés, Providencia, and Santa Catalina, for example, could
842 potentially have a similar species composition to Costa Rica, as this set of islands are located 300
843 km from Costa Rica -contrasting 700 km from mainland Colombia-. The map of oribatid records
844 for Latin America (Figure 2.) provides a clear view of the species richness of this group in the
845 Neotropical region. This map is primarily based on checklists or partial catalogues, and the
846 numbers presented for countries lacking compiled lists might be an underestimation of the current
847 status of knowledge. Still, only 68 species reported in the Republic of Colombia, an undoubtably
848 ecosystem rich country surrounded by species rich nations urge further study.

849 *Figure 2. Latin American map of oribatid records. Sources for the checklists and partial catalogues were based on:*
850 *Covarrubias B.(1986), Ermilov & Gwiazdowicz (2015), Ermilov & Friedrich (2017), Fredes (2018), Hammer (1958),*
851 *Illig et al. (2007), Mahunka (1984), Oliveira et al. (2017), Palacios-Vargas & Iglesias (2004), Pérez-Gelabert (2008),*

852 Pérez-Iñigo & Sarasola (1995, 1998), Sarasola *et al.* (1994), Schatz (1997, 2006), and Subías *et al.* (2012, electronic
853 update 2018).



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856 Acknowledgements

857

858 The authors would like to thank Dr. Pfungstl, Dr. H. Schatz, and an anonymous reviewer for their
859 valuable comments and suggestions. We also thank Charles University for the financial support
860 from STARS student's program (Grant No. 1907882).

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863 Illustrations

864 *Figure 1. Map of the Republic of Colombia. Tags of localities: 1-57.*

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865 *Figure 2. Latin American map of oribatid records.*

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