

Professor Emeritus Roy A. Norton and his outstanding contributions to our knowledge of systematics, evolution, morphology, ecology and behaviour of Oribatida and other mites

Authors: Minor, Maria, and Behan-Pelletier, Valerie

Source: Systematic and Applied Acarology, 27(6) : 1189-1206

Published By: Systematic and Applied Acarology Society

URL: <https://doi.org/10.11158/saa.27.6.16>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Biography

Professor Emeritus Roy A. Norton and his outstanding contributions to our knowledge of systematics, evolution, morphology, ecology and behaviour of Oribatida and other mites

MARIA MINOR^{1,*} & VALERIE BEHAN-PELLETIER²

¹School of Natural Sciences, Massey University, Palmerston North, 4410, New Zealand

²Agriculture and Agri-Food Canada, Ottawa, Ontario, K1A0C6, Canada

*Corresponding author; email: m.a.minor@massey.ac.nz

Roy A. Norton (RAN), who is viewed by many as one of the most outstanding acarologists of today, a teacher, a mentor and a colleague to so many, was born 12 August 1947 in Rochester, New York, then a thriving industrial town and home of some of America's most iconic companies, such as Eastman Kodak, Xerox and Bausch & Lomb.

RAN's academic career is linked to the State University of New York-College of Environmental Science and Forestry in Syracuse, New York. Founded in 1911, SUNY-ESF is one of the oldest and most respected schools in the USA dedicated to the study of the environment, with strong interdisciplinary focus, a large cohort of graduate students, and a tranquil leafy campus. There, in Illick Hall, home to the Department of Environmental and Forest Biology, RAN studied and later worked as Technical Assistant (1970–1974), Research Assistant (1974–1977), Research Associate (1977–1985), Senior Research Associate (1985–1989), Associate Professor (1989–1991) and Professor (1991–2011), retiring as Professor Emeritus (2012–present). For 20 years (1985–2005) RAN was also a Research Associate at The Field Museum of Natural History in Chicago, Illinois.

After a B.Sc. in Wildlife Management *magna cum laude* (1969), RAN proceeded to do his M.Sc. (1973) focusing on arthropod communities in Lake Ontario beach debris. It was also the year when RAN described his first new mite species¹, which surprisingly was not an oribatid mite, but the Mesostigmatan—*Macrocheles ontariensis* Norton, 1973. More publications on taxonomy, ecology and behaviour of mites and soil arthropods followed^{2–10}. In 1977 RAN defended his Ph.D. dissertation “*The family Damaeidae (Acarina: Oribatei): systematics and review of biology*”, followed by a series of publications on systematics and biology of oribatid mites^{11–18}. His most significant paper from that period is the review of F. Grandjean's system of leg chaetotaxy in the Oribatida¹³, which has had lasting importance for systematics and taxonomy of oribatid mites. Indeed, RAN's thorough absorption and clear interpretations of Grandjean's concepts are evident in all his systematic and morphological publications, for example^{122, 123, 131, 223, 228}.

The same year (1977) RAN started teaching in The Acarology Summer Program at The Ohio State University, a series of week-long workshops on identification of mites and ticks which has been the longest running program of this kind in the world. RAN taught General Acarology and Soil Acarology annually or biennially until 2018, when the Acarology Summer Program moved to the University of Arkansas, Fayetteville. The generations of students who were privy to RAN's encyclopedic knowledge of oribatid systematics, behaviour and ecology included participants from 36 countries (Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Columbia, Costa Rica, Egypt, England, Estonia, France, Germany, Israel, Japan, Kenya, Latvia, Mexico, Netherlands, New Zealand, Norway, Romania, Russia, Pakistan, Peru, Philippines, Puerto Rico, South Africa, Spain, Sweden, Taiwan, Thailand, Turkey, USA).

Since 1978–79 RAN has focused primarily on his favorite group—Oribatida—where he has reached towering heights of expertise, publishing to date over 200 research papers and book chapters on systematics, evolution, biogeography and ecology of oribatid mites. There have been also studies on Astigmata and Prostigmata^{19–21, 33, 71, 74}, projects on impacts of natural and anthropogenic perturbations on soil animal communities^{23, 46, 51, 67, 126, 137, 140, 165} and methodological contributions^{53, 54, 60}. Most of RAN’s publications resulted from collaborative work, much of which was international in scope; more than 150 co-authors represent 60+ institutions worldwide.

There is hardly any aspect of oribatid mite biology that escaped RAN’s attention during his incredibly productive career. RAN has enriched our knowledge on such matters in Oribatida as: phoresy^{31, 200}; courtship behaviour^{162, 204}; sperm transfer¹⁰⁴; food passage through the alimentary tract¹³⁸; defecation mechanisms¹⁶⁹; trophic relationships^{141, 146, 191}—we now know that oribatid mites can eat rotifers¹⁰³ and are in turn eaten by newts⁸; general community ecology^{52, 145, 150, 159, 163, 174, 183, 210, 219, 222, 225, 229, 231, 232, 233}; and chemical ecology^{125, 134, 194, 214, 224}, including the fascinating topic of oribatid mites of certain families (Scheloribatidae, Parakalummidae, Drymobatidae, Mochlozetidae and Galumnidae) being a major dietary source of alkaloids in the skin of some poison dart frogs^{155, 189, 190, 206, 213}.

In 1993 RAN started a laboratory strain of the trhypochthoniid *Archezogetes longisetosus* Aoki, 1965 from a single gravid female collected in Puerto Rico. He shared offspring of this female with scientists worldwide, and to date there are almost 100 publications dealing with taxonomy, ecology, phylogeny, morphology and development of this species, based on this strain^{125, 134, 138, 150, 153, 157, 169, 176, 178, 182, 187, 193, 194, 199, 202, 220}. *Archezogetes longisetosus* is considered a chelicerate model species along with the ticks *Ixodes ricinus* (Linnaeus, 1758) and *I. scapularis* Say 1821, and the spider mite *Tetranychus urticae* Koch, 1836.

RAN’s interest in reproductive modes in Oribatida opened up a new field of evolutionary ecology in acarological research. His work with Sandra Palmer on parthenogenesis in oribatid mites^{62, 69, 75, 79, 80, 83} was a scientific milestone, highlighting that evolutionary radiation occurred in the absence of sexual reproduction in a number of large fully parthenogenetic families of Oribatida, and suggesting that automictic thelytoky was the mechanism involved. This was followed by a book chapter⁸⁵ “Phylogenetic perspectives on genetic systems and reproductive modes of mites” in Wrensch & Ebbert (1993), which was particularly influential in providing an evolutionary framework for the existing knowledge on reproductive modes in mites. RAN’s collaboration with Dana Wrensch on inverted meiosis in holokinetic chromosomes⁹¹ outlined mechanisms for DNA repair and genetic variability in thelytokous lineages, explaining how wholly thelytokous higher taxa can result. Work on early development and cytology of oribatid mites with Paavo Bergmann and Michael Laumann^{182, 187, 220} provided first evidence for automixis (meiotic thelytoky) in Oribatida. Numerous other collaborative projects^{109, 133, 148, 149, 151, 153, 154, 156, 176, 198} with Mark Maraun, Michael Heethoff and other colleagues investigated evolutionary, cytological and ecological aspects of reproduction and diversification in thelytokous oribatid mites.

A pivotal evolutionary question where RAN has made a significant contribution is that of the origin of Astigmata. RAN’s view, a hypothesis first raised by Aleksei Zachvatkin (1953) and endorsed by Barry OConnor (1984), was that Astigmata (*r*-strategist colonizers of ephemeral substrates) are highly derived oribatid mites that evolved as a paedomorphic clade from within the Desmonomata. The life-history patterns⁹⁰, morphological characters^{113, 115} and opisthotal oil gland chemistry data¹²⁵ were consistent with the hypothesis that Astigmata evolved from within the oribatid mites. In contrast to the evidence from morphology and oil gland chemistry, the early analysis of the 18S ribosomal and nuclear DNA did not support the origin of Astigmata within Oribatida¹⁵⁷. The phylogenetic affinities of Astigmata remained unresolved, but not for long—further studies by other authors (e.g., Dabert *et al.* 2010; Klimov *et al.* 2018), using molecular

phylogenetic tools, again convincingly placed Astigmata as a highly derived clade within Oribatida, thus rendering Oribatida themselves paraphyletic.

Structural, evolutionary and ecological aspects of Oribatida morphology are a significant research interest for RAN, and he has demonstrated how morphology can provide a phylogenetically informative set of characters for oribatid mite systematics and contribute to our understanding of their phylogenetic relationships. In collaborative studies, RAN has investigated the functional morphology of porose integumental organs⁹⁹⁻¹⁰²; ptychoid defensive mechanism^{136, 177, 186, 205}; fine structures of the gnathosoma¹⁹³; bite force of the chelicerae¹⁷⁸; cuticular calcification^{81, 82, 123}; and ecdysial cleavage lines^{93, 120}. Of particular significance has been RAN's work on morphology of juvenile stages in Oribatida^{87, 92, 98, 112, 144, 160, 208, 223, 230, 234}, a topic replete with knowledge gaps, especially in groups where juveniles and adults are not easily associated. This work has culminated recently in the catalogue of all known oribatid mite juveniles²⁰³ for 805 species in 310 genera, a massive effort—but still only a small fraction of Oribatida species described as adults.

RAN's interest in fossil Oribatida led to a series of collaborative projects^{41, 61, 68, 71, 106}, the latter paper on mite-plant associations in Paleozoic coal swamps the winner of "Outstanding Paper of 1997" award from the Society for Sedimentary Geology. Work on Paleozoic mites was followed by research on oribatid mites from acarodomatia of Eocene fossil leaves⁷⁸, from Tertiary amber^{88, 152, 170} and from Holocene stalagmites¹²¹. Some years later, this interest led to a series of publications^{188, 192, 195} on fossil oribatid mites from amber with Ekaterina Sidorchuk, which are outstanding in detail and quality.

RAN's 'favourite' taxa have been Damaeidae^{23, 27-29, 32, 35, 37, 47, 70, 86, 89, 94, 95, 127, 158, 185} and Enarthronota^{24, 34, 42, 122, 123, 160, 180, 181, 201, 208}, but other Oribatida groups have also benefitted from his attention. Significantly, he has documented⁵⁹, clarified^{12, 18, 25, 26, 76, 77} and revised^{76, 217, 234} many of the Oribatida previously recorded from North America. RAN's descriptions of new species, often done in collaboration, are too numerous to present here individually, but two deserve a special mention. Of these, the description of *Collohmanna johnstoni* Norton & Sidorchuk, 2014 is an outstanding example of a modern species description, with precision and rich details in observations on development and biology²⁰⁴. Similarly rich in detail is the description²⁰⁸ of *Nanohystrix hammerae* Norton & Fuangarworn, 2015—a single known species in the new family Nanohystricidae in Enarthronota, endemic to shrubland and forests of northern New Zealand. With an adult body length of 1–1.2 mm, *N. hammerae* is the largest known enarthronote mite outside Lohmanniidae and appears to be phylogenetically relictual. It has glassy, luminous erectile notogastral setae and unusual plesiomorphic traits (e.g., pigmented lateral eyes).

The publication that best captures RAN's breadth of thinking and his research philosophy is his 2007 Plenary Address to colleagues at the XI International Congress of Acarology in Mexico¹⁶¹. He uses examples from oribatid mites—their predator defenses, their high incidence of obligate female parthenogenesis, and the origin of the exploitative group Astigmata from the detritivorous Malaconothroidea—to advocate for diverse and holistic approaches to acarological research "that get to the heart of ultimate, evolutionary causes for large-scale patterns that we see in mite biology."

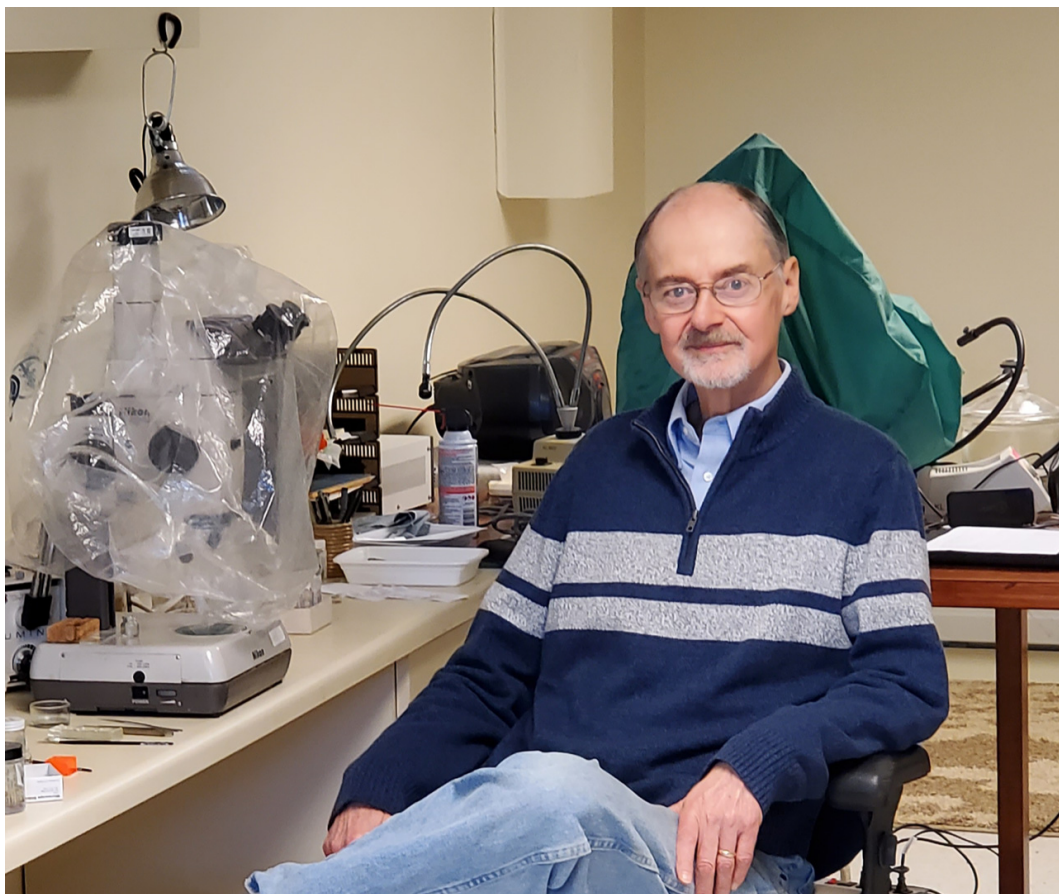
Over the course of his career, RAN held membership in a number of scientific societies, including the Acarological Society of America (charter and life member), Entomological Society of Mexico, European Association of Acarologists, and Systematic and Applied Acarology Society (China). He was the elected member of the Executive Committee of Acarological Society of America (1986–1990), member of Nominations Committee, Acarological Society of America (1990), elected member of the Executive Committee for the International Congresses of Acarology (1990–1994), and General Secretary of the Executive Committee, International Congresses of Acarology (1994–1998). Throughout his career, RAN had been an active member of editorial and advisory boards of acarological journals, including *Experimental and Applied Acarology*,

International Journal of Acarology, Acarologia, Acta Zoologica Hungarica, Systematic and Applied Acarology, Acarina, Folia Entomologica Mexicana, Folia Entomologica Hungarica. In 2001 RAN was awarded the honorary lifetime membership in the Hungarian Academy of Science.

As Professor Emeritus since retiring at the end of 2011, RAN continues to live in the Syracuse area with his wife, Georgiana, and to carry on research and collaboration, with over 30 papers in recent years. His lasting impact in acarology is much more than the sum total of his publications—he is a patient, helpful and generous mentor, and has influenced so many learners of acarology. A multitude of students and colleagues have benefitted from his truly encyclopedic knowledge and thoughtful advice. RAN's colleagues comment on his generous and knowledgeable guidance, his great accuracy, precision and self-criticism in scientific matters, but also on his unbiased openness in discussions, and his humbleness.

Of unparalleled benefit to all working with Oribatida has always been RAN's collection of literature on oribatid mites, which includes nearly everything ever published on the subject, and which he readily makes available to colleagues. Today, this collection has been digitized and has become the part of regularly updated PDF Library of all literature on Oribatida, which is of inestimable value to the global community of oribatologists.

With seven mite genera and 29 species named in his honour, the RAN name has been already woven into the fabric of acarological history. Here, we hope to have convinced you that Professor Emeritus Roy A. Norton is the most worthy recipient of the 2022 McMurtry Award for Lifetime Achievement in Acarology.



Acknowledgements

We would like to thank Heinrich Schatz, Mark Maraun, Michael Heethoff and Elizabeth Franklin for contributing their [very high] opinions of Roy A. Norton, which were helpful in writing this article. We are grateful to Hans Klompen for providing information on students of The Acarology Summer Program at OSU and to Ronald Ochoa for the photograph. Thank you to Zhi-Qiang Zhang for the invitation to write the article.

Bibliography

ROY A. NORTON—publications 1973-current

1. Norton, R.A. (1973) *Macrocheles ontariensis* n. sp., a new mite (Acarina, Macrochelidae) from fresh-water beach debris in New York. *Journal of the Kansas Entomological Society*, 46(1), 101–107.
2. Norton, R.A. (1973) The ecology of soil and litter spiders. In: D.L. Dindal (ed.) *Proceedings of the 1st Soil Microcommunities Conference, USAEC, Conf. 711076, National Technical Information Service, USDC, Springfield*, pp. 138–156
3. Norton, R.A. (1973) Phoretic mites associated with the hermit flower beetle, *Osmoderma eremicola* (Knoch) (Coleoptera, Scarabaeidae). *American Midland Naturalist*, 90(2), 447–449.
<https://doi.org/10.2307/2424466>
4. Norton, R.A. & Ide, G.S. (1974) *Scutacarus baculitarsus agaricus* n. subsp. (Acarina, Scutacaridae) from commercial mushroom houses, with notes on phoretic behavior. *Journal of the Kansas Entomological Society*, 49(4), 527–534.
5. Dindal, D.L., Schwert, D. & Norton, R.A. (1975) Effects of sewage effluent disposal on community structure of soil invertebrates. In: Vanek, J. (ed.) *Progress in Soil Zoology*. Dr. W. Junk, Publ., The Hague, pp. 419–427.
https://doi.org/10.1007/978-94-010-1933-0_46
6. Dindal, D.L., Folts, D. & Norton, R.A. (1975) Effects of DDT on community structure of microarthropods in an old field. In: Vanek, J. (ed.), *Progress in Soil Zoology*. Dr. W. Junk, Publ., The Hague, pp. 505–513.
https://doi.org/10.1007/978-94-010-1933-0_56
7. Norton, R.A. (1975) Elliptochthoniidae, a new mite family (Acarina, Oribatei) from mineral soil in California. *Journal of the New York Entomological Society*, 83(3), 209–216.
8. Norton, R.A. & MacNamara, M.C. (1976) The common newt (*Notophthalmus viridescens*) as a predator of soil mites in New York. *Journal of the Georgia Entomological Society*, 11(1), 89–93.
9. Norton, R.A. & Dindal, D.L. (1976) Structure of the microarthropod community in Lake Ontario beach debris. *Environmental Entomology*, 5(4), 773–779.
<https://doi.org/10.1093/ee/5.4.773>
10. Norton, R.A. & Metz, L.J. (1977) *Euphthiracarus humeralis* n. sp. (Acarina, Oribatei) from central North Carolina. *Journal of the Georgia Entomological Society*, 12, 52–56.
11. Norton, R.A. (1977) An example of phoretomorphs in the mite family Scutacaridae. *Journal of the Georgia Entomological Society*, 12, 185–186.
12. Metz, L.J., Reeves, R.M. & Norton, R.A. (1977) The works of A.P. Jacot. In: D.L. Dindal (ed.) *Biology of Oribatid Mites*. SUNY College of Environmental Science and Forestry, Syracuse, pp. 1–31.
13. Norton, R.A. (1977) A review of F. Grandjean's system of leg chaetotaxy in the Oribatei (Acari) and its application to the family Damaeidae. In: Dindal, D.L. (ed.) *Biology of Oribatid Mites*. SUNY College of Environmental Science and Forestry, Syracuse, pp. 33–61.
14. Norton, R.A., Metz, L.J. & Sharma, G. (1978) Some mites of the family Lohmanniidae (Acarina, Oribatei) from North and South Carolina soils. *Journal of the Georgia Entomological Society*, 13, 15–24.
15. Norton, R.A. (1978) The genus *Damaeus* Koch (Acarina, Oribatei) in the eastern United States. *Acarologia*, 19, 331–353.
16. Norton, R.A., Metz, L.J. & Sharma, G. (1978) Observations on *Epilohmannoides* Jacot, 1936 (Acarina, Oribatei), with the description of a new species. *Journal of the Georgia Entomological Society*, 13, 134–148.

17. Norton, R.A. (1978) *Veloppia kananaskis* n. sp., with notes on the familial affinities of *Veloppia* Hammer (Acari, Oribatei). *International Journal of Acarology*, 4, 71–84.
<https://doi.org/10.1080/01647957808684027>
18. Norton, R.A. (1978) Notes on Nathan Banks' species of the mite genus *Carabodes*. *Proceedings of the Entomological Society of Washington*, 80, 611–615.
19. Philips, J. & Norton, R.A. (1978) *Bubophilus ascalaphus* gen. et sp. N. (Acarina, Syringophilidae) from the quills of a great horned owl. *Journal of Parasitology*, 64, 900–904.
<https://doi.org/10.2307/3279528>
20. Fain, A. & Norton, R.A. (1979) *Fagacarus verrucosus* n. g., n. sp. (Acari, Astigmata) from decaying beech wood in the U.S.A. *International Journal of Acarology*, 5, 5–8.
<https://doi.org/10.1080/01647957908683160>
21. Philips, J. & Norton, R.A. (1979) *Lardoglyphus falconidus* n. sp. (Acarina, Acaridae) from the nest of an American kestrel (*Falco sparverius* L.). *Acarologia*, 20, 128–137.
22. Norton, R.A. (1979) Damaeidae (Acari, Oribatei) collected by the Hungarian Soil Zoological Expeditions to South America. *Folia Entomologica Hungarica*, (Ser. Nov.) 32, 55–64.
23. Dindal, D.L. & Norton, R.A. (1979) Influence of human activities on community structure of soil Prostigmata. In: Rodriguez, J.G. (ed.) *Recent Advances in Acarology*, Vol. I. Academic Press, Inc., New York, pp. 619–628.
<https://doi.org/10.1016/B978-0-12-592201-2.50087-7>
24. McDaniel, B., Norton, R.A. & Bolen, E.G. (1979) Mites of the family Lohmanniidae (Acari, Oribatei) from Texas. *Proceedings of the Entomological Society of Washington*, 81, 621–629.
25. Norton, R.A. (1979) Notes on synonymies, recombinations, and lectotype designations in Nathan Banks' species of *Nothrus* (Acari, Oribatei). *Proceedings of the Entomological Society of Washington*, 81, 645–649.
26. Norton, R.A. (1979) The identity of *Pelopsis nudiuscula* (Acari, Oribatei). *Proceedings of the Entomological Society of Washington*, 81, 696–697.
27. Norton, R.A. (1979) Familial concepts in the Damaeidea as indicated by preliminary phylogenetic studies. In: Rodriguez, J.G. (ed.) *Recent Advances in Acarology*, Vol. I. Academic Press, Inc., New York, pp. 528–533.
<https://doi.org/10.1016/B978-0-12-592202-9.50076-8>
28. Norton, R.A. (1979) Aspects of the biogeography of Damaeidae sensu lato (Oribatei), with emphasis on North America. In: Rodriguez, J.G. (ed.) *Recent Advances in Acarology*, Vol. I. Academic Press, Inc., New York, pp. 535–540.
<https://doi.org/10.1016/B978-0-12-592202-9.50077-X>
29. Norton, R.A. (1979) Generic concepts in the Damaeidae (Acari, Oribatei) I. Three new taxa based on species of Nathan Banks. *Acarologia*, 20, 603–622.
30. Norton, R.A. & Metz, L. (1980) Nehypochthoniidae (Acari, Oribatei), a new mite family from the southeastern United States. *Annals of the Entomological Society of America*, 73, 54–62.
<https://doi.org/10.1093/aesa/73.1.54>
31. Norton, R.A. (1980) Observations on phoresy by oribatid mites (Acari, Oribatei). *International Journal of Acarology*, 6, 121–130.
<https://doi.org/10.1080/01647958008683206>
32. Norton, R.A. (1980) Generic concepts in the Damaeidae (Acari, Oribatei). Part II. *Acarologia*, 21, 496–513.
33. Miller, H. & Norton, R.A. (1981) Maple Gall Mites. New York State Pest Control Leaflet. SUNY–CESF, Syracuse.
34. Norton, R.A. (1982) *Arborichthonius* n. gen., an unusual enarthronote soil mite (Acarina, Oribatei) from Ontario. *Proceedings of the Entomological Society of Washington*, 84, 85–96.
35. Norton, R.A. & Palacios-Vargas, J.G. (1982) Nueva *Belba* (Oribatei, Damaeidae) de musgos epifitos de México. *Folia Entomológica Mexicana*, 52, 61–73.
36. Norton, R.A., Oconnor, B.M. & Johnston, D.E. (1983) Systematic relationships of the Pediculochelidae (Acari, Acariformes). *Proceedings of the Entomological Society of Washington*, 85, 493–512.
37. Behan-Pelletier, V. & Norton, R.A. (1983) *Epidamaeus* (Acari, Damaeidae) of arctic western North America and extreme northeast, U.S.S.R. *The Canadian Entomologist*, 115, 1253–1289.
<https://doi.org/10.4039/Ent1151253-10>

38. Norton, R.A. (1983) Tenuialidae (Acari: Oribatei): new diagnoses for supraspecific taxa. *Acarologia*, 24, 203–217.
39. Hagan, D.V. & Norton, R.A. (1983) Habitat distribution of soil oribatid mites in Bulloch County, Georgia. *Journal of the Georgia Entomological Society*, 18, 485–491.
40. Norton, R.A. (1983) Redefinition of *Mochloribatula* (Acari, Mochlozetidae), with new species, recombinations and notes on plant associations. *Acarologia*, 24, 449–464.
41. Shear, W.J., Grierson, P., Bonamo, L., Rolfe, E., Smith & Norton, R. (1984) Early land animals in North America, evidence from Devonian age arthropods from Gilboa, New York. *Science*, 224, 492–494.
<https://doi.org/10.1126/science.224.4648.492>
42. Norton, R.A. (1984) Monophyletic groups in the Enarthronota (Sarcoptiformes). In: Griffiths, D.A. & Bowman, C.E. (eds.) *Acarology VI*, Vol. I Ellis Horwood Ltd., Chichester, pp. 233–240.
43. Walter, D.E. & Norton, R.A. (1984) Body size distribution in sympatric oribatid mites (Acari, Sarcoptiformes) from California pine litter. *Pedobiologia*, 27, 99–106.
44. Norton, R.A. (1984) Book review, Primitive oribatids of the Palaearctic region (J. Balogh and S. Mahunka). *Systematic Zoology*, 33, 472–474.
<https://doi.org/10.2307/2413100>
45. Norton, R.A. (1984) Notes on Nathan Banks' and Henry Ewing's species of Mochlozetidae (Acari, Sarcoptiformes), with the proposal of a new genus. *Acarologia*, 25, 397–406.
46. Loehr, R.C., Martin, J.H., Neuhauser, E.F., Norton, R.A. & Malecki, M.R. (1985) *Land treatment of an oily waste – degradation, immobilization, and bioaccumulation*. U.S. Environmental Protection Agency, Washington, D.C. (NTIS no. PB 85–166 353/AS).
47. Behan-Pelletier, V. & Norton, R.A. (1985) *Epidamaeus* (Acari, Damaeidae) of subarctic western North America and extreme Northeastern USSR. *The Canadian Entomologist*, 117, 277–319.
<https://doi.org/10.4039/Ent117277-3>
48. Norton, R.A. (1985) *Humerobates* Sellnick, 1929 (Acari, Oribatei, Humerobatidae), misidentification of the type-species, *Notaspis humeralis* Hermann, 1804. *Bulletin of Zoological Nomenclature*, 42, 53–56.
<https://doi.org/10.5962/bhl.part.862>
49. Palacios-Vargas, J. & Norton, R.A. (1985) Dos nuevas especies de *Trichoribates* (Oribatei, Ceratozetidae) del Volcan Popocatepetl. *Folia Entomologica Mexicana*, (1984) 62, 89–109.
50. Norton, R.A. (1985) Acarina. In: Parker, S.P. (ed.) *McGraw-Hill Yearbook of Science & Technology, 1985*. McGraw-Hill, Inc., New York, pp. 89–91.
51. Norton, R.A. & Sillman, D.Y. (1985) Impact of oily waste application on the mite community of an arable soil. *Experimental and Applied Acarology*, 1, 287–305.
<https://doi.org/10.1007/BF01201569>
52. Norton, R.A. (1985) Aspects of the biology and systematics of soil arachnids, particularly saprophagous and mycophagous mites. *Quaestiones Entomologica*, 21, 523–541.
53. Norton, R.A. (1985) A variation of the Merchant-Crossley soil microarthropod extractor. *Quaestiones Entomologica*, 21, 669–671.
54. Norton, R.A. & Sanders, F. (1985) Superior micro-needles for manipulating and dissecting soil invertebrates. *Quaestiones Entomologica*, 21, 673–674.
55. Behan-Pelletier, V.M., Hill, S.B., Fjellberg, A., Norton, R.A. & Tomlin, A. (1985) Soil invertebrates, major reference texts. *Quaestiones Entomologica*, 21, 675–687.
56. Norton, R.A. & Behan-Pelletier, V.M. (1986) Systematic relationships of *Propelops*, with a modification of family-group taxa in Phenopelopoidea (Acari, Oribatida). *Canadian Journal of Zoology*, 64, 2370–2383.
<https://doi.org/10.1139/z86-353>
57. Norton, R.A. & Palacios-Vargas, J.G. (1987) A new arboreal Scheloribatidae, with ecological notes on epiphytic oribatid mites of Popocatepetl, Mexico. *Acarologia*, 28, 75–89.
58. Kurczewski, F.E., Kurczewski, E.J. & Norton, R.A. (1987) New prey records for species of nearctic Pompilidae (Hymenoptera). *Journal of the Kansas Entomological Society*, 60, 467–475.
59. Marshall, V.G., Reeves, R.M. & Norton, R.A. (1987) Catalogue of the Oribatida (Acari) of Continental United States and Canada. *Memoirs of the Entomological Society of Canada*, 139, 1–418.
<https://doi.org/10.4039/entm119139fv>
60. Norton, R.A. & Kethley, J.B. (1988) A collapsible, full-sized Berlese-funnel system. *Entomological News*, 99, 41–47.
61. Norton, R.A., Bonamo, P.M., Grierson, J.D. & Shear W.M. (1988) Oribatid mite fossils from a terrestrial

- Devonian deposit near Gilboa, New York State. *Journal of Paleontology*, 62, 259–269.
<https://doi.org/10.1017/S0022336000029905>
62. Palmer, S.C. & Norton, R.A. (1988) Changing views of sex's role in animal evolution. *American Biology Teacher*, 50, 202–207.
<https://doi.org/10.2307/4448709>
 63. Norton, R.A., Williams, D.D. Hogg, I.D. & Palmer, S.C. (1988) Biology of the oribatid mite *Mucronothrus nasalis* (Acari, Oribatida, Trhypochthoniidae) from a small coldwater springbrook in eastern Canada. *Canadian Journal of Zoology*, 66, 622–629.
<https://doi.org/10.1139/z88-093>
 64. Wang, H.-F. & Norton, R.A. (1988) New records of Crotonioidea from China, with description of a new species of *Allonothrus* (Acari, Oribatida). *Acta Zootaxonomica Sinica*, 13, 261–273.
 65. Norton, R.A., Welbourn, W.C. & Cave, R.D. (1988) First records of Erythraeidae parasitic on oribatid mites (Acari, Prostigmata, Acari, Oribatida). *Proceedings of the Entomological Society of Washington*, 90, 407–410.
 66. Norton, R.A. (1988) Book review, *Acarology – Mites and Human Welfare* (by T.A. Woolley). *Proceedings of the Entomological Society of Washington*, 90, 524–528.
 67. Neuhauser, E.F., Norton, R.A., Loehr, R.C. & Sillman, D.Y. (1989) Earthworm and soil microarthropod responses to oily waste application. *Soil Biology and Biochemistry*, 21, 275–281.
 68. Norton, R.A., Bonamo, P.M., Grierson, J.D. & Shear W.M. (1988) Fossil mites from the Devonian of New York State. In: Channabasavanna, G.P. & Viraktamath, C.K. (eds.) *Progress in Acarology, vol. 1*. Proceedings of the 7th International Congress of Acarology, August 1986, Bangalore. Oxford & IBH Publ. Co., New Delhi, pp. 271–277.
 69. Norton, R.A., Palmer, S. C. & Wang, H.-F. (1988) Parthenogenesis in Nothridae and related groups. In: Channabasavanna, G.P. & Viraktamath, C.K. (eds.) *Progress in Acarology, vol. 1*. Proceedings of the 7th International Congress of Acarology, August 1986, Bangalore. Oxford & IBH Publ. Co., New Delhi, pp. 255–259.
 70. Wang, H.-F. & Norton, R.A. (1989) Two new species of *Damaeus* (Acari, Oribatida) from Mt. Wuyi, Fujian Province, China. *Acarologia*, 30, 163–170.
 71. Kethley, J.B., Norton, R.A., Bonamo, P.M. & Shear, W.A. (1989) A terrestrial alicorhagiid mite (Acari, Acariformes) from the Devonian of New York. *Micropaleontology* (New York), 35, 367–373.
<https://doi.org/10.2307/1485678>
 72. Norton, R.A. & Olszanowski, Z. (1989) A new *Holonothrus* (Oribatida, Crotoniidae) from Zaire, with notes on the distribution of crotoniid mites. *Revue de Zoologie Africaine*, 103, 405–412.
 73. Norton, R.A. (1990) Acarina, Oribatida. In: Dindal, D.L. (ed.) *Soil Biology Guide*. John Wiley & Sons, Inc., New York, pp. 779–803.
 74. Griffiths, D.A., Atyeo, W.T., Norton, R.A. & Lynch, C.A. (1990) The idiosomal chaetotaxy of astigmatid mites. *Journal of Zoology* (London), 220, 1–32.
<https://doi.org/10.1111/j.1469-7998.1990.tb04291.x>
 75. Palmer, S.C. & Norton, R.A. (1990) Further experimental proof of thelytokous parthenogenesis in oribatid mites (Acari, Oribatida, Desmonomata). *Experimental and Applied Acarology*, 8, 149–159.
<https://doi.org/10.1007/BF01194176>
 76. Norton, R.A. & Kethley, J.B. (1990) Berlese's North American oribatid mites, historical notes, recombinations, synonymies and type designations. *Redia*, 62 (1989), 421–499.
 77. Reeves, R.M. & Norton, R.A. (1991) Berlese's North American species of *Carabodes* (Oribatida, Carabodidae). *International Journal of Acarology*, 16, 191–199.
<https://doi.org/10.1080/01647959008683867>
 78. O'Dowd, D.J., Brew, C.R., Christophel, D.C. & Norton, R. (1991) Mite-plant associations from the Eocene of southern Australia. *Science*, 252, 99–101.
<https://doi.org/10.1126/science.252.5002.99>
 79. Norton, R.A. & Palmer, S.C. (1991) The distribution, mechanisms and evolutionary significance of parthenogenesis in oribatid mites. Chapter 7 In: Schuster, R., & Murphy, P.W. (eds.) *The Acari, Reproduction, Development and Life-History Strategies*. Chapman and Hall, London. Pp. 107–136.
https://doi.org/10.1007/978-94-011-3102-5_7
 80. Palmer, S.C. & Norton, R.A. (1991) Taxonomic, geographic and seasonal distribution of thelytokous parthenogenesis in the Desmonomata (Acari, Oribatida). *Experimental and Applied Acarology*, 12, 67–81.

- <https://doi.org/10.1007/BF01204401>
81. Norton, R.A. & Behan-Pelletier, V.M. (1991) Calcium carbonate and calcium oxalate as cuticular hardening agents in oribatid mites (Acari, Oribatida). *Canadian Journal of Zoology*, 69, 1504–1511.
<https://doi.org/10.1139/z91-210>
 82. Norton, R.A. & Behan-Pelletier, V.M. (1991) Epicuticular calcification in *Phyllozetes* (Acari, Oribatida). In: Dusbábek, F. & Bukva, V. (eds.) *Modern Acarology*. Proceedings of the 8th International Congress of Acarology, August 1990, České Budějovice. SPB Academic Publishing, The Hague, pp. 323–324, pl 33
 83. Palmer, S.C. & Norton, R.A. (1992) Genetic diversity in thelytokous oribatid mites (Acari, Acariformes, Desmonomata). *Biochemical Systematics and Ecology*, 20, 219–231.
 84. Norton, R.A. & Lions, J.-C. (1992) North American Synichotritiidae (Acari, Oribatida). 1. *Apotritia walkeri* n.g., n. sp., from California. *Acarologia*, 33, 285–301.
 85. Norton, R.A., Kethley, J.B., Johnston, D.E. & Oconnor, B.M. (1993) Phylogenetic perspectives on genetic systems and reproductive modes of mites. In: Wrensch, D.L. & Ebbert, M.A. (eds) *Evolution and Diversity of Sex Ratio in Insects and Mites*. Chapman & Hall, NY, pp. 8–99.
 86. Wang, H.-F. & Norton, R.A. (1993) A new species of the genus *Dyobelba* from China. *Acta Zootaxonomica Sinica*, 18, 66–69.
 87. Seniczak, S. & Norton, R.A. (1993) The morphology of juvenile stages of moss mites of the family Nothridae (Acari, Oribatida). III. *Zoologischer Anzeiger*, 230, 19–33.
 88. Norton, R.A. & Poinar, G.O. (1993) Reassessment and new records of oribatid mite fossils from Tertiary Neotropical amber. *Acarologia*, 34, 57–68.
 89. Wang, H.-F. & Norton, R.A. (1993) Three new species of *Epidamaeus* (Oribatida, Damaeidae) from China. *Acta Zootaxonomica Sinica*, 18, 312–321.
 90. Norton, R.A. (1994) Evolutionary aspects of oribatid mite life-histories and consequences for the origin of the Astigmata. Chapter 5 In: Houck, M. (ed.) *Mites, Ecological and Evolutionary Analyses of Life-History Patterns*. Chapman & Hall, NY, pp. 99–135.
https://doi.org/10.1007/978-1-4615-2389-5_5
 91. Wrensch, D.L., Kethley, J.B. & Norton, R.A. (1994) Cytogenetics of holokinetic chromosomes and inverted meiosis, keys to the evolutionary success of mites, with generalizations on eukaryotes. Chapter 11 In: Houck, M. (ed.) *Mites, Ecological and Evolutionary Analyses of Life-History Patterns*. Chapman & Hall, NY, pp. 282–343.
https://doi.org/10.1007/978-1-4615-2389-5_11
 92. Seniczak, S. & Norton, R.A. (1994) The morphology of juvenile stages of moss mites of the family Trhypochthoniidae (Acari, Oribatida), II. *Zoologischer Anzeiger*, 233, 29–44.
 93. Norton, R.A. & Kethley, J.B. (1994) Ecdysial cleavage lines of acariform mites (Arachnida, Acari). *Zoologica Scripta*, 23, 175–191.
<https://doi.org/10.1111/j.1463-6409.1994.tb00383.x>
 94. Norton, R.A. & Ryabinin, N.A. (1994) New alpine damaeid mite (Acari, Oribatida) from New Hampshire, USA. *Acarologia*, 35, 373–380.
 95. Wang, H.-F. & Norton, R.A. (1995) A new species of *Belba* and new records of *Belba* and *Porobelba* from China (Acari, Oribatida, Damaeidae). *Acta Zootaxonomica Sinica*, 20, 49–59.
 96. Swift, S.F. & Norton, R.A. (1995) Some oribatid mites (Acari, Acariformes) from Mt. Kaala, Oahu. *Bishop Museum Occasional Papers*, 42, 50–52.
 97. Krivolutsky, D.A., Lebrun, P., Kunst, M., Akimov, I.A., Bayartogtokh, B., Vasiliu, N., Golosova, L.D., Grishina, L.G., Karppinen, E., Kramnoy, V.J., Laskova, L.M., Luxton, M., Marshall, V.G., Matveenko, A.A., Netuzhilin, I.A., Norton, R.A., Sitnikova, L.G., Smrž, J., Starý J., Tarba, Z.M., Shaldybina, E.S. & Eitminavičiūtė, I.S. (1995) *Oribatid Mites. Morphology, Development, Phylogeny, Ecology, Methods of Study and Characteristics of the Model Species Nothrus palustris C.L. Koch, 1839*. Nauka Press, Moscow, 224 pp. [in Russian]
 98. Norton, R.A., Behan-Pelletier, V.M. & Wang, H.-F. (1996) The aquatic oribatid mite genus *Mucronothrus* in Canada and the western U.S.A. (Acari: Trhypochthoniidae). *Canadian Journal of Zoology*, 74, 926–949.
<https://doi.org/10.1139/z96-106>
 99. Norton, R.A., Alberti, G., Weigmann, G. & Woas, S. (1997) Porose integumental organs of oribatid mites (Acari, Oribatida), 1. Overview of types and distribution. *Zoologica (Stuttgart)*, 146, 1–31.
 100. Alberti, G., Norton, R.A., Adis, J., Fernandez, N.A., Kratzmann, M., Moreno, A., Franklin, E., Weigmann,

- G. & Woas, S. (1997) Porose integumental organs of oribatid mites (Acari, Oribatida), 2. Fine structure. *Zoologica* (Stuttgart), 146, 33–114.
101. Norton, R.A. & Alberti, G. (1997) Porose integumental organs of oribatid mites (Acari, Oribatida), 3. Evolutionary and ecological aspects. *Zoologica* (Stuttgart), 146, 115–143.
102. Alberti, G., Norton, R.A., Adis, J., Fernandez, N. A., Franklin, E., Kratzmann, M., Moreno, A., Ribiero, E., Weigmann, G. & Woas, S. (1997) Porose areas and related organs in oribatid mites (Oribatida). In: Mitchell, R., Horn, D.J., Needham, G.R. & Welbourn, W.C. (eds.) *Proceedings of the 11th International Congress of Acarology*. Ohio Biological Survey, Columbus, pp. 277–283.
103. Norton, R.A., Graham, T. & Alberti, G. (1997) A rotifer-eating ameronothroid (Acari: Ameronothridae) mite from ephemeral pools on the Colorado Plateau. In: Mitchell, R., Horn, D.J., Needham, G.R. & Welbourn, W.C. (eds.) *Proceedings of the 11th International Congress of Acarology*. Ohio Biological Survey, Columbus, pp. 539–542.
104. Estrada-Venegas, E., Norton, R.A. & Moldenke, A.R. (1997) Unusual sperm transfer in *Pilogalumna* sp. (Acari, Oribatida). In: Mitchell, R., Horn, D.J., Needham, G.R. & Welbourn, W.C. (eds.) *Proceedings of the 11th International Congress of Acarology*. Ohio Biological Survey, Columbus, pp. 565–567.
105. Norton, R.A. (1997) Les Acariens Oribates. Études en Acarologie No. 1, a book review. *International Journal of Acarology*, 23, 221–222.
<https://doi.org/10.1080/01647959708683567>
106. Labandeira, C.C., Phillips, T. & Norton, R.A. (1997) Oribatid mites and the decomposition of plant tissues in Paleozoic coal-swamp forests. *Palaios*, 12, 319–351. [winner of “Outstanding Paper of 1997” award from Society for Sedimentary Geology]
<https://doi.org/10.2307/3515334>
107. Norton, R.A. (1997) Book review, *Eriophyoid Mites – Their Biology, Natural Enemies and Control*. *Integrated Pest Management Reviews*, 2, 214–215.
108. Casanueva, M.E. & Norton, R.A. (1997) New nothroid mites from Chile, *Novonothrus covarrubiasi* n. sp. and *Novonothrus puyehue* n. sp. (Acari, Oribatida). *Revista Chilena de Historia Natural*, 70, 435–445.
109. Perrot-Minnot, M.-J. & Norton, R.A. (1997) Obligate thelytoky in oribatid mites: no evidence for *Wolbachia*-inducement. *The Canadian Entomologist*, 129, 691–698.
<https://doi.org/10.4039/Ent129691-4>
110. Swift, S.F. & Norton, R.A. (1998) Preliminary report on the diversity of oribatid mites (Acari, Oribatida) of the Hawaiian Islands. *Occasional Papers of the Bishop Museum*, 57, 1–44.
111. Hunt, G.S., Norton, R.A., Kelley J.P.H., Colloff, M.J. & Lindsay, S.M. (1998) *An Interactive Glossary of Oribatid Mites, CD-ROM*. CSIRO Publishing, Melbourne.
112. Seniczak, S., Norton, R.A. & Wang, H.-F. (1998) The morphology of juvenile stages of moss mites of the family Thrypochthoniidae (Acari, Oribatida), and the taxonomic status of some genera and species. *Zoologischer Anzeiger*, 237, 85–95.
113. Norton, R.A. (1998) Morphological evidence for the evolutionary origin of Astigmata (Acari, Acari-formes). *Experimental and Applied Acarology*, 22, 559–594.
<https://doi.org/10.1023/A:1006135509248>
114. Lions, J.-C. & Norton, R.A. (1999) North American Synichotritiidae (Acari, Oribatida) 2. *Synichotritia spinulosa* and *S. caroli*. *Acarologia*, 39(3), 265–284.
115. Norton, R.A. (1999) Morphological evidence for the evolutionary origin of Astigmata (Acari, Acari-formes). In: Bruin, J., van der Geest, L.P.S. & Sabelis, M.W. (eds.) *Evolution and Ecology of the Acari*. Kluwer Academic Publishers, Dordrecht, The Netherlands, pp. 45–72.
https://doi.org/10.1007/978-94-017-1343-6_3
116. Wang, H.-F., Norton, R.A. & Lu, J.-Q. (1999) Notes on the development of *Afronothrus incisivus*, with new distribution records from Asia and Australia. *Systematic and Applied Acarology*, 4, 111–120.
<https://doi.org/10.11158/saa.4.1.16>
117. Casanueva, M.E. & Norton, R.A. (1998) *Novonothrus kethleyi* spec. nov., a new nothroid mite (Acari, Oribatida) from Chile. *Studies on Neotropical Fauna and Environment*, 33 (1999), 60–64.
<https://doi.org/10.1076/snfe.33.1.60.2175>
118. Norton, R.A. & Kinnear, A. (1999) New Australian records of xerophilic acariform mites (Oribatida and Prostigmata). *The Australian Entomologist*, 26, 53–55.
119. Estrada-Venegas, E., Norton, R.A., Equihua-Martínez, A., Romero Nápoles, J., Trinidad Santos, J. & González Hernández, H. (1999) Biología y nueva sinonimia de *Archeozetes longisetosus* Aoki (Acari-

- Oribatida) de La Mancha, Veracruz, Mexico. *Folia Entomologica Mexicana*, 107, 41–50.
120. Norton, R.A., Florian, M.E. & Manning, L.E. (2001) Ecdysial cleavage line in *Paralycus* sp. (Acari, Oribatida, Pediculochelidae). *International Journal of Acarology*, 27, 97–99.
<https://doi.org/10.1080/01647950108684235>
 121. Polyak, V.J., Cokendolpher, J.C., Norton, R.A. & Asmerom, Y. (2001) A wetter and cooler late Holocene climate in the southwestern USA from mites preserved in stalagmites. *Geology*, 29(7), 643–646.
 122. Norton, R.A. (2001) Systematic relationships of Nothrolahmanniidae, and the evolutionary plasticity of body form in Enarthronota (Acari, Oribatida). In: Halliday, R.B., Walter, D.E., Proctor, H.C., Norton, R.A. & Colloff, M.J. (eds) *Acarology – Proceedings of the 10th International Congress of Acarology*. CSIRO Publishing, Melbourne, pp 58–75.
 123. Alberti, G., Norton, R.A. & Kasbohm, J. (2001) Fine structure and mineralization of cuticle in Enarthronota and Lohmannioidea (Acari, Oribatida). In: Halliday, R.B., Walter, D.E., Proctor, H.C., Norton, R.A. & Colloff, M.J. (eds) *Acarology – Proceedings of the 10th International Congress of Acarology*. CSIRO Publishing, Melbourne, pp 230–241.
 124. Olszanowski, Z., Szywilewska, A. & Norton, R.A. (2001) New moss mite of the genus *Camisia* (Acari, Oribatida, Camisiidae) from the western Nearctic region. *Genus*, 12, 395–406
 125. Sakata, T. & Norton, R.A. (2001) Opisthonorotal gland chemistry of early-derivative oribatid mites (Acari) and its relevance to systematic relationships of Astigmata. *International Journal of Acarology* 27, 281–291.
<https://doi.org/10.1080/01647950108684268>
 126. Minor, M. & Norton, R.A. (2001) Effects of short-rotation forestry site preparation techniques on mite communities in soil. *Proceedings of the Short Rotation Woody Crops Operations Working Group, 3rd biennial conference*, 2000, Syracuse, NY. State University of New York, College of Environmental Science & Forestry, Syracuse, pp 185–191.
 127. Estrada-Venegas, E.G. & Norton, R.A. (2001) Biología y comportamiento de *Epidamaeus* (*Akrodamaeus*) sp. (Oribatida, Damaeidae). In: Vargas, M., Polaco, O.J. & Zúñiga, G. (eds.) *Contribuciones Entomológicas. Homenaje a la Dra. Isabel Bassols Batalla*. Instituto Politécnico Nacional, Escuela Nacional de Ciencias Biológicas, México, D.F., pp. 57–67.
 128. Olszanowski, Z. & Norton, R.A. (2002) *Paracamisia osornensis* n. gen., n. sp., (Acari, Oribatida) from Valdivian forest soil in Chile. *Zootaxa*, 25, 1–15.
<https://doi.org/10.11646/zootaxa.25.1.1>
 129. Norton, R.A. (2002) Book review, *Microscopic Anatomy of Invertebrates*, vol. 8, Chelicerate Arthropoda. G. Alberti, L. B. Coons, W. H. Fahrenbach, R. D. Farley, B. E. Felgenhauer & W. A. Shear, contributors; F. W. Harrison & R. F. Foelix, editors. Wiley–Liss, New York, Weinheim, Chichester. 1999. *Experimental and Applied Acarology*, 25, 609–612.
 130. Shimano, S., Sakata, T. & Norton, R.A. (2002) Occurrence of *Camisia solhoeyi* (Oribatida, Camisiidae) in Japan. *Acta Arachnologica*, 51, 145–147.
<https://doi.org/10.2476/asjaa.51.145>
 131. Norton, R.A. (2003) *Nothrolahmannia baloghi* n. sp. (Acari, Oribatida), from rainforest in Papua New Guinea, and reevaluation of Nothrolahmanniidae. *Acta Zoologica Hungarica*, 49(1), 25–42.
 132. Norton, R.A., Sanders, F.H. & Minor, M.A. (2003) *Euphthiracarus cooki* n. sp., a new oribatid mite (Acari, Oribatida) from Michigan and New York. In: Smith, I.M. (ed.) *An Acarological Tribute to David R. Cook – From Yankee Springs to Wheeny Creek*. Indira Publishing House, West Bloomfield, Indiana, pp. 201–210.
 133. Maraun, M., Heethoff, M., Scheu, S., Norton, R.A., Weigmann, G. & Thomas, R. (2003) Radiation in sexual and parthenogenetic oribatid mites (Oribatida, Acari) as indicated by genetic divergence of closely related species. *Experimental & Applied Acarology*, 29, 265–277.
<https://doi.org/10.1023/A:1025833814356>
 134. Sakata, T. & Norton, R.A. (2004) Opisthonorotal gland chemistry of a middle-derivative oribatid mite, *Archezogozetes longisetosus* (Acari, Trhypochthoniidae). *International Journal of Acarology*, 29(4), 345–350.
<https://doi.org/10.1080/01647950308684351>
 135. Shimano, S. & Norton, R.A. (2004) Is the Japanese oribatid mite *Euphthiracarus foveolatus* Aoki, 1980 (Acari, Euphthiracaridae) a junior synonym of *E. cribrarius* (Berlese, 1904)? *Journal of the Acarological Society of Japan*, 12(2), 115–126.

- <https://doi.org/10.2300/acari.12.115>
136. Sanders, F.H. & Norton, R.A. (2004) Anatomy and function of the ptychoid defensive mechanism in the mite *Euphthiracarus cooki* (Acari, Oribatida). *Journal of Morphology*, 259(2), 119–154.
<https://doi.org/10.1002/jmor.10183>
137. Minor, M.A., Volk, T.A. & Norton, R.A. (2004) Effects of site preparation techniques on communities of soil mites (Acari, Oribatida, Acari, Gamasina) under short-rotation forestry plantings in New York, USA. *Applied Soil Ecology*, 25, 181–192.
<https://doi.org/10.1016/j.apsoil.2003.10.002>
138. Smrž, J. & Norton, R.A. (2004) Food selection and internal processing in *Archezogozetes longisetosus* (Acari, Oribatida). *Pedobiologia*, 48, 111–120.
<https://doi.org/10.1016/j.pedobi.2003.09.003>
139. Maraun, M., Heethoff, M., Schneider, K., Scheu, S., Weigmann, G., Cianciolo, J. Thomas, R.H. & Norton, R.A. (2004) Molecular phylogeny of oribatid mites (Oribatida, Acari), evidence for multiple radiations of parthenogenetic lineages. *Experimental and Applied Acarology*, 33, 183–201.
<https://doi.org/10.1023/B:APPA.0000032956.60108.6d>
140. Minor, M.A. & Norton, R.A. (2004) Effects of soil amendments on assemblages of soil mites (Acari, Oribatida, Mesostigmata) in short-rotation willow plantings in central New York. *Canadian Journal of Forest Research*, 34, 1417–1425.
<https://doi.org/10.1139/x04-035>
141. Schneider, K., Migge, S., Norton, R.A., Scheu, S., Langel, R., Reineking, A. & Maraun, M. (2004) Trophic niche differentiation in soil microarthropods (Oribatida, Acari), evidence from stable isotope ratios ($^{15}\text{N}/^{14}\text{N}$). *Soil Biology and Biochemistry*, 36, 1769–1774.
<https://doi.org/10.1016/j.soilbio.2004.04.033>
142. Norton, R.A. (2004) John B. Kethley (1942–2004) – a personal remembrance. *International Journal of Acarology*, 30, 383–387.
<https://doi.org/10.1080/01647950408684409>
143. Chen, J., Behan-Pelletier, V. M., Wang, H-F. & Norton, R. (2004) New species of *Gymnodampia* (Acari, Oribatida, Ameroidea) from China. *Acarologia*, 44, 235–252.
144. Chen, J., Norton, R.A., Behan-Pelletier, V.M. & Wang, H-F. (2004) Analysis of *Gymnodampia* (Acari, Oribatida), with redescription of *G. setata* Jacot and description of two new species from North America. *Canadian Entomologist*, 136, 793–821.
<https://doi.org/10.4039/n04-017>
145. Oliveira, A.R., Norton, R.A. & Moraes, G.J. de. (2005) Edaphic and plant inhabiting oribatid mites (Acari, Oribatida) from Cerrado and Mata Atlântica ecosystems in the State of São Paulo, southeast Brazil. *Zootaxa*, 1049, 49–68.
<https://doi.org/10.11646/zootaxa.1049.1.4>
146. Illig, J., Langel, R., Norton, R.A., Scheu, S. & Maraun, M. (2005) Where are the decomposers? Uncovering the soil food web of a tropical mountain rain forest in southern Ecuador using stable isotopes (^{15}N). *Journal of Tropical Ecology*, 21, 589–593.
<https://doi.org/10.1017/S0266467405002646>
147. Szywilewska, A., Olszanowski, Z. & Norton, R.A. (2005) New oribatid mite of the genus *Crotonia* (Acari, Oribatida, Crotoniidae) from Chile. *Annales Zoologici* (Warsaw), 55(3), 449–452.
148. Schaefer, I., Domes, K., Heethoff, M., Schneider, K., Scheu, S., Norton, R.A. & Maraun, M. (2006) No evidence for the ‘Meselson effect’ in parthenogenetic oribatid mites (Oribatida, Acari). *Journal of Evolutionary Biology*, 19, 184–193
<https://doi.org/10.1111/j.1420-9101.2005.00975.x>
149. Heethoff, M., Domes, K., Laumann, M., Maraun, M., Norton, R.A. & Scheu, S. (2006) High genetic divergences indicate ancient separation of parthenogenetic lineages of the oribatid mite *Platynoethrus pelitifer* (Acari, Oribatida). *Journal of Evolutionary Biology*, 20 (2007), 392–402.
<https://doi.org/10.1111/j.1420-9101.2006.01183.x>
150. Peschel, K., Norton, R.A., Scheu, S. & Maraun, M. (2006) Do oribatid mites live in enemy-free space? Evidence from food choice experiments with the predatory mite *Pergamasus septentrionalis*. *Soil Biology and Biochemistry*, 38, 2985–2989.
<https://doi.org/10.1016/j.soilbio.2006.04.035>
151. Cianciolo, J.M. & Norton, R.A. (2006) The ecological distribution of reproductive mode in oribatid

- mites, as related to biological complexity. *Experimental and Applied Acarology*, 40, 1–25.
<https://doi.org/10.1007/s10493-006-9016-3>
152. Norton, R.A. (2006) First record of *Collohmanna* (*C. schusteri* n. sp.) and *Hermannia* (*H. sellnicki* n. sp.) from Baltic amber, with notes on Sellnick's genera of fossil oribatid mites (Acari, Oribatida). *Acarologia*, 46, 111–125.
 153. Heethoff, M., Bergmann, P. & Norton, R.A. (2006) Karyology and sex determination of oribatid mites. *Acarologia*, 46, 127–131.
 154. Domes, K., Norton, R.A., Maraun, M & Scheu, S. (2007) Re-evolution of sexuality breaks Dollo's law. *Proceedings of the National Academy of Sciences*, 104, 7139–7144.
<https://doi.org/10.1073/pnas.0700034104>
 155. Saporito, R.A., Donnelly, M.A., Norton, R.A., Garraffo, H.M., Spande, T.K. & Daly, J.W. (2007) Oribatid mites as a major dietary source for alkaloids in poison frogs. *Proceedings of the National Academy of Sciences*, 104, 8885–8890.
<https://doi.org/10.1073/pnas.0702851104>
 156. Laumann, M., Norton, R.A., Weigmann, G., Scheu, S., Maraun, M. & Heethoff, M. (2007) Speciation in the parthenogenetic oribatid mite genus *Tectocephus* (Acari, Oribatida) as indicated by molecular phylogeny. *Pedobiologia*, 51, 111–122.
<https://doi.org/10.1016/j.pedobi.2007.02.001>
 157. Domes, K., Althammer, M., Norton, R.A., Scheu, S. & Maraun, M. (2007) The phylogenetic relationship between Astigmata and Oribatida (Acari) as indicated by molecular markers. *Experimental and Applied Acarology*, 42, 159–171.
<https://doi.org/10.1007/s10493-007-9088-8>
 158. Bayartogtokh, B. & Norton, R.A. (2007) The *Dyobelba tectopediosa* species-group (Acari, Oribatida, Damaeidae) from Eastern North America, with notes on ecology and biogeography of world *Dyobelba*. *Zootaxa*, 1591, 39–66.
 159. Root, H., McGee, G.G. & Norton, R.A. (2007) Arboreal mite communities on epiphytic lichens of the Adirondack Mountains of New York. *Northeastern Naturalist*, 14(3), 425–438.
 160. Norton, R.A. & Behan-Pelletier, V.M. (2007) *Eniochthonius mahunkai* sp. N. (Acari, Oribatida, Eniochthoniidae), from North American peatlands, with a redescription of *Eniochthonius* and a key to North American species. *Acta Zoologica Hungarica*, 53, 295–333.
 161. Norton, R.A. (2007) Holistic acarology and ultimate causes: examples from the oribatid mites. In: Morales-Malacara, J.B., Behan-Pelletier, V., Ueckermann, E., Pérez, T.M., Estrada-Venegas, E.G. & Badii, M. (eds.) *Acarology XI, Proceedings of the International Congress*. Instituto de Biología, Facultad de Ciencias, Universidad Nacional Autónoma de México, Mexico City, pp. 3–20.
 162. Oliveira, A. R., Norton, R.A., Moraes, G.J. de & Faccini, J.L.H. (2007) Preliminary observations on courtship behavior in *Mochloribatula* (Oribatida, Mochlozetidae). In: Morales-Malacara, J.B., Behan-Pelletier, V., Ueckermann, E., Pérez, T.M., Estrada-Venegas, E.G. & Badii, M. (eds.) *Acarology XI, Proceedings of the International Congress*. Instituto de Biología, Facultad de Ciencias, Universidad Nacional Autónoma de México, Mexico City, pp. 715–718.
 163. Maraun, M., Illig, J., Sandmann, J.D., Krashevskaya, V., Norton, R.A. & Scheu, S. (2008) Soil Mites. In: Beck, E., Kottke, I., Bendix, J., Makeschin, F. & Mosandl, R. (eds) *Gradients in a Tropical Mountain Ecosystem of Ecuador. Ecological Studies 198*, Springer-Verlag, Berlin, pp. 181–192.
 164. Norton, R.A., Oliveira, A.R. & Moraes, G.J. de. (2008) First Brazilian records of the acariform mite genera *Adelphacarus* and *Gordialycus* (Adelphacaridae and Nematalycidae). *International Journal of Acarology*, 34, 91–94.
<https://doi.org/10.1080/01647950808683709>
 165. Minor, M.A. & Norton, R.A. (2008) Effects of weed-control herbicides on communities of soil mites (Oribatida and Gamasina) in short-rotation willow plantings in central New York. *Canadian Journal of Forest Research*, 38, 1061–1070.
<https://doi.org/10.1139/X07-207>
 166. Franklin, E., Norton, R.A. & Crossley, D.A., Jr. (2008) *Zygoribatula colemani* sp. Nov (Acari, Oribatida, Oribatulidae) from Granite Outcrops in Georgia, USA, with a highly variable translamella. *Zootaxa*, 1847, 34–48.
<https://doi.org/10.11646/zootaxa.1847.1.3>
 167. Root, H.T., Kawahara, A.Y. & Norton, R.A. (2007). *Anachipteria sacculifera* n. sp. (Acari, Oribatida,

- Achipteriidae) from arboreal lichens in New York State. *Acarologia*, 47, 173–181.
168. Schmelzle, S., Norton, R.A. & Heethoff, M. (2009) The ptychoid defensive mechanism in Euphthiracaroidea (Acari, Oribatida): A comparison of exoskeletal elements. *Soil Organisms*, 80(2), 227–241.
169. Heethoff, M. & Norton, R.A. (2009) Role of musculature during defecation in a particle-feeding arachnid, *Archegozetes longisetosus* (Acari, Oribatida), examined by synchrotron X-ray tomography, 3D reconstruction and *in vivo* observations. *Journal of Morphology*, 270, 1–13. (cover article for January 2009 issue)
<https://doi.org/10.1002/jmor.10667>
170. Heethoff, M., Helfen, L. & Norton, R.A. (2009) Description of *Neoliodes dominicus* n. sp. (Acari, Oribatida) from Dominican amber, aided by synchrotron X-ray microtomography. *Journal of Paleontology*, 83, 153–159. (cover article for January 2009 issue)
<https://doi.org/10.1017/S0022336000058224>
171. Norton, R.A. & Behan-Pelletier, V.M. (2009) Oribatida. Chapter 15 In: Krantz, G.W. & Walter, D.E. (eds) *A Manual of Acarology*. Texas Tech Univ. Press, Lubbock, pp. 430–564.
172. Weigmann, G. & Norton, R.A. (2009) Validity and interpretation of *Murcia* Koch, *Trichoribates* Berlese and their type species (Acari, Oribatida, Ceratozetidae). *Zootaxa*, 2107, 65–68.
<https://doi.org/10.11646/zootaxa.2107.1.4>
173. Seniczak, S., Norton, R.A. & Seniczak, A. (2009) Morphology of *Hydrozetes confervae* (Schrank, 1781) and *H. parisiensis* Grandjean, 1948 (Acari, Oribatida, Hydrozetidae), and keys to European species of *Hydrozetes* Berlese, 1902. *Zoologischer Anzeiger*, 248, 71–83.
<https://doi.org/10.1016/j.jcz.2009.01.001>
174. Maraun, M., Erdmann, G., Schulz, G., Norton, R., Scheu, S. & Domes, K. (2009) Multiple convergent evolution of arboreal life in oribatid mites indicates the primacy of ecology. *Proceedings of the Royal Society, B* 276, 3219–3227.
<https://doi.org/10.1098/rspb.2009.0425>
175. Seniczak, S., Norton, R.A. & Seniczak, A. (2009) Morphology of *Eniochthonius minutissimus* (Berlese, 1904) and *Hypochthonius rufulus* C. L. Koch, 1835 (Acari, Oribatida, Hypochthonioidea). *Zoologischer Anzeiger*, 59, 373–386.
<https://doi.org/10.3161/000345409X476440>
176. Heethoff, M., Norton, R.A., Scheu, S., Maraun, M. (2009) Parthenogenesis in oribatid mites (Acari, Oribatida). In: Schön, I., Martens, K. & van Dijk, P. (eds.) *Lost Sex – The Evolutionary Biology of Parthenogenesis*. Springer, pp. 241–257.
https://doi.org/10.1007/978-90-481-2770-2_12
177. Schmelzle, S., Helfen, L., Norton, R.A. & Heethoff, M. (2009) The ptychoid defensive mechanism in Euphthiracaroidea (Acari, Oribatida): A comparison of muscular elements with functional considerations. *Arthropod Structure & Development*, 38, 461–472.
<https://doi.org/10.1016/j.asd.2009.07.001>
178. Heethoff, M. & Norton, R.A. (2009) A new use for synchrotron X-ray microtomography (SR- μ CT), three-dimensional biomechanical modeling of chelicerate mouthparts and calculation of theoretical bite forces. *Invertebrate Biology*, 128, 332–339.
<https://doi.org/10.1111/j.1744-7410.2009.00183.x>
179. Norton, R.A., Franklin, E. & Crossley, D.A., Jr. (2010) *Scapheremaeus rodickae* n. sp. (Acari, Oribatida, Cymbaeremaeidae) associated with temporary rock pools in Georgia, with key to *Scapheremaeus* species in eastern USA and Canada. *Zootaxa*, 2393, 1–16.
<https://doi.org/10.11646/zootaxa.2393.1.1>
180. Norton, R.A. & Corpuz-Raros, L. (2010) *Nothrolohmannia samarensis* sp. n. (Acari, Oribatida, Hypochthoniidae) from Samar Island, Philippines. *Systematic and Applied Acarology*, 15, 39–46.
<https://doi.org/10.11158/saa.15.1.5>
181. Norton, R.A. (2010) Systematic relationships of Lohmanniidae (Acari, Oribatida). In: Sabelis, M.W. & Bruin, J. (eds.) *Trends in Acarology – Proceedings of the 12th International Congress of Acarology*. Springer, The Netherlands, pp. 9–16.
https://doi.org/10.1007/978-90-481-9837-5_2
182. Laumann, M., Bergmann, P., Norton, R.A. & Heethoff, M. (2010) First cleavages, preblastula and blastula in the parthenogenetic mite *Archegozetes longisetosus* (Acari, Oribatida) indicate holoblastic rather than superficial cleavage. *Arthropod Structure and Development*, 39, 276–286.

- <https://doi.org/10.1016/j.asd.2010.02.003>
183. Illig, J., Norton, R.A., Scheu, S. & Maraun, M. (2010) Density and community structure of soil- and bark-dwelling microarthropods along an altitudinal gradient in a tropical montane rainforest. *Experimental and Applied Acarology*, 52, 49–62
<https://doi.org/10.1007/s10493-010-9348-x>
184. Schaefer, I., Norton, R.A., Scheu, S & Maraun, M. (2010) Arthropod colonization of land – Linking molecules and fossils in oribatid mites (Acari, Oribatida). *Molecular Phylogenetics and Evolution*, 57, 113–121.
<https://doi.org/10.1016/j.ympev.2010.04.015>
185. Miko, L. & Norton, R.A. (2010) *Weigmannia* n. gen. from eastern North America, with redescription of the type species, *Porobelba parki* Jacot, 1937 (Acari, Oribatida, Damaeidae). *Acarologia*, 50(3), 343–356.
<https://doi.org/10.1016/j.ympev.2010.04.015>
186. Schmelzle, S., Helfen, L., Norton, R.A. & Heethoff, M. (2010) The ptychoid defensive mechanism in *Phthiracarus longulus* (Acari, Oribatida, Phthiracaridae): Exoskeletal and muscular elements. *Soil Organisms*, 82(2), 253–273.
187. Laumann, M., Norton, R.A. & Heethoff, M. (2010) Acarine embryology, inconsistencies, artificial results and misinterpretations. *Soil Organisms*, 82(2), 217–235.
188. Sidorchuk, E.A. & Norton, R.A. (2010) Redescription of the fossil oribatid mite *Scutoribates perornatus*, with implications for systematics of Unduloribatidae (Acari, Oribatida). *Zootaxa*, 2666, 45–67.
<https://doi.org/10.11646/zootaxa.2666.1.3>
189. Raspotnig, G., Norton, R.A. & Heethoff, M. (2011) Oribatid mites and skin alkaloids in poison frogs. *Biology Letters*, 7, 555–556.
<https://doi.org/10.1098/rsbl.2010.1113>
190. Saporito, R.A., Norton, R.A., Andriamaharavo, N.R., Garraffo, H.N. & Spande, T.F. (2011) Alkaloids in the mite *Schelorbates laevigatus*, further alkaloids common to oribatid mites and poison frogs. *Journal of Chemical Ecology*, 37, 213–218.
<https://doi.org/10.1007/s10886-011-9914-7>
191. Maraun, M., Erdmann, G., Fischer, B.M., Pollierer, M., Norton, R.A., Schneider, K. & Scheu, S. (2011) Stable isotopes revisited, their use and limits for oribatid mite trophic ecology. *Soil Biology and Biochemistry*, 43, 877–882 (an invited “Citation Classic” review paper).
<https://doi.org/10.1016/j.soilbio.2011.01.003>
192. Sidorchuk, E.A. & Norton, R.A. (2011) The fossil mite family Archaeorchestidae (Acari, Oribatida) I, redescription of *Strieremaeus illibatus* and synonymy of *Strieremaeus* with *Archaeorchestes*. *Zootaxa*, 2993, 34–58.
<https://doi.org/10.11646/zootaxa.2993.1.3>
193. Alberti, G., Heethoff, M., Norton, R.A., Seniczak, A. & Seniczak, S. (2011) Fine structure of the gnathosoma of *Archegozetes longisetus* Aoki (Acari, Oribatida, Trhypochthoniidae). *Journal of Morphology*, 272, 1025–1079.
<https://doi.org/10.1002/jmor.10971>
194. Heethoff, M., Koerner, L. Norton, R.A. & Raspotnig, G. (2011) Tasty but protected – First evidence of chemical defense in oribatid mites. *Journal of Chemical Ecology*, 37, 1037–1043.
<https://doi.org/10.1007/s10886-011-0009-2>
195. Sidorchuk, E.A. & Norton, R.A. (2011) The fossil mite family Archaeorchestidae (Acari, Oribatida) II, redescription of *Plategeocranus sulcatus* and family-group relationships. *Zootaxa*, 3051, 14–40.
<https://doi.org/10.11646/zootaxa.3051.1.2>
196. Schatz, H., Behan-Pelletier, V.M., OConnor, B.M. & Norton, R.A. (2011) Suborder Oribatida van der Hammen, 1968. In: Zhang, Z.–Q. (ed.) *Animal Biodiversity: An Outline of Higher-level Classification and Survey of Taxonomic Richness*. *Zootaxa*, 3148, 141–148.
<https://doi.org/10.11646/zootaxa.3148.1.26>
197. Schmelzle, S., Norton, R.A. & Heethoff, M. (2012) A morphological comparison of two closely related ptychoid oribatid mite species, *Phthiracarus longulus* and *P. globosus* (Acari, Oribatida, Phthiracaridae). *Soil Organisms*, 84(2), 431–443
198. Maraun, M., Norton, R.A., Ehnes, L.B., Scheu, S. & Erdmann, G. (2012) Positive correlation between density and parthenogenetic reproduction in oribatid mites (Acari) supports the structured resource theory of sexual reproduction. *Evolutionary Ecology Research*, 14, 311–323.

199. Pahl, P., Domes, K., Schulz, G., Norton, R.A., Scheu, S., Schaefer, I. & Maraun, M. (2012) Convergent evolution of defense mechanisms in oribatid mites (Acari, Oribatida) shows no “ghosts of predation past”. *Molecular Phylogenetics and Evolution*, 65, 412–420.
<https://doi.org/10.1016/j.ympev.2012.06.030>
200. Beaty, L.E., Esser, H.J., Miranda, R. & Norton, R.A. (2013) First report of phoresy by an oribatid mite (Trhypochthoniidae, *Archezogetes magnus*) on a frog (Leptodactylidae, *Engystomops pustulosus*). *International Journal of Acarology*, 39(4), 325–326.
<https://doi.org/10.1080/01647954.2013.777783>
201. Fuangarworn, M. & Norton, R.A. (2013) Psammochthoniidae n. fam., a paedomorphic family of oribatid mites (Oribatida, Enarthronota) from sandy soil in Thailand, Brazil and the USA. *Zootaxa*, 3691(4), 473–499.
<https://doi.org/10.11646/zootaxa.3691.4.7>
202. Heethoff, M., Bergmann, P., Laumann, M. & Norton, R.A. (2013) The 20th anniversary of a model mite, a review of current knowledge about *Archezogetes longisetosus* (Acari, Oribatida). *Acarologia*, 53(4), 353–368.
<https://doi.org/10.1051/acarologia/20132108>
203. Norton, R.A. & Ermilov, S.G. (2014) Catalogue and historical overview of juvenile instars of oribatid mites (Acari, Oribatida). *Zootaxa*, 3833, 1–132.
<https://doi.org/10.11646/zootaxa.3833.1.1>
204. Norton, R.A. & Sidorchuk, E.A. (2014) *Collohmanna johnstoni* n. sp. (Acari, Oribatida) from West Virginia (U.S.A.), including description of ontogeny, setal variation, notes on biology and systematics of Collohmanniidae. *Acarologia*, 54(3), 271–334.
<https://doi.org/10.1051/acarologia/20142134>
205. Schmelzle, S., Norton, R.A. & Heethoff, M. (2015) Mechanics of the ptychoid defense mechanism in Ptyctima (Acari, Oribatida): One problem, two solutions. *Zoologischer Anzeiger*, 254, 27–40.
<https://doi.org/10.1016/j.jcz.2014.09.002>
206. Saporito, R.A., Norton, R.A., Garraffo, M.H. & Spande, T.F. (2015) Taxonomic distribution of defensive alkaloids in Nearctic oribatid mites (Acari, Oribatida). *Experimental and Applied Acarology*, 67, 317–333.
<https://doi.org/10.1007/s10493-015-9962-8>
207. Norton, R.A. & Sidorchuk, E.A. (2015) *Collohmanna Sellnick*, 1922 (Arachnida, Acari, Oribatida), proposed conservation by giving it precedence over the senior subjective synonym *Embolacarus Sellnick*, 1919. *Bulletin of Zoological Nomenclature*, 72(1), 33–40.
<https://doi.org/10.21805/bzn.v72i1.a9>
208. Norton, R.A. & Fuangarworn, M. (2015) Nanohystricidae n. fam., an unusual, plesiomorphic enarthronote mite family endemic to New Zealand (Acari, Oribatida). *Zootaxa*, 4027(2), 151–204
<https://doi.org/10.11646/zootaxa.4027.2.1>
209. Behan-Pelletier, V. & Norton, R.A. (2016) Sarcoptiformes, Oribatida. In: Thorp, J.H. & Rogers, D.C. (eds.) *Thorp and Covich's Freshwater Invertebrates* (4th ed.), Vol. II, *Keys to Nearctic Fauna*. Elsevier, Boston, MA, pp. 295–305.
210. Wehner, K., Norton, R.A., Blüthgen, N. & Heethoff, M. (2016) Specialization of oribatid mites to forest microhabitats—the enigmatic role of litter. *Ecosphere*, 7(3), e01336(online), 19 pp.
<https://doi.org/10.1002/ecs2.1336>
211. Lotfollahi, P., Movahedzade, E., Abbasi, A., Shimano, S. & Norton, R.A. (2016) Second species of the family Arborichthoniidae (Acari, Oribatida), from agricultural soil in Iran. *International Journal of Acarology*, 42(5), 229–234.
<https://doi.org/10.1080/01647954.2016.1173726>
212. Sidorchuk, E.A. & Norton, R.A. (2016) The identity and type specimens of *Collohmanna asiatica* (Acari, Oribatida, Collohmanniidae). *Acarina*, 24(1), 5–16.
<https://doi.org/10.21684/0132-8077.2016.24.1.5.16>
213. Heethoff, M., Norton, R.A. & Rasputnig, G. (2016) Once again, oribatid mites and skin alkaloids in poison frogs. *Journal of Chemical Ecology*, 42, 841–844.
<https://doi.org/10.1007/s10886-016-0758-z>
214. Brückner, A., Rasputnig, G., Wehner, K., Meusinger, R., Norton, R.A. & Heethoff, M. (2017) Storage and release of hydrogen cyanide in a chelicerate (*Oribatula tibialis*). *Proceedings of the National Academy of*

- Sciences*, 114(13), 3469–3472.
<https://doi.org/10.1073/pnas.1618327114>
215. Oliveira, A.R., Argolo, P.S., de Moraes, G.J., Norton, R.A. & Schatz, H. (2017) A checklist of the oribatid mite species (Acari, Oribatida) of Brazil. *Zootaxa*, 4245(1), 1–89.
<https://doi.org/10.11646/zootaxa.4245.1.1>
216. Di Palma, A., Krantz, G.W., Lindquist, E.E. & Norton, R.A. (2017) An homage to Prof. Dr. Gerd Alberti (1943–2016). *Acarologia*, 57(2), 459–461.
<https://doi.org/10.1051/acarologia/20174169>
217. Norton, R.A. & Ermilov, S.G. (2017) Identity of the oribatid mite *Oribata curva* and transfer to *Trichogalumna* (Acari, Oribatida, Galumnidae), with discussion of nomenclatural and biogeographic issues in the “*curva*” species–group. *Zootaxa*, 4272(4), 551–564.
<https://doi.org/10.11646/zootaxa.4272.4.4>
218. Lotfollahi, P., Movahednaze, E. & Norton, R.A. (2017) *Adelphacarus reticulatus* sp. nov. (Oribatida) and other palaeosomatid mites of grassland and agricultural habitats in East Azerbaijan Province, Iran, with notes on Adelphacaridae. *International Journal of Acarology*, 43(6), 435–443.
<https://doi.org/10.1080/01647954.2017.1337223>
219. Pequeno, P.A.C.L., Franklin, E., Norton, R.A., de Morais, J.W. & Guilherme, D.R. (2017) Spatial abundance pattern of a common soil arthropod changes suddenly with season in a tropical rainforest. *Pedobiologia*, 63, 46–51.
<https://doi.org/10.1016/j.pedobi.2017.07.002>
220. Bergmann, P., Laumann, M., Norton, R.A. & Heethoff, M. (2018) Cytological evidence for automictic thelytoky in parthenogenetic oribatid mites (Acari, Oribatida): Synaptonemal complexes confirm meiosis in *Archeogozetes longisetosus*. *Acarologia*, 58(1) 342–356.
<https://doi.org/10.24349/acarologia/20184246>
221. Amorim, S.S., Norton, R.A. & Oliveira, A.R. (2018) The neotropical mite genus *Neopilizetes* (Oribatida, Galumnidae): redescription of *N. neotropicus*, rediagnosis of the genus, and descriptions of four new species. *Zootaxa*, 4410(3), 567–599.
<https://doi.org/10.11646/Zootaxa.4410.3.10>
222. Pequeno, P.A.C.L., Franklin, E., Norton, R.A. & de Morais, J.W. (2018) A tropical arthropod unravels local and global environmental dependence of seasonal temperature-size response. *Biology Letters*, 14, 20180125.
<https://doi.org/10.1098/rsbl.2018.0125>
223. Norton, R.A. & Franklin, E. (2018) *Paraquanothrus* n. gen. from freshwater rock pools in the USA, with new diagnoses of *Aquanothrus*, Aquanothrinae, and Ameronothridae (Acari, Oribatida). *Acarologia*, 58(3), 557–627.
<https://doi.org/10.24349/acarologia/20184258>
224. Heethoff, M., Brückner, A., Schmelzle, S., Schubert, M., Bräuer, M., Meusinger, R., Dötterl, S., Norton, R.A. & Rasputnig, G. (2018) Life as a fortress – structure, function, and adaptive values of morphological and chemical defense in the oribatid mite *Euphthiracarus reticulatus* (Actinotrichida). *BMC Zoology*, 3,7 (online), 20 pp.
<https://doi.org/10.1186/s40850-018-0031-8>
225. Brückner, A., Heethoff, M., Norton, R.A. & Wehner, K. (2018) Body size structure of oribatid mite communities in different microhabitats. *International Journal of Acarology*, 44(8), 367–373.
<https://doi.org/10.1080/01647954.2018.1508248>
226. Halliday, R.B. & Norton, R.A. (2019) Case 3785 – Proposal to remove the homonymy of Cepheidae Berlese, 1896 (Acariformes) with Cepheidae Agassiz, 1862 (Cnidaria), by emending the former to Cepheusidae. *Bulletin of Zoological Nomenclature*, 76, 34–42.
<https://doi.org/10.21805/bzn.v76.a010>
227. Lindquist, E.E. & Norton, R.A. (2019) Homage to Dr Ekaterina Alekseevna Sidorchuk (1981–2019). *Acarologia*, 59(1), 174–177.
<https://doi.org/10.24349/acarologia/20194319>
228. Norton, R.A. & Ermilov, S.G. (2019) *Anderemaeus* (Acari, Oribatida)—overview, three new species from South America and reassessment of Anderemaeidae. *Zootaxa*, 4647(1), 241–289.
<https://doi.org/10.11646/zootaxa.4647.1.17>
229. Pequeno, P.A.C.L., Franklin, E. & Norton, R.A. (2019) Determinants of intra-annual population dynamics

- in a tropical soil arthropod. *Biotropica*, 52 (2020), 129–138.
<https://doi.org/10.1111/btp.12731>
230. Norton, R.A. & Behan-Pelletier, V.M. (2020) Two unusual new species of *Caleremaeus* (Acari, Oribatida) from eastern North America, with redescription of *C. retractus* and reevaluation of the genus. *Acarologia*, 60(2), 398–448.
<https://doi.org/10.24349/acarologia/20204375>
231. Pequeno, P.A.C.L., Franklin, E. & Norton, R.A. (2020) Microgeographic morphophysiological divergence in an Amazonian soil mite. *Evolutionary Biology*, 48(2), 160–169.
232. Wehner, K., Schuster, R., Simons, N.K., Norton, R.A., Blüthgen, N. & Heethoff, M. (2021) How land-use intensity affects sexual and parthenogenetic oribatid mites in temperate forests and grasslands in Germany. *Experimental and Applied Acarology*, 83, 343–373.
<https://doi.org/10.1007/s10493-020-00586-z>
233. Pequeno, P.A.C.L., Franklin, E. & Norton, R.A. (2021) Modelling selection, drift, dispersal and their interactions in the community assembly of Amazonian soil mites. *Oecologia*, 196(3), 805–814.
234. Norton, R.A. & Ermilov, S.G. (2021) Redescriptions of North American *Epidamaeus* (Acari, Oribatida, Damaeidae) species proposed by N. Banks, H.E. Ewing, A.P. Jacot, and J.W. Wilson. *Zootaxa*, 5021, 1–65.
<https://doi.org/10.11646/zootaxa.5021.1.1>
235. Norton, R.A., Ermilov, S.G. & Miko, L. (2022) *Kunstdamaeus arthurjacoti* sp. nov. (Oribatida, Damaeidae), first report of the genus in North America. *Systematic & Applied Acarology*, 27(3), 482–496.
<https://doi.org/10.11158/saa.27.3.7>

References

- Dabert, M., Witaliński, W., Kaźmierski, A., Olszanowski, Z. & Dabert, J. (2010) Molecular phylogeny of acariform mites (Acari, Arachnida): Strong conflict between phylogenetic signal and long-branch attraction artifacts. *Molecular Phylogenetics and Evolution*, 56, 222–241.
<https://doi.org/10.1016/j.ympev.2009.12.020>
- Klimov, P.B., OConnor, B.M., Chetverikov, P.E., Bolton, S.J. Pepato, A.R., Mortazavi, A.L., Tolstikov, A.V., Bauchan, G.R. & Ochoa, R. (2018) Comprehensive phylogeny of acariform mites (Acariformes) provides insights on the origin of the four-legged mites (Eriophyoidea), a long branch. *Molecular Phylogenetics and Evolution*, 119, 105–117.
<https://doi.org/10.1016/j.ympev.2017.10.017>
- OConnor, B.M. (1984) Phylogenetic relationships among higher taxa in the Acariformes, with particular reference to the Astigmata. In: Griffiths D.A. & Bowman C.E. (eds.) *Acarology VI, Vol. 1*. Ellis Horwood Ltd., Chichester, pp. 19–27.
- Wrensch, D.L. & Ebbert, M.A. (1993) *Evolution and Diversity of Sex Ratio in Insects and Mites*. Springer New York, NY, 630 pp.
- Zachvatkin, A.A. (1953) Studies on the morphology and postembryonic development of tyroglyphids (Sarcoptiformes, Tyroglyphoidea). In: Smirnov, E.S. & Dubinin, V.B. (eds) *A.A. Zachvatkin, collected scientific works*. Moscow State University Publishing House, Moscow, pp. 19–120 (In Russian).

Submitted: 29 Mar. 2022; accepted by Zhi-Qiang Zhang: 13 Apr. 2022; published: 8 Jun. 2022