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Additions to the oribatid mite fauna of the Caribbean, with a description of a new species of *Epidamaeus* (Acari, Oribatida, Damaeidae)

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ABSTRACT — A list of identified oribatid mite taxa (Acari, Oribatida) from the Caribbean (mostly Lesser Antilles) partly based on a collection of the Naturalis Biodiversity Center (Leiden, The Netherlands), including 84 species from 64 genera and 35 families, is presented; of these, *Grandjeania bicaudata*, *Scheloribates* (*Scheloribates*) *milleri*, *Protoribates oblongus*, and *Orthogalumna saeva* are recorded in the Neotropical region for the first time. A new species of *Epidamaeus* from the Bahamas is described; *E. bahamensis* **n. sp.** differs from *E. flagelloides* Norton, 1979 by the morphology of notogastral setae, prodorsal tubercles *Dp* and parastigmatic tubercles *Sa*, and the absence of prodorsal tubercles *Bp*. Moreover, a new combination, *Dyobelba palaciosi* (Iglesias and Guzmán, 2012) **n. comb.**, is proposed.

KEYWORDS — mites; fauna; list of taxa; record; new species; morphology; systematics; Neotropical region

ZOOBANK — 47CBA113-F86D-4E9C-B49F-70A6D9F9A9D7

INTRODUCTION

The oribatid mite fauna (Acari, Oribatida) of small Islands of the Caribbean (for example, Lesser Antilles, Bahamas) is poorly known (e.g. Willmann 1936; Mahunka 1978, 1985a, b, 1998).

This work is the final report (see Ermilov 2016a, b) of our study of oribatids from the Caribbean (mostly Lesser Antilles) based on previously unstudied material from the collections of the Naturalis Biodiversity Center, Leiden, The Netherlands. The primary goal is to present a list and new findings of identified taxa.

A second goal is to describe and illustrate a new species of the genus *Epidamaeus* Bulanova-Zachvatkina, 1957 of the family Damaeidae—*E. bahamensis* **n. sp.** At present, this genus comprises about 80 species, which are distributed in the Holarctic, Neotropical and Oriental regions. The main generic characteristics were summarized by Miko (2006).

In addition, the systematic placement of one damaeid mite, *Epidamaeus palaciosi* Iglesias and Guzmán, 2012 is discussed.

MATERIALS AND METHODS

Material — Oribatid mites (stored in ethanol) were received (one part of the large materials) from the Naturalis Biodiversity Center, Leiden, The Netherlands, The samples (soil/leaf litter) were collected by P. Wagenaar Hummelinck (1907–2003) during

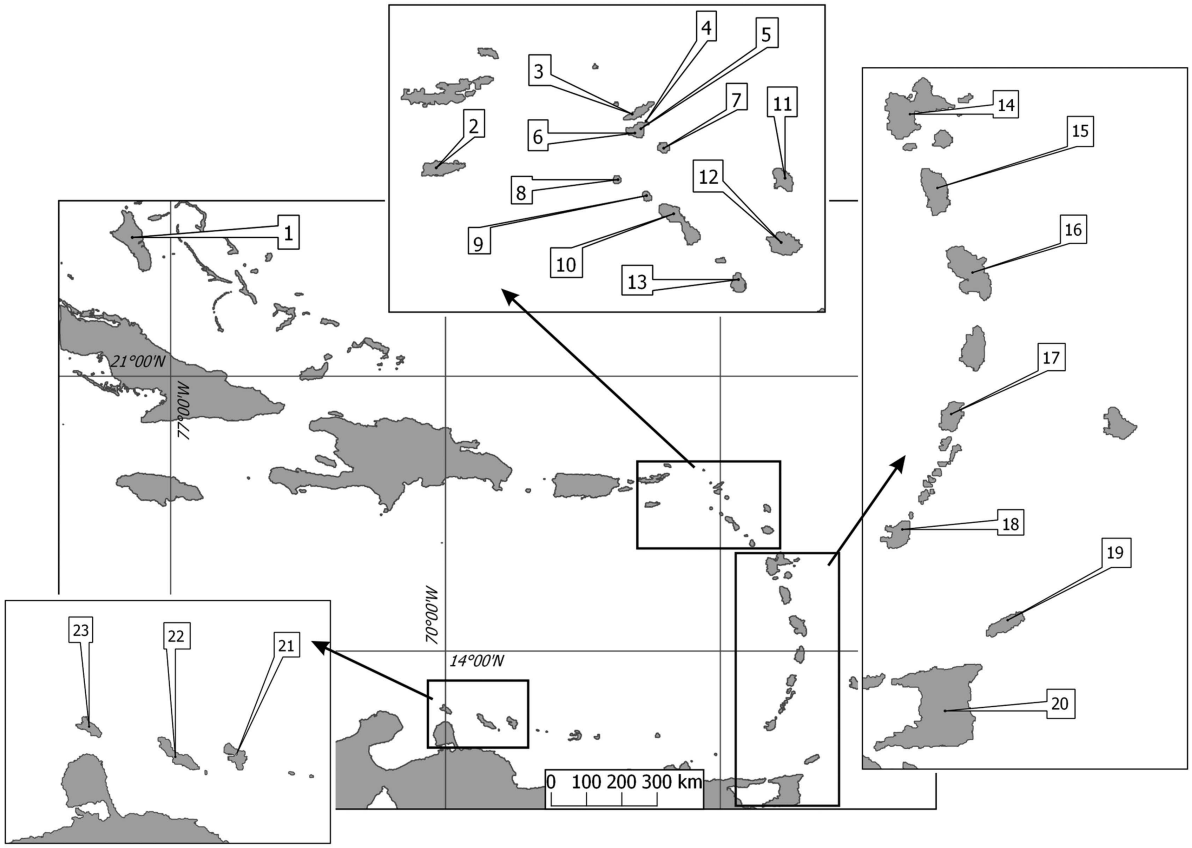

FIGURE 1: Map of localities on the Caribbean: 1 – Bahamas; 2 – Virgin Islands; 3 – Anguilla; 4 – Tintamarre Island; 5 – Saint Martin; 6 – Sint Maarten; 7 – Saint-Barthélemy; 8 – Saba; 9 – Sint Eustatius; 10 – Saint-Kitts; 11 – Barbuda; 12 – Antigua; 13 – Montserrat; 14 – Guadeloupe; 15 – Dominica; 16 – Martinique; 17 – Saint Vincent; 18 – Grenada; 19 – Tobago; 20 – Trinidad; 21 – Bonaire; 22 – Curaçao; 23 – Aruba.

his voyages in the Caribbean. Oribatids were sorted by M. Sellnick (1884–1971) from the following Islands (Fig. 1) and sites:

Dutch Antilles, Bonaire (21 on Fig. 1)

•48A (this code – hereinafter – refers to the codes used by P. Wagenaar Hummelinck in 1981) Fontein, near spring, 12°15′N, 68°18′W, 30.III.1937 (the original label – hereinafter – is given, sometimes slightly modified)

•180 Lac Bay, 12°6′7.01″N, 68°13′14.38″W, 29.III.1937

•183 Cave of Watapana, Lima, 1.IV.1937

•878 Isla di Chico near Boca Chinite, sandy key surrounded by Rhizophora and saltflats, some low shrubs with Sporobolus, 12°7′5.37″N, 68°13′45.58″W, 17.VIII.1967

•880 Lac Bay, Cai, muddy sand with *Avicennia*, debris, 12°6′11.01″N, 68°13′19.09″W, 16.IX.1967

Antigua (12 on Fig. 1)

•591 Near Bats Cave, 17°1′0″N, 61°45′0″W, 13.VII.1955

•593 Parham Hill, South slope, 14.VII.1955

•594 Friars Hill, weathered rock, scattered shrubs, debris in semi-cultivated pasture, 16.VII.1955

•594A Friars Hill, South of Agricultural Experimental Station, leaf-sheaths of *Tillandsia*, 16.VII.1955

•595A Near Yepton Mill, West of Saint John's, decomposed rocks, cultivated area with grasses, shrubs, cacti and *Tamarindus*, under pieces of rock, dead wood, 17°7′N, 61°52′W, 17.VII.1955

Virgin (2 on Fig. 1)

•615 Saint Croix, Fredensborg Hill, south slope,

marly limestone, semi-cultivated area with scanty plant growth, some debris, II–VI.1955

Anguilla (3 on Fig. 1)

•482 Forest Point, Saltwell, 18°02′09″N, 63° 02′45.2″W, 18.VI.1949

•483 Long Bay, 18°11′27.6″N, 63°07′53″W, 18.VI.1949

•486 Upper Prickley Pear Island, 18°15′50.20″N, 63°10′26.62″W, 17.VI.1949

Barbuda (11 on Fig. 1)

•596 Martello Tower, 17°35′38.73″N, 61°49′49.40″W, 8.VII.1955

•599 Highlands, sinkhole of Dark Cave, 17°37′25.86″N, 61°45′03.63″W, 6.VII.1955

•831 Coco Point Beach, 17°32′59.10″N, 61°45′57.50″W, 23.VIII.1967

Dutch Antilles, Sint Eustatius (9 on Fig. 1)

•297 Oranjestad, 17°29′N, 62°58′W, 18.III.1937

•424 White Wall base, 17.469555°N, 62.956178°W, 109 m a.s.l., 6.VIII.1949

•430 Glass Bottle, West of Quill, 17°28′1.61″N, 62°58′0.91″W, 12.VII.1949

•432 Billy Gut, downtown, 17°28′57.94″N, 62°59′3.60″W, 11.VII.1949

•433 Concordia Bay, 17°30′14.95″N, 62°58′41.51″W, 8.VII.1949

Trinidad (20 on Fig. 1)

•295 Tetron Bay, northwest Trinidad, 7.V.1936

•295A Four Roads, northwest Trinidad, 7.V.1936

•572 N-range, Cerro del Aripo, 10°44′N, 61°15′W, 30.I.1955

•574 North Coast Road near La Vache Bay, schists, shrubs and weeds near watertrack, leaf debris with ferns and mosses, 10°44′57.32″N, 61° 28′48.12″W, 29.i.1955

•575A Saint Augustine, Imperial College of Tropical Agriculture, 10°38′33.12″N, 61°24′2.69″W, 31.I.1955

•576 Gaspar Grande Island, chimney of cave, 10°40′N, 61°38′W, 11.I.1955

•576A Gaspar Grande Island, limestone, chimney of 20 m deep cave with a few shrubs and trees around (shade), debris of Clusia on clayish soil, mould, 10°39′51.10″N, 61°39′53.79″W, 11.I.1955

•577 Monos Island, South Sea Bay, sand, schist debris, abandoned cocos grove, some debris of Cocos, 10°40′N, 61°41′W, 10.I.1955

•580 Chacachacare Island, Bande du Sud, 10°40′30.31″N 61°45′26.24″W, 1.I.1955

•654 Bamboo Grove, Fish Experimental Station, 2×1×2/3, concrete tank, algae, *Eichhornia* and some *Utricularia*, fresh, 29.I.1955

Tobago (19 on Fig. 1)

•582 South of airport near West Point, limestone, scattered trees in semi-cultivated grassy area, rocks with plant debris, cattle dung, 11°8′52.58″N 60°50′26.44″W, 17.I.1955

•585 Little Tobago Island, at landing, volcanic rock, shrubs and scattered small trees, rock fissures with debris and debris, 11°18′2.02″N, 60°30′18.52″W, 18.I.1955

•657 Frenchman's River, near Speyside, rapidly flowing rivulet with pools, semi-permanent, volcanic rock, very small algae, 11°16′9.89″N, 60°32′52.31″W, 18.I.1955

Dominica (15 on Fig. 1)

•845 Portsmouth, Prince Rupert Point Swamp, 15°34′11.45″N, 61°27′19.13″W, 15.VII.1967

•844 Roseau near Botanical Garden, soft tuffoid rocky slope, growth of shrubs, trees and bamboo, some debris, 15°17′59.18"N, 61°22′58.32"W, 14.VIII.1967

Saint Kitts (10 on Fig. 1)

•417 Saint Christopher, Morne Hills, East of Basseterre, 17°18′N, 62°44′W, 29.VI.1949

•419 La Guérite, Agricultrural Experimental Station, 2.VIII.1949

•420 Wingfield River, 30.VI.1949

•421 Brimston Hill, top, 17°20′49.49″N, 62°50′9.32″W, 30.VIi.1949

Grenada (18 on Fig. 1)

•586 Point Salines, volcanic tuffs, scattered shrubs on grassy slopes near coast, rock debris with some debris and cow dung, 12°0′N, 61°47′W, 26.I.1955

•587 Saint Georges, Martin Bay, decomposed volcanic rock, scattered shrubs and trees near shore, rock debris, behind the bark and near base of dead *Ceiba*, 12°4′N, 61°45′W, 22.I.1955

•588 Corinth Estate, Saint David, volcanic rock, cocoa estate with banana and coconut trees, leaf debris of *Theobroma*, *Musa* and *Cocos*, 25.I.1955

•589 Saint George, Grand Etang Road, at bridge, 12°3′1.95″N, 61°45′13.74″W, 24.I.1955

•590 Near Grand Etang, forest, volcanic tuffs, forest with ferns, *Selaginella* and mosses near lake, wood debris, ferns and mosses, 12°5′44.48″N, 61°41′46.74″W, 24.I.1955

Saint Vincent (17 on Fig. 1)

•856 Calliaqua Bay at Johnson Point, scanty plant debris with leaves of *Coccoloba uvifera* (*Uca*), 13°7′24.21″N, 61°11′37.91″W, 10.VII.1967

•857 Calliaqua Bay at Johnson Point, remains of building, plant debris on and in fissures of masonry, 13°7′48.66″N, 61°11′41.53″W, 10.VII.1967

Dutch Antilles, Curaçao (22 on Fig. 1)

•79C Pool San Pedro, 12°15′19.64″N, 69°02′40.20″W, 5.III.1955

•204 Oost Seinpost Fuik, 12°4′N, 68°47′W, 9.IX.1936

•206 Santa Barbara, northwest slope of Tafelberg, 12°4′13.78″N, 68°50′9.29″W, 4.XI.1936

•235 Western foot of Seroe Christoffel, 10.XI.1936

•238 Boshi di Westpunt, 12°22′44.3″N, 69°09′41.4″W, 27.X.1936

Dutch Antilles, Aruba (23 on Fig. 1)

•247 Boca Prins, dunes, 12°29′54.02″N, 69°54′27.18″W, 9.I.1937

•251 Quadirikiri Cave southeast of Fontein, 12°58′54.51″N, 69°53′53.79″W, 9.II.1937

•253 Boca Grandi, 12°26′N, 69°52′W, 5.I.1937

•257 Hafje bij Pos Grandi, Rooi Lamoenchi, 12°27″32.36″N 69°57′28.79″W, 29.XII.1936

•562 Eagle Petroleum Company, sink hole in low limestone terrace, scanty shrubs, some leaf debris of Croton and Prosopis, 11.VII.1955

•632 Mangel Corá tunnel, Lago Oil Company refinery, 12.4203°N, 69.8694°W, 2.V.1955

Dutch Antilles, Sint Maarten (6 on Fig. 1)

•458A Point Blanche, considerable growth of shrubs and small trees, among pieces of rock and debris, on shrubs, 18°0′24.03″N, 63°2′35.50″W, 29.VII.1967

•609 Little Bay Pond, limestone and sand along brackish water pond with boulders, *Hippomane* trees and litter, 18°1′12.89″N, 63°3′54.65″W, 4.VI.1955

•829 Point Blanche Bay, 18°0′4.63″N, 63°2′11.05″W, 9.VII.1967

French Antilles, Martinique (16 on Fig. 1)

•766 Islet Hardy, eastern shore, porous limestone, *Sesuvium* in fissures and among *S. portulacastrum*, 14°25′2.40″N, 60°49′54.70″W, 11.II.1964.

French Antilles, Saint Martin (5 on Fig. 1)

•474A Devils Hole Cave, limestone cave without vegetation (shady to dusky), weathered soil with bat faeces (*Tadarida brasiliensis*), rock debris, 18.0726N, 63.1189W, 26.VII.1955

•532 Puddle in Rambaud Vallley North of Marigot, 18°4′N, 63°4′W, 20.V.1949

•541 Devils Hole Cave Pool, 18.0726°N 63.1189°W, 4.VIII.1949

Dutch Antilles, Saba (8 on Fig. 1)

•298 Road to the Bottom at S-curve, 17°37′N, 63°14″W, 18.III.1937

•437 Hellsgate, slope of the Mountain, 17°38′32.44″N, 63°13′44.37″W, 25.VII.1949

•439B Near to mountain (top of Mt Scenery), 17°38′4.01″N, 63°14′16.69″W, 26.VII.1949

•443 Thais Hill, 17°37′21.02″N, 63°14′46.39″W, 28.VII.1949

•444 Great Hill, 17°37′34.34″N, 63°15′8.62″W, 19.VII.1949

•714 Cove Bay, andesite, shore vegetation, sandy leaf debris of *Coccoloba uvifera*, 17°38′34.43″N, 63°13′17.74″W, 5.X.1963

French Antilles, Guadeloupe (14 on Fig. 1)

•727 Source de la Baie Nord-Ouest, W of Moule, permanent pool in connection with swamp with *Avicennia* and *Rhizophora* at about 20 m distance, sandy mud, grasses and ferns, 16°20′32.11″N, 61°22′42.70″W, 29.I.1964.

•733 La Désirade, North of Grande Anse, limestone, dense growth of high shrubs and small trees, rock debris and plant debris, for the greater part *Coccoloba uvifera*, 16°18′N, 61°4′W, 26.I.1964

•751 Marie-Galante, Viex Fort River, Embouchure, mouth of rivulet dammed by sandy bar, sand and soft mud, algae, *Ruppia* and *Rhizophora*, 15°59′18.02″N, 61°18′1.68″W, 31.I.1964

Bahamas (1 on Fig. 1)

•493 New Providence Island, Blue Hills at Hunt's Cave, 22.VIII.1949

French Antilles, Saint-Barthelémy (7 on Fig. 1)

•449 Gustavia yard, 17°53′46.37″N, 62°50″49.80″W, 5.VI.1949.

•451 Public, 17°54′6.47″N, 62°51′9.27″W, 4.VI.1949

French Antilles, Tintamarre (4 on Fig. 1)
•454 White Bay, 18°6′57.38″N, 62°59′15.68″W, 20.VI.1949
•455 Bluff N of White Bay (Baie Blanche), 18°6′57.38″N, 62°59′15.68″W, 20.VI.1949

British Antilles, Montserrat (13 on Fig. 1)
•837 Plymouth, Agricultural Experimental Gardens, 16°42′N, 62°13′W, 20.VII.1967

Methods — Specimens were mounted in lactic acid on temporary cavity slides for measurement and illustration. Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate. Notogastral width refers to the maximum width in dorsal aspect. Lengths of body setae were measured in lateral aspect. All measurements are presented in micrometers. Formulas for leg setation are given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (famulus included). Formulas for leg solenidia are given in square brackets according to the sequence genu–tibia–tarsus.

Morphological terminology used in this paper follows that of F. Grandjean: see Travé and Vachon (1975) for general references, Norton (1977) for leg setal nomenclature, and Norton and Behan–Pelletier (2009), for overview. Systematics of oribatid mites used mostly follows that of L.S. Subías (2004, updated 2016). Identification of taxa used follows that of original descriptions, redescriptions and personal collection of the first author. Drawings were made with a camera lucida using a Carl Zeiss transmission light microscope "Axioskop-2 Plus".

List of oribatid taxa collected from the Carribbean

This list (except ptyctimous species; see Niedbała and Ermilov 2017) indicates the specific localities where oribatid mites were collected, and notes new records and general known distribution (See mostly Subías 2004, updated 2016). All specimens (except holotype) are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia. References for original descriptions of species are not presented in the "References" section.

Lohmanniidae

Haplacarus foliatus Wallwork, 1962. Locality: 298A. Distribution: Tropical region.
Meristacarus longisetosus Mahunka, 1978. Localities: 493, 589, 590, 591, 727, 845, 857, 880. Distribution: Neotropical region.
Torpacarus omittens Grandjean, 1950. Localities: 297, 486, 493. Distribution: Neotropical and Ethiopian regions.

Malaconothridae

Malaconothrus sp. (in bad condition). Locality: 79C.
Tyrphonothrus rohri (P. Balogh, 1997). Localities: 474A, 574. Distribution: Neotropical region.

Trhypochthoniidae

Afronothrus incisivus Wallwork, 1961. Localities: 295, 594A, 589. Distribution: Tropical region.
Allonothrus russeolus Wallwork, 1960. Locality: 599. Distribution: Tropical and Subtropical regions.
Allonothrus tuxtlasensis Palacios-Vargas and Iglesias, 1997. Localities: 430, 574, 577, 589. Distribution: Neotropical region.
Archegozetes longisetosus Aoki, 1965. Localities: 204, 247, 430, 443, 455, 493, 586, 588, 589, 594, 714, 837, 844, 845. Distribution: Tropical region.
Trhypochthonius tepoztecus Palacios-Vargas and Iglesias, 1997. Localities: 298, 421, 493, 593. Distribution: Mexico.

Nothridae

Nothrus willmanni Mahunka, 1983. Localities: 493, 596. Distribution: Neotropical region.

Crotoniidae

Crotonia sp. (in bad condition). Locality: 433.

Nanhermanniidae

Masthermannia mammillaris (Berlese, 1904). Locality: 48A. Distribution: Tropical and Subtropical regions.
Nanhermannia sp. (in bad condition). Locality: 439B.

Hermanniellidae

Sacculobates horologiorum Grandjean, 1962. Localities: 180, 421, 430, 451, 493, 577, 588, 591, 593, 594A, 595A. Distribution: Neotropical region.

Pheroliodidae

Lopholiodes macropunctinatum Paschoal, 1987. Localities: 421, 443, 594A. Distribution: Brazil.

Neoliodidae

Neoliodes sp. (the species is difficult to identify). Localities: 235, 253, 295, 421, 586, 594A, 596, 831.
Teleioliodes zikani (Sellnick, 1930). Localities: 206, 235, 295, 424, 443, 444, 458A, 486, 580, 585, 588, 589, 593, 594A, 829, 837, 844, 856. Distribution: Neotropical region.

Damaeidae

Epidamaeus bahamensis **n. sp.** Locality: 493. Distribution: Antilles.

Liacaridae

Dorycranosus grenadaensis Ermilov, 2016. Locality: 590. Distribution: Antilles.

Xenillidae

Xenillus brasilianus Balogh and Mahunka, 1969. Localities: 295, 576A. Distribution: Neotropical region.

Eremulidae

Eremulus foveolaltus Hammer, 1962. Localities: 493, 589. Distribution: Chile.

Basilobelbidae *Basilobelba insularis* Mahunka, 1985. Locality: 238. Distribution: Tropical region.

Oppiidae

Aeroppia adjacens Mahunka, 1985. Locality: 588. Distribution: Neotropical region and Iran.
Aeroppia hammerae Mahunka, 1985. Localities: 295, 588, 594A, 596, 845. Distribution: Antilles.
Aeroppia sculpturata Mahunka, 1985. Localities: 298, 451, 574, 576, 576A, 580, 586, 588, 593, 594, 594A, 595A, 615, 733, 837. Distribution: Antilles and Iran.
Multioppia (*Multilanceoppia*) *insularis* Mahunka, 1985. Locality: 430. Distribution: Neotropical region.
Neoamerioppia (*Ameriglobоppia*) *extrema* (Mahunka, 1985). Localities: 421, 443, 455, 588, 589. Distribution: Neotropical region.
Oppiella (*Oppiella*) *nova* (Oudemans, 1902). Locality: 474A. Distribution: Cosmopolitan.

Dampfiellidae

Beckiella vitiosa Mahunka, 1985. Locality: 589. Distribution: Antilles.

Otocepheidae

Plenotocepheus sp. (it is a new species, which is described in other paper). Locality: 576A.

Carabodidae

Carabodes (*Phyllocarabodes*) *calcaratus* (Mahunka, 1985). Localities: 424, 455. Distribution: Antilles.
Cubabodes verrucatus Balogh and Mahunka, 1980. Locality: 588. Distribution: Neotropical region.
Kalloia simpliseta Mahunka, 1985. Localities: 295, 451, 576A, 588, 593. Distribution: Neotropical region.

Hydrozetidae

Hydrozetes ringueleti (Fernández, 1984). Localities: 582, 654. Distribution: Argentina.

Cymbaeremaeidae

Scapheremaeus latus Mahunka, 1985. Localities: 430, 657. Distribution: Antilles.

Scutoverticidae

Arthrovertex baloghi Mahunka, 1978. Localities: 632, 657. Distribution: Antilles.
Arthrovertex hauseri Mahunka, 1985. Locality: 589. Distribution: Neotropical region.

Phenopelopidae

Eupelops spongiosus Mahunka, 1998. Localities: 421, 588, 591. Distribution: Neotropical region.

Microzetidae

Cosmozetes rohri Balogh and Mahunka, 1969. Localities: 576A. Distribution: Neotropical region.

Ceratozetidae

Ceratozetes platyrhinoides Hammer, 1961. Locality: 591. Distribution: Neotropical region.

Punctoribatidae

Lamellobates molecula (Berlese, 1916). Locality: 575A. Distribution: Neotropical region.

Drymobatidae

Drymobates silvicola Grandjean, 1930. Localities: 449, 574, 589, 590, 609. Distribution: Antilles.

Mochlozetidae

Dynatozetes obesus Grandjean, 1960. Localities: 298, 443, 493, 594. Distribution: Neotropical region.
Mochloribatula multiporosa Mahunka, 1978. Localities: 297, 451, 486, 714. Distribution: Neotropical region.
Mochlozetes penetrabilis Grandjean, 1930. Locality: 430. Distribution: Neotropical region and Japan.
Unguizetes similis Mahunka, 1998. Localities: 430, 443, 575A, 589, 878. Distribution: Neotropical region.

Oribatulidae

Grandjeania bicaudata (Balogh, 1961). Locality: 574. Distribution: Angola. New record of the species in the Neotropical region.
Zygoribatula bonairensis Willmann, 1936. Locality: 454. Distribution: Neotropical region, Mauritius, U.S.A. and Iran.

Scheloribatidae

Hemileius major (Mahunka, 1985). Localities: 297, 424, 433, 451, 562, 577, 585, 586, 591, 594, 594A, 595A, 596, 714. Distribution: Neotropical region.
Muliercula orixaensis (Badejo, Woas and Beck, 2002). Localities: 204, 257, 295, 297, 298, 419, 420, 421, 430, 451, 454, 455, 474A, 482, 483, 486, 541, 562, 586, 589, 591, 593, 594, 594A, 595A, 714. Distribution: Neotropical region.
Scheloribates (*Scheloribates*) *fimbriatus* Thor, 1930. Locality: 588. Distribution: Cosmopolitan.
Scheloribates (*Scheloribates*) *luciensis* Mahunka, 1985. Locality: 591. Distribution: Neotropical region.
Scheloribates (*Scheloribates*) *milleri* Jacot, 1936. Localities: 295, 586, 587, 588, 589. Distribution: U.S.A. New record of the species in the Neotropical region.
Scheloribates (*Scheloribates*) *praeincisus* (Berlese, 1910). Localities: 295, 298, 419, 432, 455, 577, 586, 588, 589, 591, 594A, 657, 829. Distribution: Tropical and subtropical regions.
Scheloribates (*Scheloribates*) sp. (it is a new species, which is described in other paper). Localities: 574, 585.

Oripodidae

Benoibates chacoensis Mahunka, 1984. Localities: 590, 593, 594A. Distribution: Paraguay.
Benoibates sp. (it is a new species, which is described in other paper). Localities: 591.
Oripoda lobata Mahunka, 1985. Localities: 295, 298, 432, 443, 574, 576A. Distribution: Neotropical region.

Haplozetidae

Areozetes sp. (it is a new species, which is described in other paper). Localities: 574.
Haplozetes minutus (Tseng, 1984). Locality: 449. Distribution: Taiwan and Neotropical region.
Peloribates pinguisetus Mahunka, 1985. Localities: 295, 432, 454, 585. Distribution: Antilles and U.S.A.
Protoribates oblongus (Ewing, 1909). Localities: 455, 591. Distribution: Nearctic region. New record of the species in the Neotropical region.
Protoribates paramadagascarensis Ermilov, 2016. Localities: 298, 421, 493. Distribution: Cuba.
Protoribates sp. (in bad condition). Locality: 594.
Trachyoribates ovulum Berlese, 1908. Localities: 297, 443, 589, 594A, 595A. Distribution: Tropical and Subtropical region.

Parakalummidae

Neoribates (*Perezinigokalumma*) *piton* (Mahunka, 1998). Locality: 589. Distribution: Antilles.

Nasobatidae

Nasobates mirabilis Balogh and Mahunka, 1969. Localities: 295, 421, 588. Distribution: Neotropical region.

Galumnellidae

Galumnopsis sp. (in bad condition). Locality: 572.

Galumnidae

Allogalumna (*Allogalumna*) *antillensis* (Mahunka, 1998). Localities: 493, 575A. Distribution: Antilles.
Carinogalumna genavensium (Mahunka, 1998). Locality: 298. Distribution: Antilles.
Galumna (*Galumna*) *angularis* Jeleva, Scull and Cruz, 1984. Locality: 486. Distribution: Neotropical region.
Galumna (*Galumna*) *antiguaensis* Ermilov, 2016. Localities: 419, 449, 591, 593, 594, 594A. Distribution: Antilles.
Galumna (*Galumna*) cf. *cubana* Jeleva, Scull and Cruz, 1984. Localities: 588, 589. Distribution: Cuba.
Galumna (*Neogalumna*) *harrysmiti* Ermilov, 2016. Localities: 183, 251, 298, 430, 751, 766. Distribution: Antilles.
Pergalumna (*Pergalumna*) *australis* (Pérez-Íñigo and Baggio, 1980). Locality: 585. Distribution: Neotropical region.
Pergalumna (*Pergalumna*) *bifissurata* Hammer, 1972. Localities: 298, 474A, 589. Distribution: Polynesia and Neotropical region.
Pergalumna (*Pergalumna*) *decoratissima* Pérez-Íñigo and Baggio, 1986. Localities: 532, 582, 589, 657. Distribution: Neotropical region.
Pergalumna (*Pergalumna*) *horvathorum* P. Balogh, 1997. Locality: 575A. Distribution: Neotropical region.
Pergalumna (*Pergalumna*) *silvatica* Hammer, 1961. Localities: 298, 576A. Distribution: Neotropical region.
Pergalumna (*Pergalumna*) *striata* (Pérez-Íñigo and Baggio, 1980). Locality: 589. Distribution: Brazil.
Pergalumna (*Pergalumna*) *striatiprodorsum* Ermilov, Alvarado-Rodríguez and Retana-Salazar, 2014. Locality: 443. Distribution: Costa Rica.
Pergalumna (*Pergalumna*) sp. (in bad condition). Localities: 295, 493, 574.
Orthogalumna saeva Balogh, 1961. Localities: 474A, 482. Distribution: Ethiopian region, India and Japan. New record of the species in the Neotropical region.

Description

Epidamaeus bahamensis n.sp. (Figures 2–4)

Zoobank: 61E77EBF-7394-4872-B4AD-E18853600E0C

Diagnosis — Body size: 547 – 614 × 332 – 365. Three pairs of prodorsal tubercles developed, *Ba* and *Dp* large, widely rounded, *Da* small, triangular. Rostral and lamellar setae of medium size, setiform. Interlamellar and bothridial setae very long, flagellate. Spinae adnatae thorn-like, elongate, truncate or slightly bifurcate distally. Notogastral setae p_1 longest on notogaster, flagellate, p_2 and p_3 shortest and thinnest on notogaster, setiform, other setae setiform, with flagellate tips. Parastigmatic tubercles *Sa* elongate thorn-like, *Sp* triangular. Ventrosejugal tubercles (*Va*, *Vp*) present. Discidia absent. Leg setae *d* slightly longer than σ on genua I-III.

Description — Measurements – Medium size. Body length: 614 (holotype: female), 547 (two paratypes: two males); notogaster width 365 (holotype), 332 – 348 (two paratypes). Female larger than two males.

Integument (Figs 2A–B, 3A) — Body color light brownish. Surface of body with filamentous cerotegument. Setae of prodorsum, notogaster and legs usually without cerotegument.

Prodorsum (Figs 2A–B, 3A) — Rostrum rounded. Propodolateral apophyses absent. Three pairs of prodorsal tubercles present, *Ba* and *Dp* large, widely rounded, *Da* small, triangular. Tubercles *Bp* and lateral tubercles absent. Rostral (*ro*) and lamellar (*le*) setae similar in length (102 – 106), setiform, barbed. Interlamellar (*in*, 205 – 221) and bothridial (*ss*, 340 – 348) setae flagellate, indistinctly barbed. Exobothridial setae (*ex*, 41) setiform, thin, slightly barbed.

Notogaster (Figs 2A–B, 3A) — Oval. Spinae adnatae (*sa*, 28–32) thorn-like, elongate, truncate or slightly bifurcate distally. Dorsal notogastral setae

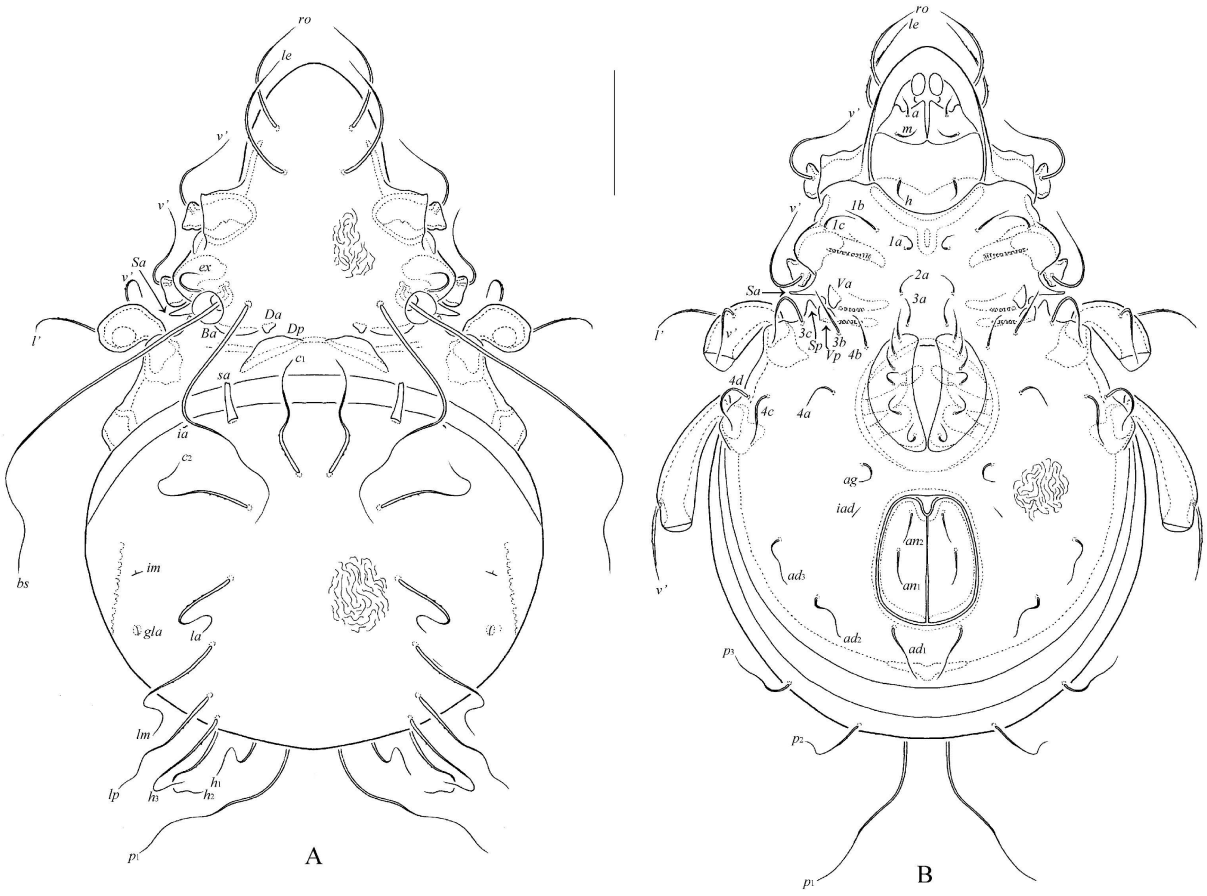

FIGURE 2: *Epidamaeus bahamensis* **n. sp.**: A – dorsal view, right half mirrored (legs excepts trochanters I–III not illustrated); B – ventral view, right half mirrored (legs excepts trochanters I–IV not illustrated). Scale bar 100 µm.

(h_1, 61 – 65, other setae 110 – 114) inserted in 2 subparallel rows, setiform, with flagellate tips, slightly barbed. Posterior setae p_1 longest on notogaster (160 – 164), flagellate, smooth; p_2 and p_3 (61) shortest and thinnest, setiform, slightly barbed. All lyrifissures (*ia*, *im*, *ip*, *ih*, *ips*) and opisthonotal gland openings (*gla*) distinct.

Gnathosoma (Fig. 3A) — Typical for *Epidamaeus* (e.g. Bayartogtokh 2000; Ermilov & Kalúz 2013). Subcapitulum longer than wide (118 × 86–90). Subcapitular setae (*h*, *m*, *a*, 41) setiform, slightly barbed. Adoral setae (10) thin, smooth. Palps (94) with setation 0–2–1–3–8(+ω). Postpalpal setae (*ep*, 6) spiniform. Chelicerae (123) with 2 setiform setae, *cha* (32) barbed, *chb* (20) ciliate unilaterally in medio-distal part. Trägårdh's organ narrow, conical.

Epimeral and lateral podosomal regions (Figs 2B, 3A) — Two pairs of parastigmatic tubercles well developed: *Sa* elongate thorn-like, *Sp* triangular. Epimeral tubercles absent. Ventrosejugal tubercles (*Va*, *Vp*) tubercle-like. Epimeral setal formula: 3–1–3–4. Epimeral setae setiform, slightly barbed, *3c*, *4a* and *4b* (53 – 57) longer than other setae (41–45). Discidia absent.

Anogenital region (Figs 2B, 3A) — Six pairs of genital (41), one pair of aggenital (*ag*, 41), two pairs of anal (an_1, an_2, 41) and three pairs of adanal (ad_1–ad_3, 45 – 49) setae setiform, indistinctly barbed.

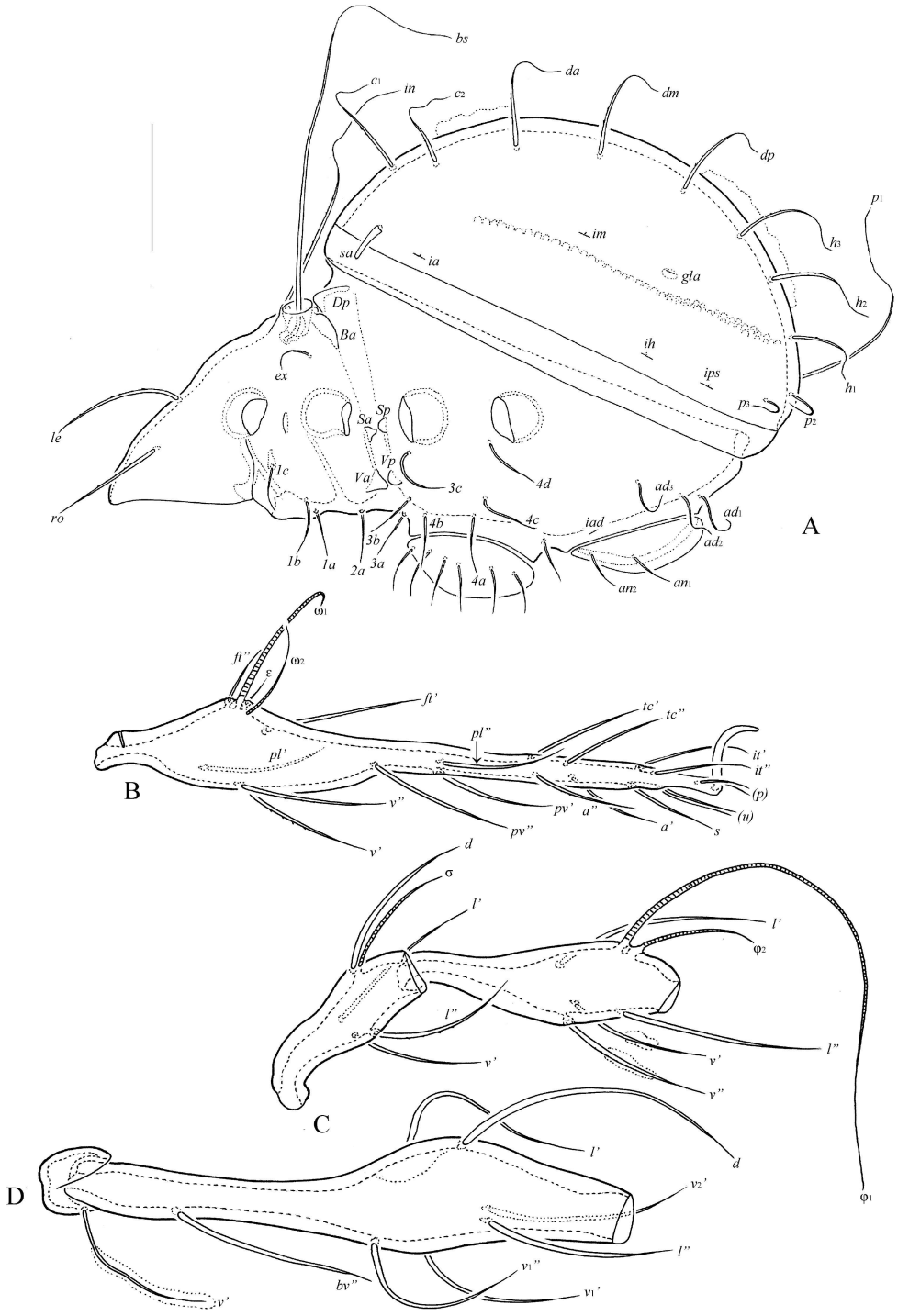

FIGURE 3: *Epidamaeus bahamensis* **n. sp.**: A – lateral view (gnathosoma and legs not illustrated); B – tarsus of leg I, right, antiaxial view; C – genu and tibia of leg I, right, antiaxial view; D – trochanter and femur of leg I, right, antiaxial view;. Scale bar 100 µm (A), scale bar 50 µm (B–D).

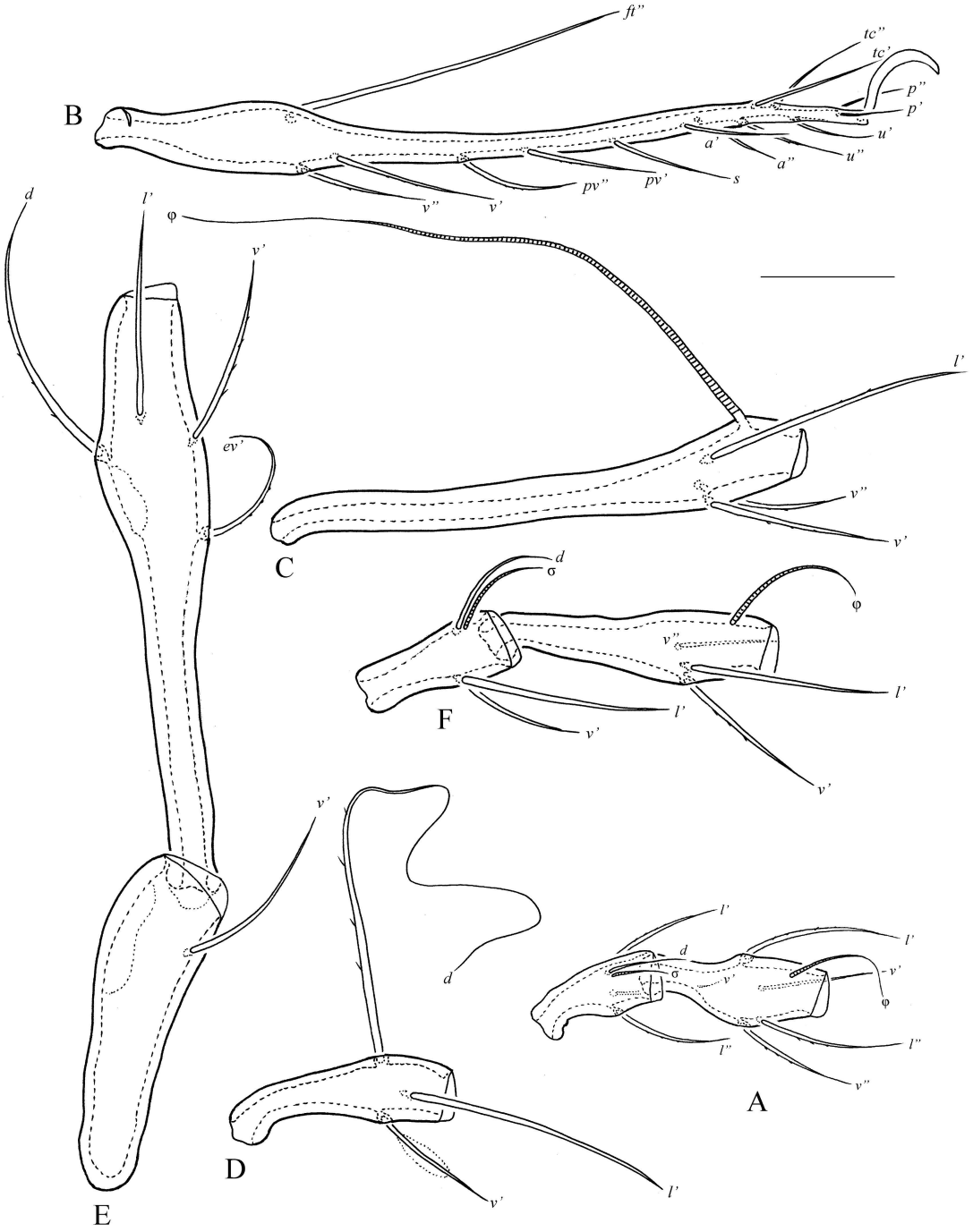

FIGURE 4: *Epidamaeus bahamensis* **n. sp.**: A – genu and tibia of leg II, right, antiaxial view; B – tarsus of leg IV, left, antiaxial view; C – tibia of leg IV, left, antiaxial view; D – genu of leg IV, left, antiaxial view; E – trochanter and femur of leg IV, left, antiaxial view; F – genu and tibia of leg III, left, slightly oblique antiaxial view. Scale bar 50 µm.

TABLE 1: Leg mean lengths (micrometers) of one paratype *Epidamaeus bahamensis* **n. sp.**

Leg	Tr	Fe	Ge	Ti	Ta	All	Leg : body mean length
I	24	237	69	86	192	608	≈1.11
II	24	147	61	86	176	494	≈0.90
III	82	139	57	106	192	576	≈1.05
IV	118	205	73	205	287	888	≈1.62

Note: Tr – trochanter, Fe – femur, Ge – genu, Ti – Tibia, Ta – tarsus.

TABLE 2: Leg setation and solenidia of adult *Epidamaeus bahamensis* **n. sp.**

Leg	Tr	Fe	Ge	Ti	Ta
I	*v′*	*d, (l), bv″, (v 1), v 2′*	*(l), v′, d σ*	*(l), (v), φ1, φ2*	*(ft), (tc), (it), (p), (u), (a), s, (pv), (pl), (v), ε, ω1, ω2*
II	*v′*	*d, (l), bv″, (v)*	*(l), v′, d σ*	*(l), (v), φ*	*(ft), (tc), (it), (p), (u), (a), s, (pv), (v), ω1, ω2*
III	*l′, v′*	*d, l′, ev′, v′*	*l′, v′, d σ*	*l′, (v), φ*	*(ft), (tc), (it), (p), (u), (a), s, (pv), (v)*
IV	*v′*	*d, l′, ev′, v′*	*d, l′, v′*	*l′, (v), φ*	*ft″, (tc), (p), (u), (a), s, (pv), (v)*

Note: Roman letters refer to normal setae, Greek letters to solenidia (except ε = famulus), d σ – seta and solenidion coupled. Single prime (′) marks setae on the anterior and double prime (″) setae on the posterior side of a given leg

Adanal lyrifissures (*iad*) located in inverse apoanal position.

Legs (Figs 3B–D, 4A–F) — Leg II shorter than body length; legs I, III, IV longer than body length (Table 1). Formulae of leg setation and solenidia: I (1–7–4–4–20) [1–2–2], II (1–6–4–4–17) [1–1–2], III (2–4–3–3–17) [1–1–0], IV (1–4–3–3–14) [0–1–0]; homologies of setae and solenidia indicated in Table 2. Setae *d* slightly longer than *σ* on leg genua I–III.

Material examined — Holotype (female) and two paratypes (both males): The Bahamas, New Providence Island, Blue Hills at Hunt's Cave, 22.VIII.1949 (P. Wagenaar Hummelinck).

Type deposition — The holotype is deposited in the collection of Naturalis Biodiversity Center, Leiden, the Netherlands; two paratypes are deposited in the collection of the Tyumen State University Museum of Zoology, Tyumen, Russia.

Etymology — The specific name *bahamensis* refers to the Bahama Islands, where the new species was collected.

Comparison — The new species is morphologically most similar to *Epidamaeus flagelloides* Norton, 1979 from Chile (see Norton 1979) in having body of medium size, bothridial and notogastral setae p_1 flagellate, and interlamellar setae long, but differs by the notogastral setae with flagellate tips (vs. without flagellate tips), prodorsal tubercles *Dp* large (vs. small), parastigmatic tubercles *Sa* elongate, thorn-like (vs. triangular), and the absence of prodorsal tubercles *Bp* (vs. present).

GENERAL REMARKS

1. The list of identified oribatid mite taxa from the Caribbean based on part of large material from the collections of the Naturalis Biodiversity Center (Leiden, The Netherlands) included 84 species from 64 genera and 35 families. Of these (except seven not identified species), 17 species are known so far only from the Antilles, 39 species from the Neotropical region and other 21 species have more wide geographic distribution. The largest number of species belongs to the families Galumnidae (15 species), Haplozetidae (7), Scheloribatidae (7), Oppiidae (6) and the genera *Pergalumna* (8), *Scheloribates* (5) and *Galumna* (4). *Muliercula orixaensis*, *Teleioliodes zikani*, *Archegozetes longisetosus*, *Hemileius major* and *Scheloribates* (*Scheloribates*) *praeincisus* prevailed on number of studied sites (26, 18, 14, 14, 13, respectively). Four species, *Grandjeania bicau-*

data, *Scheloribates* (*Scheloribates*) *milleri*, *Protoribates oblongus* and *Orthogalumna saeva*, are recorded in the Neotropical region for the first time.

2. The analysis of literature on Damaeidae species has revealed an incorrect systematic placement of one species. *Epidamaeus palaciosi* was described by Iglesias and Guzmán (2012) from Mexico. However, it (see Figs 4–10 in Iglesias and Guzmán 2012) has solenidia coupled with dorsal setae on leg tibiae II and III (vs. dorsal setae on leg tibiae II and III absent in *Epidamaeus*). All main morphological characters of *E. palaciosi* correspond to *Dyobelba* Norton, 1978 (see generic traits in Norton 1978 and Bayartogtokh et al. 2001), therefore we propose the following change: *Dyobelba palaciosi* (Iglesias and Guzmán, 2012) **n. comb.**

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