

# Annotated checklist of the acarina of Puerto Rico<sup>1,2</sup>

*Edwin Abreu-Rodríguez*<sup>3</sup>

J. Agric. Univ. P.R. 101:61-151 (2017)

## ABSTRACT

This work is a compilation of articles that report acarina (Acari) from Puerto Rico as well as new records of species collected. The new records were mounted on slides and preserved in alcohol. A total of 405 species of mites and ticks were reported from Puerto Rico. These are distributed in two superorders, four orders and two suborders with 104 families and 227 genera. Twenty-seven species are recorded for the first time from Puerto Rico. Additional host records had been annotated for other species. The bibliography includes papers in which species are described or recorded. The corresponding hosts are reported for each species and included in the indexes.

Key words: Acarina, hosts, mites, neotropics, ticks

## RESUMEN

### Lista anotada de los acarinos de Puerto Rico

Este trabajo es una recopilación de los estudios que informaron acarinos (Acari) de Puerto Rico, además de nuevos récords de especies recolectadas. Los nuevos récords de ácaros se montaron en laminillas y/o se preservaron en frascos con alcohol. Un total de 405 especies son informadas de Puerto Rico. Estas especies están distribuidas en dos superórdenes, cuatro órdenes y dos subórdenes con 104 familias y 227 géneros. Veintisiete especies se informan oficialmente por primera vez de Puerto Rico; también se informaron nuevos hospederos para otras especies. La literatura citada se refiere a aquella que mencionó especies de Puerto Rico y algunos trabajos realizados sobre estas especies. Los hospederos correspondientes para cada especie son informados y se incluyen en los índices.

Palabras clave: acarinos, ácaros, hospederos, garrapatas, neotrópico

<sup>1</sup>Presented at Entomology Symposium: *Legacy of the International Institute of Tropical Forestry (IITF) 75th Anniversary*, March 17-18, 2017, San Juan, P.R.

<sup>2</sup>Research funded in part by C-415 AES *Insect Research Collection* and USDA/CREES Hatch Project 285 *Biology of Insects of Economic Importance in Puerto Rico*.

<sup>3</sup>Professor Ad-Honorem, Department of Agroenvironmental Sciences, College of Agricultural Sciences, University of Puerto Rico-Mayagüez Campus. edwin.abreu@upr.edu

## INTRODUCTION

Acarina (which includes mites and ticks), together with spiders, harvestmen and scorpions, belong to the arthropod Class Arachnida. Arachnids differ from other arthropods by their lack of antennae, mandibles and maxillae. Instead they have mouthparts consisting of chelicerae and pedipalps (Krantz, 2009). Mites differ from other arachnids by the absence of conspicuous primary segmentation. Mites are the most diverse and abundant species of all arachnids (Walter et al., 1996).

Mites and ticks are small ranging from less than 1 mm to about 20 mm in length. Their cephalothorax and abdomen are fused into a single continuous body region, called the idiosoma. This region may present segmentation. Most mites are extremely varied in structure and habits. They constitute the group of greatest economic importance in the Arachnida.

The life cycle of many acarina include: egg, larva, protonymph, deutonymph, tritonymph, and adult. The larva has three pairs of legs while the other stages have four pairs. One exception is the eriophyid mite, which has two pairs of legs in all the developmental stages.

Phytophagous mites are very important agricultural pests. Their minute size enables them to remain undetected until damaging populations build up. Some species are vectors of virus diseases in plants. The most important phytophagous mites belong to the families Tetranychidae, Tarsonemidae, Tenuipalpidae and the superfamily Eriophyoidea. The families Acaridae and Glyciphagidae are important pests affecting stored food and human health. Members of several families are ectoparasites of vertebrates, including humans, in some or all stages of their life cycles. Many species (for example most phyto-seiids) are predators. Mites occurring in soil or ground cover accelerate organic decomposition.

Most studies of acarina from Puerto Rico deal with records, description and systematics. The papers of Baker (1949b), Chant (1959), Cromroy (1958), De León (1965a, b; 1967a), Denmark and Muma (1975), Fox (1942; 1946a, b; 1947a, b; 1948; 1949; 1950; 1957a, b; 1958a, b; 1959; 1977a, b), Fox and DeLeón (1979), Fox and García-Moll (1961), Fox et al. (1964, 1967), McGregor (1950) and Van Volkenberg (1939) described or recorded species. Papers by Abreu (1982), Abreu and Garris (1984 a, b), Abreu et al. (1987), Peck (1974, 1981) and Peck and Kukalova (1981) provide additional records. This work is necessary to update the knowledge of acarina because several new records and species have been recorded and changes have occurred in classification since the work of Wolcott (1948) was published.

## MATERIALS AND METHODS

The following checklist is mostly based on the species listed or described in the literature. Other records are based on specimens in the author's collection. This collection consists of specimens collected for several years, from many localities on the island, by the author and colleagues.

Mites were preserved in alcohol (70%) or Oudemans's solution, mounted on slides in modified Hoyer's solution and examined under phase contrast microscopy. New records of mites were based on materials identified by us or sent to specialists. Our classification and terminology essentially follows Lindquist et al. (2009). A few other papers were consulted to solve some systematic problems. Plant names followed Lioger (1985, 1988, 1994, 1995 and 1997), Axelrod (2011) and the web page Herbarium UPRRP. Recent web pages were consulted for new approaches to Acari classification: Encyclopedia of Life (2016), GBIF (2013), Hallan (2008), Proctor (1998) and Walter et al. (1996).

Some specimens of the species listed here are deposited in the author's collection at the Agricultural Experiment Station at Isabela (Acc. No. I). The others are part of the collection at the "Museo de Entomología y Biodiversidad Tropical" of the University of Puerto Rico-Mayagüez, Agricultural Experiment Station at Río Piedras (Acc. No. PR).

## RESULTS AND DISCUSSION

Taxa are listed alphabetically. Mites listed, collected by the author, are followed by locality, date, collector, hosts, identification numbers and scientist who identified the species. For others, only the locality and hosts from which mites were collected are included. Lists of synonyms of the species reported in the literature of Puerto Rico and adjacent islands are included. Synoptic bibliographical citations to Puerto Rican references are given. These are expanded in the list of references. No attempt to conduct full analysis of species synonyms was made. Indexes for acarina species, genera and hosts are included. A serial number was assigned to every species recorded and this number was used in the indexes.

Other mite species have been collected but have been identified only by family category or just mentioned as an unidentified mite collected [Abbad and Lassiera (1788), Acosta et al. (1984), Allan et al. (1973), Anonymous (1920, 1979 (a, b, c), 1984, 1985, 1987a, b, 1998, 2001), Arocho-Hernández (2015), Barberena-Arias (2008), Barberena-Arias and Aide (2006), Barberena et al. (2012), Beard (2002), Bruce (2004), Cruz et al. (1984), De León et al. (1987b), Díaz (1964a, b), Gallardo (1984), González-Flores and Inserni (1976), González and Seastedt (2000), Guarín-Vargas (2005), Hall (1929a), Heatwole and Lewis

(1973), Heneghan et al. (1999), Henricksen(1930), Joglar (2005), Legner et al. (1965), Legner and Bay (1964), Liu et al. (2013), Losos (1990), Maldonado-Capriles and Abreu (1983), Mántaras-Pabón (1991), Moreno et al. (2014), Peck and Kukalova (1981), Reagan (1984), Richardson et al. (2010), Rivera-Montalvo (2003), Smyth (1917), Toro (1988, 1999), Toro and Zamora-Echevarría (2000), Torres et al. (2000) and Tower (1924)]. Abreu (2008) and Abreu et al. (2004) presented a general summary on the status of mite records in Puerto Rico.

The common names of mites and ticks of Puerto Rico were presented by Medina-Gaud et al. (2003). The Order Opilioacarida had been mentioned from Puerto Rico from undescribed species (Camin et al., 1958) and repeated in later references (Krantz, 1978; Doreste, 1984; Woolley, 1988; Vázquez et al., 2015).

The following abbreviations are used in the list:

OSU: Ohio State University

OSAL: Ohio State Acarology Laboratory

NR: New Record

SEL: Systematic Entomology Laboratory, Maryland

#### ACKNOWLEDGMENTS

The author is deeply grateful and wishes to thank Drs. Silverio Medina-Gaud and Jenaro Maldonado-Capriles (deceased) for their support and encouragement in developing and completing this work. I am especially grateful to Dr. Medina-Gaud who was part of this project from the beginning. I am also appreciative of the acarologists (past and present) who helped with the identification of specimens or reviewed portions of this work: Dr. G. S. Ide (Ohio State University, Ohio, USA); Dr. E. W. Baker, Dr. R. L. Smiley and R. Ochoa (USDA, Systemic Entomology Laboratory, Maryland, USA); H. A. Denmark (Florida Dept. Agr. and Cons. Serv., Dept. Plant Industry, FL, USA); R. Norton (USA); J. Palacios (Univ. Central Autónoma México); A. Belloti (CIAT, Costa Rica); A. Díaz (Univ. Puerto Rico); Dr. José Mari Mutt, Dr. Rosa A. Franqui and Prof. Irma Cabrera-Asencio (Univ. Puerto Rico-Mayagüez Campus).

## Superorder Parasitiformes

### Order Ixodida

#### Family: Argasidae

1. *Argas (Persicargas) miniatus* Koch, 1844  
*Argas miniatus* Koch. Wolcott 1933: 183, 1948: 24; Maldonado-Capriles and Medina-Gaud 1977: 402; Cruz 2001: 88; Vélez 2014: 344.  
Ex hen.
2. *Argas (Persicargas) persicus* (Oken, 1818)  
*Argas persicus* (Oken). Wolcott 1948: 24; Maldonado-Capriles and Medina-Gaud 1977: 402; Vélez 2014: 344.  
Ex hen.
3. *Carios coprophilus* (McIntosh, 1935)  
*Antricola coprophilus* (McIntosh). Peck and Kukulova 1981: 64.  
*Carios coprophilus* (McIntosh). Nijhof et al. 2016.  
Ex bats, Mona Island.
4. *Carios marginatus* (Banks, 1910)  
*Antricola marginatus* (Banks). Banks 1910: 2; Fox 1947a: 258; Morel 1967: 348; Doss et al. 1974: 324.  
*Carios marginatus* (Banks). Nijhof et al. 2016. A questionable record of Banks (1910), "also from a west indian bats probable from Puerto Rico."  
*Pantricola marginatus* Banks. Cruz 2001: 91.  
Ex hen.
5. *Carios puertoricensis* Fox, 1947.  
*Ornithodoros puertoricensis* Fox, 1947a: 253; Wolcott 1948: 24; Fox 1951b: 85; Davis 1955: 76; Fox 1958a: 893; 1958b: 761; Fox and García-Moll 1961: 569; Fox et al. 1964: 887; Clifford et al. 1964: 433; Kohls et al. 1965: 346; Doss et al. 1974: 324; Fox 1977a: 509; Maldonado-Capriles and Medina-Gaud 1977: 402; Endris et al. 1989: 146; Abreu and Moya 1995: 91; Cruz 2001: 90; Guglielmone et al. 2010: 8; Vélez 2014: 346.  
*Ornithodoros (Alectorobius) puertoricensis* Fox. Morel 1967: 348; Morel and Fauran 1967: 338; Endris et al. 1989: 146; Abreu and Moya 1995: 91.  
*Alectorobius puertoricensis* (Fox). Doss et al. 1974: 324.  
*Carios puertoricensis* Fox. Nijhof et al. 2016.  
Ex *Epicrates inornatus*, *Rattus rattus*, *Rattus norvegicus* and cat.

6. *Carios talaje* (Guerin-Meneville, 1849)

*Ornithodoros talaje* (Guerin-Meneville). Maldonado-Capriles and Medina-Gaud 1977: 402; Cruz 2001: 90; Vélez 2014: 345.

*Carios talaje* (Guerin-Meneville). Nijhof et al. 2016.

Ex *Eleutherodactylus cooki*.

7. *Carios viguerasi* Cooley and Kohls, 1941

*Ornithodoros (Alectorobius) viguerasi* Cooley and Kohls. Tamsitt and Fox 1970b: 1094; Maldonado-Capriles and Medina-Gaud 1977: 403; Webb and Loomis 1977: 86; Gannon and Willig 1994: 282; Cruz 2001: 90; Gannon et al. 2005; Kurta et al. 2007: 955; Vélez 2014: 345.

*Carios viguerasi* Cooley and Kohls. Nijhof et al. 2016.

Ex *Erophylla sezekorni bombifrons*, *Erophylla sezekorni*, *Mormoops blainvillii* and *Pteronotus quadridens*.

8. *Ornithodoros* sp.

*Ornithodoros* sp. Peck 1981: 73; Garrison and Willig 1996: 220; Gannon and Willig 1994: 282.

Ex bat and *Erophylla sezekorni*.

9. *Otobius megnini* (Dugés, 1883)

*Ornithodoros megnini* (sic) Dugés. Van Volkenberg 1929: 28; Doss et al. 1974: 324.

Ex cattle and goat.

## Family: Ixodidae

10. *Amblyomma cruciferum* Neumann, 1901

*Amblyomma cruciferum* Neumann. Bequaert 1932: 776; Van Volkenberg 1939: 3; Tate 1941: 19; Fox 1947a: 258; Wolcott 1948: 22; Morel 1967: 348; Doss et al. 1974: 324; Voltzit 2007: 98; Vélez 2014: 346; Nijhof et al. 2016.

Ex *Trachemys stejnegeri* at Mona Island.

11. *Amblyomma dissimile* Koch, 1844

*Amblyomma dissimile* Koch. Tate 1941: 18; Fox 1947a: 258; Wolcott 1948: 22; Morel 1967: 343; Maldonado-Capriles and Medina-Gaud 1977: 403; Cruz 2001: 92; Vélez 2014: 346; Nijhof et al. 2016.

Ex *Bufo marinus*. Not reported again from Puerto Rico.

12. *Amblyomma quadricavum* Schulze, 1941

*Amblyomma arianae*. Keirans and Garris, 1986: 622; Cruz 2001: 93.

*Amblyomma quadricavum*. Keirans and Klompen 1996: 164; Rodríguez-Robles 2005: 172; Voltzit 2007: 98; Nijhof et al. 2016.

Ex *Alsophis portoricensis*

13. *Amblyomma torrei* Pérez-Vigueras, 1934

*Amblyomma torrei* Pérez Vigueras. Maldonado-Capriles and Medina-Gaud 1977: 403; Voltzit 2007: 113; Vélez 2014: 344.

Ex *Trachemys stejnegeri* at Mona Island and dog.

14. *Amblyomma variegatum* (Fabricius, 1794)

*Amblyomma variegatum* (Fabricius). Anonymous 1974: 33; Strickland et al. 1976: 23; Strickland et al. 1976: 39; Medina-Gaud and García-Tudurí 1977: 409; Maldonado-Capriles and Medina-Gaud 1977: 403; Anonymous 1978: 28; Thoen et al. 1980: 232; Gaztambide 1981: 1; Anonymous 1983b: 2; Garris 1983: 688; Seda 1983: 13; Anonymous 1984: 86; Uilenberg et al. 1984: 255; Zimmerman et al. 1984: 579; Garris and Scotland 1985: 368; Anonymous 1987: 82; Garris et al. 1989: 67; Barre and Garris 1990: 1; Garris and Barre 1991: 171; Bokma and Shaw 1993: 355; Barre et al. 1995: 841; Cruz 2001: 93; Prine and Hodges 2013: 1; Vélez 2014: 345; Nijhof et al. 2016; Pegram et al. 2017: 1.

Ex goat, horse and sheep.

15. *Dermacentor nitens* (Neumann, 1897)

*Dermacentor nitens* (Neumann). Van Volkenberg 1929: 28, 1935: 13, 1936: 14, 1939: 2; Tate 1941: 12; Fox 1947a: 258; Wolcott 1948: 23, 1955: 193; Becklund 1964: 7; Doss et al. 1974: 324; Schwint et al. 2008: 115; Vélez 2014: 344; Nijhof et al. 2016.

*Otocentor nitens* (Cooley). Dickmans 1945: 217.

*Anocentor nitens* (Mohler). Maldonado-Capriles and Medina-Gaud 1977: 403; Fox and De León 1983: 57; Garris 1983: 688; Keirans 1984: 831; Cruz 2001: 94.

Ex cat, cattle, goat, horse, mule, and swine.

16. *Rhipicephalus microplus* (Canestrini, 1888)

*Margaropus annulatus* (Say). Salomon and Stiles 1901: 420; May 1922: 3; Bagué 1929: 139; Doss et al. 1974: 324.

*Boophilus annulatus* var *caudatus* (Say). Dickmans 1929: 27.

*Boophilus annulatus australis* (Fuller). Van Zwaluwenberg 1916: 42, 1918a: 25; Menéndez-Ramos 1929: 219; Rosenfeld 1925: 640; Van Volkenberg 1939: 2.

*Boophilus australis* (Fuller). Stiles and Hassall 1901: 2.

*Boophilus annulatus microplus* (Canestrini). Tate 1941: 1; Crom 1992: 64.

*Boophilus* (*Margaropus*) *annulatus microplus* (Canestrini). Wolcott 1948: 22.

*Margaropus annulatus australis* (Fuller). Anonymous 1924b: 115, 1924a: 30; Bagué 1918a: 11, 1918b:83; Van Volkenberg 1939: 2; Wolcott 1955: 191. *Boophilus annulatus* (Say). Van Volkenberg 1934: 21; Maldonado-Capriles and Medina-Gaud 1977: 404; Rodríguez-Rámirez 1979: 15; Cruz 2001: 94.

*Boophilus microplus* (Canestrini). Fox 1947a: 258; Strickland et al. 1976: 43; Graham and Hourrigan 1977: 636; Anonymous 1981a: 1; 1983a: 1, 1983b: 1; Fox and De León 1983: 57; Garris and George 1983: 256; Seda 1983: 13; Vargas-Martínez 1983:1; Davey et al. 1984: 1; Ruiz and González 1984: 28; Keirans 1984: 831; Zimmerman et al. 1984: 579; Colón-Guasp 1985a: 15, 1985b: 1; Garris and George 1985: 363; Garris and Zimmerman 1985: 120; Zimmerman and Garris 1985: 628; De León 1986: 315; De León et al. 1987a: 241; Zimmerman and Garris 1987: 207; Crom 1989: 389; Garris and Popham 1990: 1403; Garris et al. 1990: 66; Wood 1990: 19; Cooke 1990: 19; Popham and Garris 1991: 271; Crom 1992: 64; Anonymous 1993: 1, 1994a: 1, b: 1; Cruz 2001: 994; Fabre-Laboy 2006: 1; Vélez 2014: 345.

*Rhipicephalus (Boophilus) microplus* (Canestrini). Urdaz-Rodríguez et al. 2009: 1465, 2012: 145.

*Rhipicephalus microplus* (Canestrini). Nijhof et al. 2016.

Additional articles on cattle tick are: Anonymous 1924a, 1924c, 1933, 1935, 1937, 1981b, 1987c, 1994b; Bagué 1920, 1921 and 1929; Cortés et al. 2003, 2005; Dickmans 1927; Ellison 1925 and 1929; Figueroa 1926; Hall 1929; Henricksen 1920; López Domínguez 1920; Menéndez-Ramos 1937a, b; Molinary-Soler 1924; Nolla 1937; Pérez-Torres 1922; Tower 1920, 1921, 1922, 1923 and 1924; Van Volkenberg 1930, 1931, 1932 and 1935; Van Zwaluwenberg 1918a and 1918b; Varras 1922.

Ex cattle, dog, goat, horse and sheep.

#### 17. *Rhipicephalus sanguineus* (Latreille, 1806)

*Rhipicephalus sanguineus* (Latreille). Dickmans 1929: 27; Anonymous 1938: 84; Van Volkenberg 1938: 7, 1939: 2; Tate 1941: 18; Fox 1947a: 258; Wolcott 1948: 23; 1955: 193; Fox 1951a: 722; Becklund 1964: 12; Doss et al. 1974: 324; Maldonado-Capriles and Medina-Gaud 1977: 403; Seda 1983: 13; Fox and De León 1986: 299; Vélez 2014: 344; Nijhof et al. 2016.

Ex dog, goat, *Rattus rattus*, and sheep.

### Order Mesostigmata

#### Family: Ameroseiidae

#### 18. *Ameroseius* sp. nr. *gracilis* (Halbert, 1923)

*Ameroseius* sp. nr. *gracilis* (Halbert). Peck 1981: 73.

Ex bat's guano.



19. *Ameroseius plumigerus* (Oudemans, 1930)  
*Kleemannia plumigera* (Oudemans). Abreu et al. 1987: 400.  
Ex cave litter.

Family: Ascidae

20. *Asca* sp.  
*Asca* sp. Mayagüez, Puerto Rico, 1.4 km on road 106, Feb. 1977, coll. J. Maldonado-Capriles, ex litter. OSAL 0038690-1; Mayagüez, Puerto Rico, road 349 km 5.3, Las Mesas, J. Maldonado-Capriles, OSAL 0038722.

21. *Asca circula* De León, 1967  
*Asca circula* De León 1967b: 58.  
Ex *Cordia corymbosa* and *Cordia alliodora*.

22. *Asca cunliffei* De León 1967  
*Asca cunliffei* De León 1967b: 48; Britto 2011:110; Moraes et al. 2016: 92; Santos et al. 2017a.  
Ex *Chromolaena odorata* (as *Osmia odorata*), *Congea tomentosa*, *Solanum rugosum*, *Inga vera* y *Lantana involucrata*.

23. *Asca duosetosa* Fox, 1946  
*Asca duosetosa* Fox, 1946b: 17; Wolcott 1948: 27; Britto 2011: 111; Moraes et al. 2016: 93; Santos et al. 2017a.  
Ex *Rattus norvegicus*.

24. *Asca equalis*, De León, 1967  
*Asca equalis*, De León 1967b: 162.  
Ex *Thunbergia erecta*.

25. *Asca garmani* Hurlbutt, 1963  
*Asca garmani* Hurlbutt. De León 1967b: 62; Abreu et al. 1987: 400; Mineiro et al. 2009: 3; Santos et al. 2017a; OSAL 0037176, 0037144 and 38725.  
Ex forest litter.

26. *Asca garmanoides* De León, 1967  
*Asca garmanoides* De León, 1967b: 55.  
Ex *Miconia foveolata*, *Prestoea acuminata* (as *Euterpe globosa*), *Lobelia portoricensis*, *Andira inermis*, and *Artocarpus altilis* (As *A. communis*).

27. *Asca muma* Hurlbutt, 1963  
*Asca muma* Hurlbutt. De León 1967b: 62.  
Ex unknown plant.

28. *Asca muricata* Fox, 1947

*Asca muricata* Fox, 1947b: 600; Castilho et al 2016: 104; Moraes et al. 2016: 239.

*Cyrtolaelaps (Digmasellus) muricata* (Fox). Ryke 1961: 134.

Ex *Rattus norvegicus*.

29. *Asca quintissima* De León 1967

*Asca quintissima* De León 1967b: 56; Britto 2011:130; Moraes et al. 2016: 105; Santos et al. 2017a.

Ex *Clibadium erosum* and *Myrcia splendens*.

30. *Asca tarsialis* De León, 1967

*Asca tarsialis* De León, 1967b: 65.

Ex *Solanum rugosum*.

31. *Cheiroseius* sp.

*Cheiroseius* sp. Abreu et al. 1987: 400.

Ex forest litter.

32. *Cheiroseius tuberculatus* (Evans and Hyatt, 1960).

*Cheiroseius tuberculatus* Puerto Rico, Cayey, south Cayey mountains, June 1975, J. Maldonado-Capriles, ex unknown, OSAL 38249.

33. *Protogamasellus primitivus* Karg, 1962

*Protogamasellus primitivus* Karg. Peck and Kukalova 1981: 64.

Ex cave litter at Mona Island.

## Family: Blattisociidae

34. *Blattisocius keegani* Fox, 1947

*Blattisocius keegani* Fox, 1947b: 599; Haines, 1979: 21; Britto 2011:180; Moraes et al. 2016:135; Santos et al. 2017b.

Ex *Rattus norvegicus*.

35. *Lasioseius* sp.

*Lasioseius* sp. Howard et al. 1990: 246. Additional record: Puerto Rico, June 1975, J. Maldonado-Capriles, ex litter, OSAL 0038113.

Ex *Cocos nucifera* fruit.

36. *Lasioseius dentatus* (Fox, 1946)

*Borinquolaelaps dentatus* Fox, 1946a: 451.

*Lasioseius dentatus* (Fox). Karg 1980: 353; Britto 2011: 234; Moraes et al. 2016: 166; Santos et al. 2017b.

Ex *Mus musculus* and *Rattus* sp. Additional record: Río Piedras, Agr. Exp. Stn., 11 Aug. 1978, E. Abreu, ex *Bambusa vulgaris* litter, Acc. No.

I-27-78; Mayagüez, 29 Mar. 2007, E. Abreu, ex *Mimosa diplotricha* (as *M. pellita*), Acc. No. I-35-2007.

37. *Lasioseius pennatus* Fox, 1949  
*Borinquolaelaps pennatus* Fox, 1949: 39.  
Ex *Rattus norvegicus*.

Family: Cercomegistidae

38. Unknown genera  
Unknown sp. Puerto Rico, Mayagüez, Mayagüez, Experimental Forest, unknown date, J. Maldonado-Capriles, ex unknown, OSAL 43363-8.

Family: Dermanyssidae

39. *Dermanyssus gallinae* (De Geer, 1778)  
*Dermanysus gallinae* (De Geer). Van Volkenberg 1929: 29 .  
Ex hen.

Family: Dinychidae

40. *Clausiadinychus* sp.  
*Clausiadinychus* sp. Abreu et al. 1987: 400. Additional record: Puerto Rico, Cayey, south Cayey mountains, June 1975, J. Maldonado-Capriles, ex unknown, OSAL 0042806-9.  
Ex forest litter.

41. *Dynichus ornatus* (Fox, 1957)  
*Phyllodinychus ornatus* Fox, 1957a: 69. Hirschmann 1979: 27;  
Hirschmann and Wiśniewski 1993: 22.  
Ex *Rattus norvegicus*.

Family: Eviphididae

42. *Eviphis* sp.  
*Eviphis* sp. Puerto Rico, June 1975, J. Maldonado-Capriles, ex litter, OSAL 0015863.

43. *Evimirus* sp.  
*Evimirus* sp. Peck 1981: 73.  
Ex bat's guano.

Family: Halarachnidae

44. *Pneumonyssus simicola* Banks, 1901  
*Pneumonyssus griffitti* Newstead. Wolcott 1948: 102.

*Pneumonyssus simicola* Banks. Furman 1954: 39; Kim et al. 1972: 137.  
Ex *Macaca mulata* (monkeys).

Family: Ichthyostomatogasteridae

45. *Asternolaelaps fecundus* Berlese, 1923  
*Asternolaelaps fecundus* Berlese. Peck 1981: 73.  
Ex bat's guano.

Family: Laelapidae

46. *Androlaelaps casalis* (Berlese, 1887)  
*Androlaelaps casalis* (Berlese). Post 1981: 18.  
Ex *Agelaius xanthomus*.

47. *Androlaelaps setosus* Fox, 1946  
*Androlaelaps setosus* Fox, 1946b: 173. Wolcott 1948: 26.  
Ex *Rattus* sp. Additional record: Ciales, Don Hito Cave, 11 Aug. 1978,  
E. Abreu, ex cave litter, Acc. No. I-2-78.

48. *Cosmolaelaps alexandrini* (Fox, 1946)  
*Ischnolaelaps alexandrini* Fox, 1946a: 447. Wolcott 1948: 28.  
Ex *Rattus rattus*. Additional records: Guánica, 22 Apr. 1976, J. Maldonado-Capriles, ex forest litter, Acc. No. I-23-75, det. G. S. Ide, OSU, (OSAL 9582, 31077, 31076); Isabela, Agr. Exp. Stn., 1 Sep. 1981, E. Abreu, ex dead larva of *Phyllophaga* sp. Acc. No. I-20-81.

49. *Cosmolaelaps vacua* (Michael, 1891)  
*Cosmolaelaps vacua*. Las Mesas, Road 349 km 5.3, Mayagüez, Puerto Rico, June 1975, ex unknown, J. Maldonado-Capriles, OSAL 0009542-45.  
Ex unknown, probably forest litter.

50. *Haemolaelaps glasgowi* (Ewing, 1925)  
*Atricholaelaps strandtmanni* Fox, 1947b: 598.  
*Haemolaelaps glasgowi* (Ewing, 1925). Strandman and Wharton 1958: 37.  
Ex *Mus musculus* and *Rattus* sp.

51. *Hypoaspis* sp.  
*Hypoaspis* sp. Mayagüez, Cerro Las Mesas, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-28-75, det. G. S. Ide, OSU. OSAL 0031809).

52. *Hypoaspis* sp. nr. *angusta* Karg, 1965  
*Hypoaspis* sp. nr. *angusta* Karg. Peck and Kukulova 1981: 64.  
Ex cave litter at Mona Island.

53. *Hypoaspis* sp. nr. *intermedia* Hirschmann, 1969  
*Hypoaspis* sp. nr. *intermedia* Hirschmann. Peck and Kukulova 1981: 64.  
Ex cave litter at Mona Island.

54. *Hypoaspis* (*Stratiolaelaps*) *miles* (Berlese, 1887)  
*Cosmolaelaps gurabensis* Fox, 1946a: 449. Pittaway 1991: 34.  
*Hypoaspis* (*Stratiolaelaps*) *miles* (Berlese). Peck and Kukulova 1981:  
64; Peck 1981: 73.  
Ex cave litter at Mona Island, *Mus musculus* and *Rattus* sp.

55. *Laelaps echidninus* Berlese, 1887  
*Echinolaelaps echidninus* Berlese. Fox 1946a: 447; Wolcott 1948: 27;  
Strandtmann and Wharton 1958: 73.  
Ex *Rattus norvegicus* and *Rattus rattus*. Additional record: Cidra, Bo.  
Río Abajo, Jun.-Jul.1982, E. Abreu, ex *Rattus* sp. Acc. No. I-4-81.

56. *Laelaps nuttalli* Hirst, 1916  
*Laelaps nuttalli* Hirst. Fox 1946a: 447; Wolcott 1948: 27; Fox 1951b: 85,  
1958: 761; Fox and García-Moll 1961: 569; Strandtmann and Wharton  
1958: 66.  
Ex *Rattus* sp. Additional record: Cidra, Bo. Río Abajo, Jun.-Jul. 1982,  
E. Abreu, ex *Rattus* sp., Acc. No. I-4-81.

57. *Myrmozercon robustisetae* Rosario and Hunter, 1988  
*Myrmozercon robustisetae* Rosario and Hunter, 1988: 466.  
Ex termite nest.

58. *Mysolaelaps stigmatus* Fox, 1946  
*Mysolaelaps stigmatus* Fox, 1946a: 449. Wolcott 1948: 28.  
Ex *Rattus rattus*. Additional record: Río Piedras, Agr. Exp. Stn., 11  
Aug. 1978, E. Abreu, ex *Bambusa vulgaris* litter, Acc. No. PR 22-78.  
Isabela, 26 Mar. 2006, E Abreu, ex *Eichhornia crassipes*, Acc. No. I-9-  
2005.

59. *Pseudoparasitus domrowi* Hunter, 1966  
*Pseudoparasitus domrowi* Hunter. Abreu et al. 1987: 400. OSAL  
0010424.  
Ex forest litter.

Family: Macrochelidae

60. *Holostaspella* sp.  
*Holostaspella* sp. Abreu et al. 1987: 400.  
Ex forest litter.

61. *Macrocheles* sp.

*Macrocheles* sp. Peck 1981: 73. Additional record: Puerto Rico, Cayey, Puerto Rico, south Cayey mountains, June 1975, J. Maldonado-Capriles, ex unknown, OSAL 0034930.

Ex bat's guano.

62. *Macrocheles alatus* Fox, 1946

*Macrocheles alatus* Fox, 1946b: 174; Wolcott 1948: 26.

Ex *Rattus* sp.

63. *Macrocheles cardiatus* Fox, 1947

*Macrocheles cardiatus* Fox, 1947b: 602.

Ex *Rattus norvegicus*.

64. *Macrocheles fonsecai* Fox, 1946

*Macrocheles fonsecai* Fox, 1946a: 451.

Ex *Rattus norvegicus*.

65. *Macrocheles lyratus* Fox, 1947

*Macrocheles lyratus* Fox, 1947b: 602.

Ex *Rattus norvegicus*.

66. *Macrocheles merdarius* (Brelese, 1889)

*Macrocheles merdarius* (Brelese, 1889). Isabela, 18 Aug. 2006, E. Abreu, ex cow manure, Acc. No I-8-2006. **NR**.

67. *Macrocheles muscaedomesticae* (Scopoli, 1772)

*Macrocheles muscaedomesticae* Scopoli. Mayagüez, Alzamora farm, 10 Feb. 1987, E. Abreu, ex *Saccharum officinarum* trash, Acc. No. I-2-87. Additional record: Isabela, Agr. Exp. Stn., 2 Dec. 1996, E. Abreu, ex water pan trap. Acc. No. I-7-96. Isabela, 18 Aug. 2006, E. Abreu, ex cow manure, Acc. No. I-7-2006.

## Family: Macrodynechidae

68. *Macrodynechus multispinosus* Sellnick, 1973

*Macrodynechus multispinosus* Sellnick, 1973. Hirschmann and Wisniewski 1993: 229.

Ex forest litter.

## Family: Macronyssidae

69. *Ornithonyssus bacoti* (Hirst, 1913)

*Bdellonyssus bacoti* (Hirst). Fox 1946a: 446; Wolcott 1948: 27; Fox 1951b: 85, 1958: 761.

*Ornithonyssus bacoti* (Hirst). Strandtmann and Wharton 1958: 83; Fox and García-Moll 1961: 569; Maldonado-Capriles and Miró-Mercado 1977: 400.

Ex *Rattus norvegicus*.

70. *Ornithonyssus bursa* (Berlese, 1888)

*Liponyssus bursa* (Berlese). Anonymous 1936: 24; Van Volkenberg 1939: 2; Dickmans 1945: 239; Wolcott 1948: 31; Fox 1951b: 85, 1958: 761.

*Ornithonyssus bursa* (Berlese). Fox 1957b: 838; Fox and García-Moll 1961: 569; Becklund 1964: 31; Maldonado-Capriles and Miró-Mercado 1977: 400; Post 1981: 18.

Ex *Agelaius xanthomus*, fowl, *Quiscalus niger brachypterus*, and man. Additional records: Santurce, 8 Jun. 1978, R. Valls, ex woman, Acc. No. I-1-78, det. R. L. Smiley, SEL; Cabo Rojo, Boquerón, 24 Oct. 1985, E. Abreu, ex *Q. niger brachypterus*, Acc. No. I-18-85.

71. *Ornithonyssus sylviarum* (Canestrini and Fanzago, 1877)

*Ornithonyssus sylviarum* (Canestrini and Fanzago). Maldonado-Capriles and Miró-Mercado 1977: 400. OSAL (34469, 34470-2)  
Ex fowl.

72. *Radfordiella oudemansi* Fonseca, 1948

*Radfordiella oudemansi* Fonseca. Tamsitt and Fox 1970b: 1093; Webb and Loomis 1977: 90; Gannon and Willig 1994: 282; Gannon et al. 2005: 172.

Ex *Brachyphylla cavernarum*.

#### Family: Melicharidae

73. *Proctolaelaps* sp.

*Proctolaelaps* sp. Cayey, Puerto Rico, south Cayey mountain, no date, coll. J. Maldonado-Capriles, ex litter; OSAL 0036974.

74. *Proctolaelaps mariposus* (Fox, 1946)

*Borinquolaelaps mariposus* Fox, 1946a: 450.

*Proctolaelaps mariposus* (Fox). Athias-Henriot, 1959: 142; Chant 1963: 272; Farrier and Hennisey 1993: 44; Moraes et al. 2016: 217; Santos et al. 2017c.

Ex *Mus musculus* and *Rattus rattus*

75. *Rhinoseius* sp.

*Rhinoseius* sp. Díaz et al. 2002a: 13.

Ex *Heliconia* sp.

76. *Tropicoseius* sp.

*Tropicoseius* sp. Díaz et al. 2002a: 13.

Ex *Heliconia* sp.

Family: Ologamasidae

77. *Gamasiphis illotus* Fox, 1949

*Gamasiphis illotus* Fox, 1949: 37; Castilho et al. 2016: 63.

Ex *Rattus norvegicus*. Additional record: Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-6-76, det. G. S. Ide, OSU.

78. *Ologamasus* sp.

*Ologamasus* sp. Wolcott 1948: 26.

Ex insects.

Family: Oplitidae

79. *Oplitis* sp.

*Oplitis* sp. Peck 1981: 74.

Ex bat's guano. Additional record: Las Mariás, Bo. Anones, ex earthen nest of *Augochlora pura*, 23 Feb. 1976, J. Maldonado-Capriles, Acc. No. I-30-75, det. G. S. Ide, OSU, OSAL 42722-4.

80. *Oplitis delicta* Fox, 1957

*Oplitis delicta* Fox, 1957a: 71. Hirschmann and Wiśniewski 1993: 57; Wiśniewski 2008.

Ex *Rattus rattus*.

81. *Oplitis (Baloghicyllibula) exigua* (Fox, 1949)

*Uropoda exigua* Fox, 1949: 40.

*Cyllibula (Baloghicyllibula) exigua* (Fox). Hirschmann 1979: 38; Hirschmann and Wiśniewski 1993: 9.

*Oplitis (Baloghicyllibula) exigua* Fox. Wiśniewski 2008.

Ex *Rattus norvegicus*.

Family: Otopheidomenidae

82. *Hemipteroseius ageneius* Treat, 1965

*Hemipteroseius ageneius* Treat, 1965: 7.

Ex *Dysdercus andreae*.

83. *Hemipteroseius parvulus* Treat, 1965

*Hemipteroseius parvulus* Treat, 1965: 6.

Ex *Dysdercus andreae*.

Family: Parasitidae

84. *Parasitus* sp.



*Ologamasus* sp. Wolcott 1948: 26.

*Parasitus* sp. Peck 1981: 73.

Ex bat's guano.

85. *Parasitus digitus* Fox, 1949

*Parasitus digitus* Fox, 1949: 37.

Ex *Rattus norvegicus*.

Family: Phytoseiidae

86. *Amblydromalus congeae* (De León, 1965)

*Amblyseius* (*Typhlodromalus*) *congeae* De León, 1965b: 125.

*Typhlodromalus congeae* (De León). Denmark and Muma 1975: 290; Moraes et al. 1986: 129.

*Amblydromalus congeae* (De León). Demite et al. 2014.

Ex *Clerodendrum* sp. and *Congea tomentosa*.

87. *Amblydromalus higuilloae* (Denmark and Muma, 1975)

*Typhlodromalus higuilloae* Denmark and Muma, 1975: 292; Moraes et al. 1986: 130.

*Amblydromalus higuilloae* Denmark and Muma; Demite et al. 2014.

Ex *Piper aduncum*.

88. *Amblydromalus limonicus* (Garman and McGregor, 1956)

*Typhlodromalus limonicus* (Garman and McGregor). Denmark and Muma 1975: 291; Moraes et al. 1986: 130; Moraes and McMurty 1983;132; Aponte and McMurty 1993: 150.

*Typhlodromalus rapax* (De León, 1965). Denmark and Muma 1975: 290; Moraes et al. 1986: 131.

*Amblyseius* (*Typhlodromalus*) *rapax* De León, 1965b: 125.

*Amblydromalus limonicus* (Garman and McGregor). Demite et al. 2014.

Ex *Coffea arabica*, *Cordia alliodora*, *Ipomoea* sp., *Lantana involucrata*, and *Piper aduncum*.

89. *Amblydromalus yunquensis* (De León, 1965)

*Amblyseius* (*Typhlodromalus*) *yunquensis* De León, 1965b: 124.

*Typhlodromalus yunquensis*. Denmark and Muma 1975: 290; Moraes et al. 1986: 135.

*Amblydromalus yunquensis* (De León). Demite et al. 2014.

Ex *Clibadium erosum*.

90. *Amblyseius* sp.

*Amblyseius* sp. Puerto Rico, June 1975, coll. J. Maldonado-Capriles, ex litter, OSAL 37812.

91. *Amblyseius chiapensis* De León, 1961

*Amblyseius chiapensis* De León. Denmark and Muma 1975: 286, 1989: 79; Moraes and Mesa 1988: 72; McMurtry and Moraes 1989: 185; Moraes et al. 1991: 118; Demite et al. 2014.

Ex *Muntigia calabura*.

92. *Amblyseius herbicolus* (Chant, 1959)

*Amblyseius (Amblyseius) herbicolus* (Chant). De León 1965b: 121.

*Amblyseius herbicolus* (Chant). Denmark and Muma 1975: 285; Moraes et al. 1986: 14; Moraes and Mesa 1988: 72; Moraes et al. 1989a: 80, 1991: 118; Aponte and McMurtry 1993: 150; Demite et al. 2014.

Ex *Andira inermis*, *Faramea occidentalis*, *Lagerstroemia speciosa*, *Lantana involucrata*, *Palicourea crocea* var. *riparia*, *Psidium guajava*, and *Tabebuia* sp.

93. *Amblyseius largoensis* (Muma, 1955)

*Amblyseius largoensis* (Muma). De León 1965b: 121, 1967: 23; Denmark and Muma 1975: 285; Moraes and Mesa 1988: 73; Denmark and Muma 1989: 56; Moraes et al. 1989b: 96; Aponte and McMurtry 1993: 150; Cruz et al. 2008:58; Demite et al. 2014.

Ex *Calophyllum antillanum* (As *C. calaba*), *Cocos nucifera*, *Convolvulus* sp., *Cordia sebestena*, *Codiaeum* sp., *Hibiscus* sp., *Hura crepitans*, *Mangifera indica*, *Melocactus intortus*, *Spondias dulcis*, *Terminalia catappa*. Additional records: Corozal, 20 Dec. 2006, E Abreu, ex *Citrus sinensis*, Acc. No. I-3-2007; Lares, 12 Jan. 2007, E. Abreu, ex *Citrus sinensis*, Acc. No I. 16-2006.

94. *Amblyseius martus* De León, 1966

*Amblyseius martus* De León. Denmark and Muma 1975: 286, 1989: 122; Demite et al. 2014.

Ex *Calophyllum antillanum* (As *C. brasiliense*), *Cissus* sp., *Citrus* sp., *Codiaeum variegatum*, *Colocasia esculenta*, *Convolvulus* sp., *Hibiscus* sp., *Lantana* sp., *Mangifera indica*, *Melocactus intortus*, *Passiflora* sp., *Philodendron* sp., *Ricinus communis*, *Syzygium jambos*, *Terminalia catappa*.

95. *Amblyseius* sp. nr. *obtusus* (Koch, 1839)

*Amblyseius* sp. nr. *obtusus* (Koch). Peck and Kukalova 1981: 64.

Ex cave litter at Mona Island.

96. *Amblyseius ovatus* (Garman, 1958)

*Proprioseiopsis ovatus* (Garman). Denmark and Muma 1975: 282; Moraes et al. 1986: 121.

*Amblyseius ovatus* (Garman). Moraes et al. 1991: 127; Demite et al. 2014.

Ex *Ipomoea setifera* (as *I. rubra*).

97. *Amblyseius peregrinus* (Muma, 1955)

*Typhlodromus (Amblyseius) evansi* Chant, 1959: 99; De León 1965b: 121.  
*Typhlodromalus peregrinus* (Muma). Denmark and Muma 1975: 291;  
 Moraes et al. 1986: 134.

*Amblyseius peregrinus* (Muma). Moraes and Mesa 1988: 73; Moraes et al. 1991: 130; Aponte and McMurty 1993: 151; Demite et al. 2014.  
 Ex *Capsicum annuum*.

98. *Arrenoseius coronatus* (Fox, 1946)

*Borinquolaelaps coronatus* Fox, 1946a: 450.

*Typhlodromus (Amblyseius) coronatus* (Fox). Chant 1959: 103.

*Fundiseius coronatus* (Fox). Denmark and Muma 1975: 283.

*Arrenoseius coronatus* (Fox) Demite et al. 2014.

Ex *Hibiscus* sp., *Melocactus intortus*, *Mus musculus*, and *Rattus norvegicus*.

99. *Euseius hibisci* (Chant, 1959)

*Euseius hibisci* (Chant). Denmark and Muma 1975: 294; Moraes and Mesa 1988: 81; Moraes et al. 1991: 131; Demite et al. 2014.

Ex *Coffea arabica*, *Hibiscus* sp. and *Vitis vinifera*.

100. *Euseius ho* (De León, 1965)

*Amblyseius (Euseius) ho* De León, 1965b: 125.

*Euseius ho* (De León). Denmark and Muma 1975: 293; Moraes and McMurty 1983: 139; Moraes et al. 1991: 132; Demite et al. 2014.

Ex *Coffea arabica*, *Colubrina elliptica* (as *C. reclinata*), *Chromolaena odorata* (as *Eupatorium odoratum*), *Terminalia catappa* and *Tetrazygia elaeagnoides*.

101. *Euseius sibelius* (De León, 1962)

*Amblyseius (Euseius) subalatus* De León. De León 1965b: 127; Moraes and McMurty 1983: 140; Moraes and Mesa 1988: 81; Demite et al. 2014.

*Euseius sibelius* (De León). Denmark and Muma 1975: 294.

Ex *Citharexylum caudatus* (as *C. fruticosum*).

102. *Galendromimus (Nothoseius) borinquensis* (De León, 1965)

*Nothoseius borinquensis* De León, 1965b: 128. Denmark and Muma 1975: 284.

*Cynodromella borinquensis* (De León). Chant 1992: 337.

*Galendromimus (Nothoseius) borinquensis* (De León). Demite et al. 2014.

Ex *Cordia sulcata* and *Rhynchosia reticulata*.

103. *Galendromus (Galendromus) annectens* (De León, 1958)

*Galendromus annectens* (De León). De León 1965b: 121; Denmark and Muma 1975: 299; Moraes et al. 1986: 186; Demite et al. 2014.

*Typhlodromus annectens* (De León). Moraes and McMurtry 1983: 142; Moraes and Mesa 1988: 82; Moraes et al. 1991: 135.

Ex *Cedrela odorata*, *Guazuma ulmifolia* and *Hura crepitans*.

104. *Galendromus luculentis* (De León, 1959)

*Galendromus luculentis* (De León). Denmark and Muma 1975: 299.

*Galendromus* (*Leonodromus*) *luculentis* Moraes et al. 1986: 191.

Ex *Melocactus intortus*.

105. *Iphiseiodes quadripilis* (Banks, 1904)

*Iphiseius quadripilis* (Banks). De León 1965b: 121.

*Iphiseiodes quadripilis* (Banks). Denmark and Muma 1975: 287; Apon-te and McMurty 1993: 151.

*Amblyseius quadripilis* (Banks). Moraes and Mesa 1988: 79; Demite et al. 2014.

Ex *Laguncularia racemosa*. Additional record; Corozal, Agr Exp. Stn., 16 May 2007, ex *Citrus sinensis*, Acc. No. I.-62-2007.

106. *Iphiseiodes zuluagi* Denmark and Muma, 1972

*Iphiseiodes zuluagi* Denmark and Muma. Denmark and Muma 1975: 287; Demite et al. 2014.

*Amblyseius zuluagi* (Denmark). Moraes and Mesa 1988: 79; Moraes et al. 1991: 125.

Ex *Calophyllum antillanum*, *Codiaeum variegatum*, *Coffea arabica*, *Colocasia* sp., *Crescentia* sp., *Crescentia cujete*, espino tree, *Hibiscus rosa sinensis*, *Ipomoea* sp., *Maliphigia glabra*, *Maliphigia emarginata*, *Mangifera indica*, *Passiflora* sp. and *Pterocarpus indicus*.

107. *Leonseius regularis* (De León, 1965)

*Typhloseiopsis regularis* De León, 1965b: 122, 1967a: 16; Moraes et al. 1991: 136.

*Diadromus regularis* (De León). Denmark and Muma 1975: 297; Moraes et al. 1986: 185, 1991: 136.

*Leonseius regularis* (De León). Demite et al. 2014.

Ex *Mangifera indica* and *Syzygium jambos*.

108. *Metaseiulus* (*Metaseiulus*) *adjacentis* (De León, 1959)

*Typhlodromina adjacentis* (De León). De León 1965b: 121; De León 1967a: 16; Denmark and Muma 1975: 298; Moraes et al. 1986: 235, 1991: 136.

*Paraseiulla adjacentis* (De León). Denmark 1994: 18.

*Metaseiulus* (*Metaseiulus*) *adjacentis* (De León). Demite et al. 2014.

Ex *Colubrina glandulosa* (as *C. reclinata*), *Cordia alliodora*, *Myrcia deflexa*, *Myrcia splendens*, *Polypodium latum* (as *P. phyllitidis*), *Sterculia apetala*.

109. *Neoseiulus* sp. nr. *baraki* Athias-Henriort, 1966  
*Neoseiulus* sp. nr. *baraki* Athias-Henriort. Howard et.al.1990: 249.  
 Ex *Cocos nucifera* fruit.

110. *Neoseiulus caobae* (De León, 1965)  
*Amblyseius* (*Typhlodromips*) *caobae* De León, 1965b: 124.  
*Typhlodromips caobae* (De León). Denmark and Muma 1975: 288;  
 Moraes et al. 1986: 138. *Neoseiulus caobae* (De León). Demite et al. 2014.  
 Ex *Swietenia mahagoni*.

111. *Neoseiulus caribbeanus* (De León, 1965)  
*Amblyseius* (*Typhlodromips*) *caribbeanus* De León, 1965b: 124.  
*Typhlodromips caribbeanus*. Denmark and Muma 1975: 288.  
*Neoseiulus caribbeanus* (De León). Demite et al. 2014.  
 Ex *Clusia gundlachii*, *Psychotria berteriana*, and *Rhizophora mangle*.

112. *Neoseiulus plumosus* (Denmark and Muma, 1975)  
*Typhlodromips plumosus* Denmark and Muma, 1975: 288; Moraes et al. 1986: 145.  
*Neoseiulus plumosus* (Denmark and Muma). Demite et al. 2014.  
 Ex *Elephantopus* sp., *Mirabilis jalapa* and *Piper aduncum*.

113. *Neoseiulus setulus* (Fox, 1947)  
*Borinquolaelaps setulus* Fox, 1947b: 599.  
*Neoseiulus setulus* (Fox). Denmark and Muma 1975: 294; Demite et al. 2014.  
 Ex *Rattus norvegicus*.

114. *Paraphytoseius santurcensis* De León  
*Paraphytoseius santurcensis* De León, 1965b: 130; Denmark and Muma 1975: 283; Demite et al. 2014.  
 Ex *Hibiscus schizopetalus* (as *H. tiliaceus*), *Hura crepitans*, and *Piper aduncum*.

115. *Phytoseiulus macropilis* (Banks, 1905)  
*Phytoseiulus macropililis* (Banks). Medina-Gaud 1964: 67; De León 1965b: 121; Denmark and Muma 1975: 280; Moraes and Mesa 1988: 82; Moraes et al. 1991: 132; Aponte and McMurty 1993: 153; Abreu 1994:60; Demite et al. 2014.  
 Ex *Ananas comosus*, *Cedrela odorata*, *Convolvulus* sp., *Desmodium tortuosum*, *Elephantopus mollis*, *Hibiscus syriacus*, *Ipomoea setifera* (as *I.*

*rubra*), *Ipomoea* sp., *Ricinus communis*. Additional records: Juncos, 24 May 1976, C. Ortiz, ex *Musa* sp. Acc. No. PR 52-76, det. E. W. Baker, SEL; Isabela, 3 Apr. 1976, E. Abreu, ex *Ricinus communis*, Acc.No. I-3 - 76, det. G. S. Ide, OSU (OSAL 39977-81; Isabela, 22 Nov. 1989, E. Abreu, ex *Carica papaya*, Acc. No. I-7-89; Isabela, Puerto Rico, 11 May. 2002, E. Abreu, ex *Manihot esculenta*, Acc. No. I4-2002; Isabela, 3 Feb. 2006, C. Estevez, ex *Glycine max*, Acc. No. I-2-2006; Isabela, 2 Feb. 2007, E. Abreu, ex *Averrhoa carambola*, Acc. No. I-33-2007.

116. *Phytoseius bennetti* De León, 1965

*Phytoseius (Pennaseius) bennetti* De León, 1965b: 121. Denmark and Muma 1975: 297; Moraes et al. 1986: 210; Demite et al. 2014.  
Ex *Congea tomentosa*, *Chromolaena odorata* (as *Osmia odorata*).

117. *Phytoseius (Phytoseius) rex* De León, 1967

*Phytoseius (Phytoseius) rex* De León. Denmark and Muma 1975: 295; Moraes et al. 1986: 227; Demite et al. 2014.  
Ex *Rivina humilis* and star jessamine. Additional record: Isabela, St 2, Km. 110, 8 Nov. 2007, E. Abreu, ex *Lagerstroemia indica* sp., Acc. No. I-106-2007.

118. *Phytoseius woodburyi* De León, 1965

*Phytoseius (Phytoseius) woodburyi* De León, 1965b: 130, 1967: 12; Denmark and Muma 1975: 295; Moraes et al. 1986: 229, 1991: 133; Demite et al. 2014.

Ex *Licaria parvifolia* (as *L. salicifolia*) and star jessamine.

119. *Proprioseiopsis* sp.

*Proprioseiopsis* sp. Mayagüez, Rd. 106 km. 1.4, Feb. 1977, J. Maldonado-Capriles, ex forest litter, Acc. No. I-1-77, det. G. S. Ide, OSU.

120. *Proprioseiopsis inflatus* (De León, 1965)

*Amblyseiulus inflatus* De León, 1965b: 131.  
*Proprioseiopsis inflatus* (De León). Denmark and Muma 1975: 282; Moraes et al. 1986: 116; Demite et al. 2014.  
Ex *Clidemia strigillosa* and *Gibasis* sp. (as *Aneilema*).

121. *Proprioseiopsis sexsetosus* (Fox, 1949)

*Borinquolaelaps sexsetosus* Fox, 1949: 39.  
*Typhlodromalus (Amblyseius) sexsetosus* (Fox). Chant 1959: 103.  
*Proprioseiopsis sexsetosus* (Fox). Denmark and Muma 1975: 282; Moraes et al. 1986: 123; Demite et al. 2014.  
Ex *Rattus norvegicus*.

122. *Ricoseius loxocheles* (De León, 1965)

*Amblyseius (Ricoseilus) loxocheles* De León, 1965b: 128.

*Ricoseilus loxocheles* (De León). Denmark and Muma 1975: 284; Moraes et al. 1986: 127, 1991: 131; Chant 1992: 347; Demite et al. 2014.

Ex *Cordia alliodora*. Additional record: Isabela, 28 Sep. 2006, E. Abreu, ex *Citrus sinensis*, Acc. No. I-20-2006.

123. *Typhlodromalus (Anthoseius) deleari* Denmark and Muma, 1975  
*Amblydromella deleari* Denmark and Muma, 1975: 300; Moraes et al. 1986: 160; Demite et al. 2014.

Ex *Rivina humilis* and star *jesamine*.

124. *Typhlodromina conspicua* (Garman, 1948)

*Typhlodromina conspicua* (Garman). De León 1965b: 121.

*Typhlodromina conspicua* (Garman). Denmark and Muma 1975: 298; Moraes et al. 1986: 238; Aponte and McMurtry 1993: 154; Demite et al. 2014.

*Typhlodromina conspicuus* (Garman). Aponte and McMurtry 1993: 154.

Ex *Cordia sulcata*, *Hura crepitans*, *Sterculia apetala* and *Tetrazygia elaeagnoides*.

125. *Typhlodromips dentilis* De León, 1959

*Amblyseius (Typhlodromips) dentilis* De León, 1965b: 121; Moraes et al. 1991: 122; Demite et al. 2014.

*Typhlodromips dentilis* (De León). Denmark and Muma 1975: 288; Moraes et al. 1986: 139.

Ex *Merremia umbellata*.

126. *Typhlodromips mangleae* (De León, 1967)

*Typhlodromips mangleae* De León. Denmark and Muma 1975: 290; Demite et al. 2014.

*Amblyseius mangleae* (De León). Moraes and Mesa 1988: 75; Moraes et al. 1986: 143, 1991: 124; Demite et al. 2014.

Ex unknown plant.

127. *Typhloseiopsis funiculatus* De León, 1965

*Typhloseiopsis funiculatus* De León, 1965b: 122. Denmark and Muma 1975: 297; Demite et al. 2014.

Ex *Gymnanthes lucidus* (as *Ateramnus lucidus*).

Family: Podocinidae

128. *Andregamasus* sp.

*Andregamasus* sp. Díaz et al. 2002b: 14.

Ex *Coenobita clypeatus*.

129. *Podocinum* sp.*Podocinum* sp. Abreu et al. 1987: 400.

Ex forest litter.

130. *Podocinum sagax* (Berlese, 1882)*Podocinum sagax* (Berlese, 1882). De León 1964: 43.

Ex dead leaves.

131. *Podocinum pacificum* Berlese, 1895.*Podocinum pacificum* Berlese. Lindquist and Wu. 1987: 780.

Ex dead leaves.

## Family: Polyaspididae

132. *Polyaspis repandus* Berlese 1904*Polyaspis repandus* Berlese. Cayey, Puerto Rico, south Cayey mountains, no date, ex unknown, coll. J. Maldonado-Capriles, OSAL.0033197.

## Family: Rhinonyssidae

133. *Tinaminyssus bubulci* (Zumpt and Till, 1995)*Neonipsus bubulci* Zumpt and Till. Resh and Whittaker 1973: 233.Ex *Bubulcus ibis*.

## Family: Sejidae

134. *Sejus armatus* (Fox, 1947)*Liroaspis armatus* Fox, 1947b: 600.*Sejus armatus* (Fox). Farrier and Hennessey 1993: 157; Hallan 2008.Ex *Rattus rattus*. Additional record: Mayagüez, 10 Feb. 1987, E. Abreu, ex sugarcane trash, Acc. No. I-2-87.

## Family: Spelaeorhynchidae

135. *Spelaeorhynchus* sp.*Spelaeorhynchus* sp. Garrison and Willig 1996: 220.Ex *Artibeus jamaicensis jamaicensis* and *Monophyllus redmani portoricensis*.136. *Spelaeorhynchus monophylli* Fain, Anastos, Camin and Johnson, 1967*Spelaeorhynchus monophylli* Fain, Anastos, Camin and Johnson. Tamsitt and Fox 1970b: 1094; Tamsitt and Valdivieso 1970: 125; Webb and Loomis 1977: 91; Pence et al. 1981: 353; Gannon and Welling 1994: 282; Gannon et al. 2005: 17; Garrison and Willig 1996: 220.



Ex *Artibeus jamaicensis jamaicensis* and *Monophyllus redmani portoricensis*.

137. *Spelaeorhynchus praecursor* Neumann, 1902  
*Spelaeorhynchus latus* (Banks). Fox 1942: 95.  
*Spelaeorhynchus praecursor*. Fain et al. 1967: 542; Tamsitt and Fox 1970b: 1093; Gannon and Willig 1994: 182; Gannon et al. 2005: 172.  
Ex *Artibeus jamaicensis jamaicensis*.

Family: Spinturnicidae

138. *Cameronieta tibbettsi* Dusbabek, 1967  
*Cameronieta tibbettsi* Dusbabek. Kurta et al. 2007: 355.  
Ex. *Pteronotus parnellii*.

139. *Cameronieta torrei* (Grey, 1843)  
*Cameronieta torrei dusbabeki* (Deunff, Whitaker and Kurta). Deunff et al. 2007: 179.  
Ex. *Pteronotus quadridens*.

140. *Periglischrus* sp.  
*Periglischrus* sp. Garrison and Willig 1996: 220.  
Ex *Erophylla sezekorni* and *Monophyllus redmani*.

141. *Periglischrus cubanus* Dusbabek. Gannon and Willig 1994  
*Periglischrus cubanus* Dusbabek. Gannon and Willig 1994: 282; Gannon et al. 2005: 172.  
Ex *Brachyphylla cavernarum* and *Erophylla sezekorni*.

142. *Periglischrus iheringi* Oudemans, 1902  
*Periglischrus iheringi* Oudemans. Rudnick 1960: 97; Tamsitt and Fox 1970b: 1094; Tamsitt and Valdivieso 1970: 126; Webb and Loomis 1977: 88; Pence et al. 1981: 353; Garrison and Willig 1996: 220; Gannon et al. 2005: 172.  
Ex *Artibeus jamaicensis jamaicensis* and *Stenoderma rufum darioi*.

143. *Periglischrus thomasi* Machado-Allison, 1965  
*Cameronieta thomasi* Machado-Allison. Gannon and Willig 1994: 282; Gannon et al. 2005: 172.  
Ex *Pteronotus parnellii*.

144. *Periglischrus vargasi* Hoffmann, 1944  
*Periglischrus vargasi* Hoffmann. Tamsitt and Valdivieso 1970: 126; Webb and Loomis 1977: 89; Pence et al. 1981: 354; Garrison and Willig 1996: 220; Gannon and Willig 1994: 282; Gannon et al. 2005: 172.

Ex *Artibeus jamaicensis jamaicensis* and *Monophyllus redmani*.

145. *Spinturnix bakeri* Rudnick, 1960

*Spinturnix bakeri* Rudnick. Garrison and Willig 1996: 220; Gannon and Willig 1994: 282; Gannon et al. 2005: 172.

Ex *Eptesicus fuscus*.

Family: Trachyuropodidae

146. *Trachyuropoda borinqueni* Fox, 1957

*Trachyuropoda borinqueni* Fox, 1957a: 67; Hirschmann and Wiśniewski 1993: 90.

Ex *Rattus norvegicus*.

147. *Trachyuropoda margaritensis* Hirschmann, 1979

*Trachyuropoda margaritensis* Hirschmann, 1979: 52; Hirschmann and Wiśniewski 1993: 90.

Ex flower pot soil.

Family: Trematuridae

148. *Trichouropoda simpla* Fox, 1948

*Leiodynychus simplus* Fox, 1948: 172. Hirschmann and Wiśniewski 1993: 138.

Ex *Rattus norvegicus*.

149. *Trichouropoda praeacuta* Fox, 1948

*Leiodynychus praeacutus* Fox, 1948: 171; Hirschmann and Wiśniewski 1993: 229.

Ex *Rattus norvegicus*.

150. *Trichouropoda sellnicki* Hirschmann and Zirngiebl-Nicol, 1969

*Trichouropoda sellnicki* Hirschmann and Wiśniewski 1993: 133.

Ex moss.

Family: Triplogyniidae

151. *Triplogynium vallei* (Fox, 1959)

*Neodiplogynium vallei* Fox, 1959: 296.

*Triplogynium vallei* (Fox). Funk 1977: 71; Peck 1981: 73; Lindquist et al. 2009: 129.

Ex *Rattus norvegicus* and in bat's guano. Additional records: Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-1-75, det. G. S. Ide, OSU; Isabela, Agr. Exp. Stn., 7 Nov. 1985, E. Abreu, ex *Cucurbita moschata*. Acc. No. I-20-85.

Family: Uroactiniidae

152. *Uroactinia* sp.

*Uroactinia* sp. Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-5-75, det. G. S. Ide, OSU.

153. *Uroactinia* sp. nr. *hippocrepoidea* (Vitzthum, 1935)

*Uroactinia* sp. nr. *hippocrepoidea* (Vitzthum). Peck 1981: 74; Peck and Kukalova 1981: 64.

Ex bat's guano and cave litter at Mona Island, Las Losetas Cave.

154. *Uroactinia ovata* (Fox, 1948)

*Fuscuropoda ovata* Fox, 1948: 169. Hirschmann 1979: 56; Hirschmann and Wiśniewski 1993: 154.

Ex *Rattus norvegicus*.

Family: Urodinychidae

155. *Uroobovella* sp.

*Uroobovella* sp. Peck 1981: 74.

Ex bat's guano.

156. *Uroobovella* sp. nr. *brasiliensis* Hirschmann and Zirngiebl-Nicol, 1964

*Uroobovella* sp. nr. *brasiliensis* Hirschmann and Zirngiebl-Nicol. Peck 1981: 74.

Ex bat's guano.

157. *Uroobovella cassida* Fox, 1948

*Uroobovella cassida* Fox, 1948: 171. Hirschmann and Wiśniewski 1993: 168.

Ex *Rattus norvegicus*.

158. *Uroobovella marginata* (Koch, 1839)

*Fuscuropoda marginata* (Koch). Legner 1965: 112.

Ex animal excrement.

159. *Uroobovella marmorea* Fox, 1948

*Fuscuropoda marmorea* Fox, 1948: 170. Hirschmann 1976: 36; Hirschmann and Wiśniewski 1993: 167.

Ex *Rattus norvegicus*.

Family: Uropodidae

160. *Longioseius* sp.

*Longioseius* sp. Peck 1974: 20.

Ex bat's guano.

161. *Uropoda* sp.

*Uropodus* sp. Smyth 1919: 135; Sein 1930: 181.

*Uropoda* sp. Wolcott 1948: 27; Peck 1974: 20.

Ex under bark of decaying tree, *Saccharum officinarum* and bat's guano.

162. *Uropoda (Phaulodinychus)* sp. nr. *argasiformes* (Berlese, 1916)

*Uropoda* sp. nr. *argasiformes* (Berlese). Peck 1981: 74; Hirschmann and Wiśniewski 1993: 33.

Ex bat's guano.

Family: Varroidae

163. *Varroa jacobsoni* Oudemans, 1904

*Varroa jacobsoni* Oudemans. Guzmán de et al. 1997: 329; Shimanuki 1983: 12; Shimanuki et al. 1983: 331; Rivera-Marchand 2006: 1; Rivera-Marchand et al. 2008: 265; Ramírez-Lluch 2015: 1; Rennich et al. 2015: 2.

Additional record: Mayagüez, 12 Mar. 1990, coll. D. Pesante, ex *Apis mellifera ligustica*, Acc. No. I-5-90.

Family: Veigaiidae

164. *Veigaia* cf. *uncata* (Farrier, 1957)

*Veigaia* cf. *uncata* (Farrier). Abreu et al. 1987: 400.

Ex forest litter.

**Superorder Acariformes**

**Order Trombidiformes**

**Suborder Prostigmata**

Family: Acarophenacidae

165. *Adactylidium ficorum* Goldarazena and Ochoa, 2001

*Adactylidium ficorum* Goldarazena and Ochoa. Abreu 1982: 310, Goldarazena et al. 2001: 489; OSAL (00119, 13734-5).

Ex *Gynaikothrips ficorum* eggs.

Family: Bdellidae

166. *Bdella distincta* Baker and Balock, 1944

*Bdella distincta* Baker and Balock. Howard et al. 1990: 249; Medina et al. 1991: 305; Hernandez et al. 2016: 12.

Ex *Cocos nucifera* fruits. Additional record: Isabela, 17 Nov. 2006, E. Abreu, *Calophyllum antillanum* (as *C. calaba*, Acc. No. I-45-2006; Corozal, 20 Mar. 2007, E. Abreu, ex *Citrus sinensis* fruits, Acc. No. I-28-2007.

Family: Cheyletidae

167. *Chelotogenes ornatus* (Canestrini and Fanzagano 1876)  
*Chelotogenes ornatus* (Canestrini and Fanzagano). Juana Díaz, Agr. Exp. Stn., 15 Nov. 1987, E. Abreu, ex *Mangifera indica*, Acc. No. I-17-87; Isabela, Agr. Exp. Stn., 5 Jul. 1994, A. Ramírez, ex *Codiaeum variegatum*, Acc. No. I-6-94; Isabela, Agr. Exp. Stn., 20 Nov. 2006, E. Abreu, ex *Citrus reticulata*, Acc. No. I-27-2006; Isabela, 17 Nov. 2006, E. Abreu, ex *Cordia sebestena*, Acc. No. I-44-2006; Corozal, Agr. Exp. Stn., 17 May 2007, E. Abreu, ex *Citrus sinensis*, Acc. No. I-57-2007. **NR.**

168. *Cheyletus* sp. Montealegre et al. 2007b: 119.  
Ex Mattresses dusts.

169. *Cheyletus cacahuamilpensis* Baker, 1949  
*Cheyletus cacahuamilpensis* Baker. Abreu et al. 1987: 400.  
Ex cave litter.

170. *Cheyletus malaccensis* Oudemans, 1906  
*Cheyletus malaccensis* Oudemans. Abreu et al. 1987: 400; Montealegre et al. 1997b: 111.  
Ex dry *Coffea arabica* cover and domestic dust.

171. *Dendrocheyletia wellsi* (Baker, 1949)  
*Cheyletia wellsi* Baker, 1949b: 300; Wolcott 1948: 27.  
*Dendrocheyletia wellsi* (Baker). Volgin 1969: 262; Volgin 1987: 264.  
*Hemicheyletia wellsi*. Summers and Price 1970: 15.  
Ex *Saccharum officinarum*.

172. *Eutogenes foxi* Baker, 1949  
*Eutogenes foxi* Baker, 1949b: 304; Wolcott 1948: 27; Volgin 1987: 350.  
Ex *Rattus* sp.

173. *Grallacheles bakeri* De León, 1962  
*Grallacheles bakeri* De León. Isabela, Agr. Exp. Stn., 19 Jan. 1993, E. Abreu, ex *Persea americana*, Acc. No. I-1-93. **NR.**

174. *Hemicheyletia bregetovae* (Volgin, 1969)  
*Hemicheyletia bregetovae* (Volgin). Abreu et al. 1987: 400.  
Ex *Hibiscus rosa sinensis*.

175. *Hemicheyletia wellsina* (De León, 1967)

*Hemicheyletia wellsina* (De León). Abreu et al. 1987: 400.

Ex *Hibiscus rosa sinensis*.

Family: Cunaxidae

176. *Cunaxa* sp.

*Cunaxa* sp. Gurabo, Agr. Exp. Stn., 16 Nov. 2006, E. Abreu, ex *Musa paradisiaca*, Acc. No. I-83-2007. NR.

177. *Cunaxoides* sp.

*Cunaxoides* sp. Peck 1981: 73.

Ex bat's guano's.

Family: Demodicidae

178. *Demodex bovis* Stiles, 1892

*Demodex bovis* Stiles. Van Volkenberg 1939: 2.

*Desmodex* (sic) *bovis* Stiles. Wolcott 1948: 31.

Ex cattle.

179. *Demodex canis* Leydig, 1859

*Demodex canis* Leydig. Anonymous 1936: 24, 1938: 84; Van Volkenberg 1939: 2.

*Desmodex* (sic) *canis* Leydig. Wolcott 1948: 31.

Ex dog.

180. *Demodex folliculorum* (Owen, 1834)

*Demodex folliculorum* (Owen). Van Volkenberg 1929: 28; Vélez 2014: 346.

Ex cattle.

181. *Demodex phylloides* Csokor, 1879

*Demodex phylloides* Csokor. Anonymous 1936: 24; Van Volkenberg 1939: 2.

*Desmodex* (sic) *phylloides* Csokor. Wolcott 1948: 31.

Ex swine.

Family: Diptilomiopidae

182. *Diptacus borinquensis* Cromroy, 1958

*Diptacus borinquensis* Cromroy, 1958: 123; O'Farrill-Nieves and Medina-Gaud 2007b: 50.

Ex *Roystonea borinquena*.

183. *Rhyncaphytoptus harrii* Cromroy, 1958

*Rhyncaphytoptus harrii* Cromroy, 1958: 125.

Ex *Asclepias curassavica*.

Family: Ereynetidae

184. *Ereynetes (Anereyretes) coenobitus*, Hunter and Poe 1971

*Ereynetes (Anereyretes) coenobitus*, Hunter and Poe, 1971: 135; Díaz et al. 2002b: 14; Williams and McDermott 2004: 82; McDermott et al. 2010: 12; Rodríguez-Ruiz 2009.

Ex *Coenobita clypeatus*.

Family: Eriophyidae

185. *Acalitus gossypii* (Banks, 1904)

*Eriophyes gossypii* Banks. Smyth 1920b: 86; Marlatt 1920: 1; Leonard 1930: 120; Leonard 1932: 130; Wolcott 1933: 269; Fife 1937: 169, 1939: 4; Rainwater 1934: 760; Wolcott 1948: 30, 1955: 78; Rodríguez and Martorell 1956: 87; Abreu 1990:30; O'Farrill-Nieves and Medina-Gaud 2007b: 50.

*Cecidophyes gossypii*. Vélez 2014: 344.

Ex *Gossypium barbadense*.

186. *Acalitus osmia* Cromroy, 1958

*Aceria osmia* Cromroy, 1958: 129; Amrine and Stasny 1994: 70.

Ex *Chromolaena odorata* (as *Osmia odorata*).

187. *Acalitus simplex* Flechtmann and Etienne, 2002

*Acalitus simplex*. Isabela, Puerto Rico, Urb. Medina St 8 P-17, 10 Mar. 2015. Acc. No. I. 2-2015.

Ex. *Ruellia simplex*. **NR**

188. *Aceria cordiae* Cook, 1909

*Eriophyes cordiae* Cook. Cook 1909: 144; Wolcott 1948: 31. (Maybe a synonym of *E. mixacordiae*, Nalepa 1914); Amrine and Stasny 1994).

Ex *Cordia* sp.

189. *Aceria guazumae* Cook, 1906

*Eriophyes guazumae* Cook. Cook 1906: 100; Wolcott 1948: 31.

Ex *Guazuma ulmifolia*.

190. *Aceria guerreronis* (Keifer, 1965)

*Eriophyes guerreronis* (Keifer). Inglés 1985: 35; Medina-Gaud and Abreu 1986: 223; O'Farrill et al. 1986:17; Abreu 1990:32.

*Aceria guerreronis* (Keifer). Howard et al. 1990: 246, 2007: 1; Howard and Abreu-Rodríguez 1991: 358; Navia et al. 2005: 507; O'Farrill-Nieves and Medina-Gaud 2007b: 50; Navia et al. 2013: 66; Jenkins et al. 2008: 49.

Ex *Cocos nucifera* fruit.

191. *Aceria hibisci* (Nalepa, 1906)  
*Eriophyes hibisci* Nalepa. O'Farrill-Nieves and Medina-Gaud 2007a: 103.  
*Aceria hibisci* (Nalepa). Welbourn et al. 2008: 1. Additional record: Cayey,  
2 Apr. 1997, H. O'Farrill-Nieves, ex *Hibiscus rosa sinensis* Acc. No. I-6-97.
192. *Aceria mangiferae* (Sayed, 1946)  
*Eriophyes mangiferae* (Sayed). Abreu et al. 1987: 400; Abreu 1990:32;  
Segarra and Nieves 2006: 152.  
Ex *Mangifera indica*.
193. *Aceria odorata* Cromroy, 1958  
*Aceria odorata* Cromroy, 1958: 126.  
Ex *Pluchea odorata*.
194. *Aceria purpurascensis* Cromroy, 1958  
*Aceria purpurascensis* Cromroy, 1958: 128.  
Ex *Pluchea odorata* (as *P. purpurascensis*).
195. *Calacarus alocasiae* Keifer, 1978  
*Calacarus alocasiae* Keifer. Isabela, Puerto Rico, Agr. Exp. Stn., 7 Nov.  
2007, E. Abreu, ex *Alocasia* sp., Acc. No. I-79-2007. **NR**.
196. *Calacarus citrifolii* Baker, 1955  
*Calacarus citrifolii* Baker. Abreu 1994:60; Additional records: Isabela,  
Agr. Exp. Stn., 25 Feb. 1991, E. Abreu, ex *Carica papaya*, Acc. No.  
I-8-91; Aguada, Bo. Jaguey, St 411, KM. 3, 6 Oct. 1997, ex *Euphorbia*  
*pulcherrima*, Acc. No. I-13-97. **NR**.
197. *Calepitrimerus muesebecki* Keifer, 1940  
*Calepitrimerus muesebecki* Keifer. Isabela, Agr. Exp. Stn., 10 Jan. 1993,  
E. Abreu, ex *Persea americana*, Acc. No. I-1-93. Isabela, Agr. Exp. Stn.,  
18 Jan. 2008, E. Abreu, ex *Persea americana*, Acc. No. I-1-2008. **NR**.
198. *Cisaberoptes kenyae* Keifer, 1966  
*Cisaberoptes kenyae* Keifer. Isabela, Puerto Rico, Urb. Otero, 26 Sep  
2015, coll E. Abreu, Acc. No. I-3-2015.  
Ex *Mangifera indica*. **NR**
199. *Colomerus bucidae* (Cromroy, 1958)  
*Eriophyes buceras* Cromroy, 1958: 130. Denmark 1966: 1; Ingles  
1985: 35; Abreu 1990:32; Amrine and Stasny 1994: 193; O'Farill et al.  
1986:17; O'Farill and Medina-Gaud 2007b: 50.  
*Colomerus bucidae* (Cromroy). Chandrapatya et al. 2014: 16; Fletch-  
mann et al. 2000: 332.  
Ex *Bucida buceras*.



200. *Epiptimerus calophylli* Cook, 1909  
*Eriophyes calophylli* Cook. Cook 1909: 143; Wolcott 1948: 31; Abreu 1990:32.  
Ex *Calophyllum* (as *brasiliense*) *antillnrum*.
201. *Eriophyes anonae* Keifer, (1973)  
*Eriophyes anonae* Keifer. Río Piedras, Agr. Exp. Stn., Mar. 21 1997, E. Abreu, ex *Annona muricata*, Acc. No. I-3-97. **NR**.
202. *Eriophyes miconiae* Cook 1906  
*Eriophyes miconiae* Cook. Wolcott 1948: 31.  
Ex *Miconia* sp.
203. *Neocalacarus mangiferae* Channabasavanna, 1966  
*Neocalacarus mangiferae* Channabasavanna. Nieves et al. 2004: 17; Segarra and Nieves 2006: 153.  
Ex *Mangifera indica*.
204. *Phyllocoptruta oleivorus* (Ashmead, 1879)  
*Eriophyes oleivorus* (Ashmead). Catoni 1920: 39.  
*Phyllocopterus oleivorus*. Mayoral 1936: 250.  
*Phyllocoptes oleivorus* Ashmead. Henricksen 1930: 27; Leonard 1930: 116, 1932: 125; Wolcott 1933: 444; Tower 1923: 14, 1924: 13 (mentioned "rust mites"); Moutia 1958: 64, Toro 1989: 77.  
*Phyllocoptruta oleivora*. Abreu 1990:32.  
Ex *Citrus* sp. Additional records: Isabela, Agr. Exp. Stn., 11 Jun. 1986, E. Abreu, ex *Citrus aurantifolia*, Acc. No. I-16-86; Isabela, Agr. Exp. Stn., 21 Nov. 2006, E. Abreu, ex *Citrus sinensis*, Acc. No. I-28-2006.
205. *Tegonotus mangiferae* (Keifer, 1946)  
*Tegonotus mangiferae* (Keifer). Abreu et al. 1987: 400. Segarra and Nieves 2006: 153.  
Ex *Mangifera indica*.
206. *Vasates dominguensis* Cromroy, 1958  
*Vasates dominguensis* Cromroy, 1958: 122; O'Farill and Medina-Gaud 2007b: 50.  
Ex *Petitia dominguensis*.

Family: Erythraeidae

207. *Callidosoma* sp.  
*Callidosoma* sp. Abreu et al. 1987: 401.

Ex *Heliothis virescens* and *Hedylepta indicata*. Additional record: Isabela, Mar. 1988, E. Abreu, ex *Spodoptera frugiperda*, Acc. No. I-2-88.

Family: Eupodidae

208. *Benoinyssus* sp.

*Benoinyssus* sp. Peck 1981: 74.

Ex bat's guano.

209. *Linopodes* sp.

*Linopodes* sp. Abreu et al. 1987: 401.

Ex forest litter.

Family: Halacaridae

210. *Copidognathus grandiosus* Bartsch, 1984

*Copidognathus grandiosus* Bartsch, 1984: 187.

Ex marine sponge.

211. *Scaptognathus ornatus* Bartsch, 1984

*Scaptognathus ornatus* Bartsch, 1984: 192.

Ex marine sponge in Vieques Island, Bo. Esperanza.

Family: Myobiidae

212. *Eudusbabekia ecuadorensis* Fain, 1973

*Eudusbabekia ecuadorensis*. Kurta et al. 2007: 955.

Ex. *Mormoops blainvillii*.

213. *Myobia musculi* (Schrank, 1781)

*Myobia musculi* (Schrank). Fox 1946a: 446; Wolcott 1948: 27.

Ex *Mus musculus*.

214. *Radfordia ensifera* (Poppe, 1846)

*Radfordia ensifera* (Poppe). Fox 1946a: 446; Wolcott 1948: 27.

Ex *Rattus norvegicus*.

Family: Nanorchestidae

215. *Nanorchestes* sp.

*Nanorchestes* sp. Peck 1981: 74.

Ex bat's guano.

Family: Pontarachnidae

216. *Litarachna lopezae*, Pešić, Chatterjee, Alfaro and Schizas, 2014

*Litarachna lopezae* Pešić, Chaterjee, Alfaro and Schizas. Pešić et al. 2014: 91.

Ex mesophotic coral ecosystem.

217. *Litarachna* sp.

*Litarachna* sp. Pešić et al. 2014: 91.

Ex tube of polychaete *Sabellastarte magnifica*.

218. *Pontarachna nemethi* Pešić, Chaterjee and Schizas, 2012

*Pontarachna nemethi*. Pešić, Chaterjee and Schiza. Pešić et al. 2012: 63.

Ex mesophotic coral ecosystem.

Family: Pterygosomatidae

219. *Geckobia hemidactyli* (Law, 1936)

*Geckobia hemidactyli*. Martínez-Rivera et al. 2003: 321.

Family: Pyemotidae

220. *Pyemotes tritici* (Lagréze-Fossat and Montagne, 1851)

*Pyemotes tritici* (Lagréze-Fossat and Montagne). Abreu et al. 1987: 401 (OSAL 68014).

Ex parasitized egg mass of *Diaprepes abbreviatus*.

Family: Stigmaeidae

221. *Agistemus* sp.

*Agistemus* sp. Isabela, 9 May 2007, E. Abreu, ex unknown plant, Acc. No. I-47-2007. **NR**.

222. *Macrostigmaeus* sp.

*Macrostigmaeus* sp. Peck 1981: 73.

Ex bat's guano.

223. *Storchia* sp.

*Apostigmaeus* sp. Abreu et al. 1987: 401.

Ex cave litter.

Family: Tarsonemidae

224. *Floridotarsonemus rebros* (Cromroy, 1958).

*Tarsonemus rebros* Cromroy, 1958: 102; Lin and Zhang 2002: 78; O'Farrill-Nieves and Medina-Gaud 2007b: 50.

Ex *Alchornea latifolia*.

225. *Fungitarsonemus borinquensis* Cromroy, 1958  
*Fungitarsonemus borinquensis* Cromroy, 1958: 113; Abreu 1990:30, 32; Lin and Zhang 2002: 80; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
 Ex *Coffea arabica*.
226. *Polyphagotarsonemus latus* (Banks, 1907)  
*Hemitarsonemus latus* Banks. Wolcott 1948: 30; Cromroy 1958: 111; Moutia 1958: 64; Abreu 1990:30-32; Armstrong 1990: 33; Franqui et al. 1991: 88; Anonymous 1992: 15; Abreu 1994:60; Orengo-Santiago et al. 1999: 22; Lin and Zhang 2002: 120; Nieves et al. 2004: 27; Armstrong and Cabrera 2005: 60; Segarra and Nieves 2006: 153.  
 Ex *Asclepias curassavica*, *Carica papaya*, *Capsicum annuum*, *Centrosema pubescens*, *Dioscorea* sp., *Lablab purpureus* (as *Dolichos lablab*), *Lycopersicon lycopersicum*, *Mangifera indica* and *Solanum tuberosum*. Additional records: Corozal, 15 Jun. 1988, A. Pantojas, ex *Nasturtium officinale*, Acc. No. I-5-88; Mayagüez, 18 Nov. 1987, E. Abreu, ex *Gerbera jamesonii*, Acc. No. I-19-87; San Sebastian, 28 Apr. 1998, E. Abreu, ex *Phaseolus vulgaris*, Acc. No. I-4-98.
227. *Steneotarsonemus ananas* (Tryon, 1898)  
*Tarsonemus ananas* Tryon. Wolcott 1948: 29.  
*Steneotarsonemus ananas* (Tryon). Cromroy 1958: 40.  
 Ex *Ananas comosus*.
228. *Steneotarsonemus bancrofti* (Michael, 1890)  
*Tarsonemus spinipes* Hirst. Smyth 1919: 135.  
*Tarsonemus bancrofti* (as *spinipes* Hirst) (Michael). Ewing 1939: 39; Wolcott 1948: 29; Moutia 1958: 64.  
*Steneotarsonemus bancrofti* (Michael). Cromroy 1958: 40; Abreu 1990: 30.  
 Ex *Saccharum officinarum* stalk.
229. *Steneotarsonemus furcatus* De León, 1956  
*Steneotarsonemus furcatus* De León. Howard et al. 1990: 249.  
 Ex *Cocos nucifera* fruit.
230. *Steneotarsonemus martorelli* Cromroy, 1958  
*Steneotarsonemus martorelli* Cromroy, 1958: 107. Lin and Zhang 2002: 177.  
 Ex *Pluchea odorata* (as *P. purpurascens*).
231. *Steneotarsonemus perezii* Cromroy, 1958  
*Steneotarsonemus perezii* Cromroy, 1958: 109; Abreu 1990:30; Lin and Zhang 2002: 179.  
 Ex *Ananas comosus*.

232. *Steneotarsonemus spinki* Smiley, 1967  
*Steneotarsonemus spinki* Smiley. Correa-Victoria 2007: 1; Rebecca 2007: 1; Hummel et al. 2009: 551.  
Ex *Oryza sativa*.
233. *Tarsonemus* sp.  
*Tarsonemus* spp. Peck and Kukalova 1981: 64.  
Ex bat's guano at Mona Island.
234. *Tarsonemus fusarii* Cooreman, 1941  
*Tarsonemus fusarii* Cooreman. Peck and Kukalova 1981: 64.  
Ex bat's guano at Mona Island.
235. *Tarsonemus gramineus* Cromroy, 1958  
*Tarsonemus gramineus* Cromroy, 1958: 94. Abreu 1990: 30; Lin and Zhang 2002: 230.  
Ex *Paspalum paniculatum*.
236. *Tarsonemus labrus* Cromroy, 1958  
*Tarsonemus labrus* Cromroy, 1958: 96; Abreu 1990: 32; Lin and Zhang 2002: 241; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Artocarpus altilis* (as *A. communis*).
237. *Tarsonemus modicus* Cromroy, 1958  
*Tarsonemus modicus* Cromroy, 1958: 97; Lin and Zhang 2002: 251; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Bixa orellana*.
238. *Tarsonemus prominens* Cromroy, 1958  
*Tarsonemus prominens* Cromroy, 1958: 99; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Cocos nucifera* var. golden dwarf.
239. *Tarsonemus purpurus* Cromroy, 1958  
*Tarsonemus purpurus* Cromroy, 1958: 100; Lin and Zhang 2002: 269; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Myrsine coriacea* (as *Rapanea ferruginea*).
240. *Tarsonemus rotundus* Cromroy, 1958  
*Tarsonemus rotundus* Cromroy, 1958: 103; Lin and Zhang 2002: 274; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Pterocarpus* sp.
241. *Tarsonemus* sp. nr. *randsi* Ewing, 1939

*Tarsonemus* sp. nr. *randsi* Ewing. Isabela, Agr. Exp. Stn., 29 Jan. 1986, E. Abreu, ex *Cocos nucifera*, Acc. No. I-17-86.

242. *Tarsonemus* nr. *smithi* Ewing, 1939

*Tarsonemus* nr. *smithi* Ewing. Migeon and Dorkeld 2006-15. Additional records: Isabela, Agr. Exp. Stn., 6 Nov. 2007, E. Abreu, ex *Cordia sebestena*, Acc. No. I-77-2007; Isabela, 1 Jan. 2008, E. Abreu, ex *Muraya paniculata*, Acc. No. I-2-2008.

243. *Tarsonemus tertiapilus* Cromroy, 1958

*Tarsonemus tertiapilus* Cromroy, 1958: 104; Lin and Zhang 2002: 296; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
Ex *Elaeis guineensis*.

244. *Xenotarsonemus cadeae* Cromroy, 1958

*Xenotarsonemus cadeae* Cromroy, 1958: 115; Lin and Zhang 2002: 312.  
Ex *Centrosema virginianum*.

#### Family: Tenuipalpidae

245. *Brachypalpus absens* (De León, 1965)

*Brevipalpus absens* De León, 1965a: 195.  
*Brachypalpus absens* De León. Mesa et al. 2009: 22.  
Ex *Miconia foveolata*.

246. *Brevipalpus bakeri* Cromroy, 1958

*Brevipalpus bakeri* Cromroy, 1958: 78; Mesa et al. 2009: 24.  
Ex *Guarea glabra* (as *G. ramiflora*).

247. *Brevipalpus bucerasae* De León

*Brevipalpus bucerasae* De León, 1965a: 195; Mesa et al. 2009: 25.  
Ex *Bucida buceras*.

248. *Brevipalpus californicus* (Banks, 1904)

*Brevipalpus australis* (Tucker). Cromroy 1958: 79; Abreu 1990:32.  
Ex *Amaranthus spinosus*, *Bidens alba* var. *radiata* (As *B. pilosa*), *Chromolaena odorata* (As *Osmia odorata*), *Parthenium hysterophorus* and *Phyllanthus niruri*. Additional records: Adjuntas, 4 Dec. 2006, E. Abreu, ex *Citrus sinensis*, Acc. No. I-33-2006, Isabela, 2 Mar. 2007, E. Abreu, ex *Citrus sinensis*, Acc. No. I-18-2007.

249. *Brevipalpus longisetosus* Baker, 1949

*Brevipalpus longisetosus* Baker, 1949: 377.  
Ex undetermined plant.

250. *Brevipalpus nr. mori* De León, 1960

*Brevipalpus nr. mori* De León, 1965a: 195.

Ex *Boureria succulenta*.

251. *Brevipalpus obovatus* Donnadieu, 1875

*Brevipalpus inornatus* (Banks). Cromroy 1958: 81.

*Brevipalpus obovatus* Donnadieu. De León 1965a: 193; Colberg 1988: 620; O'Farrill-Nieves and Medina-Gaud 2007a: 103, 2007b: 50.

Ex *Asparagus officinalis*, *Bidens alba* (As *B. pilosa*), and *Salvia splendens*. Additional record: Corozal, Agr. Exp. Stn., 19 Apr. 2007, E. Abreu, ex *Citrus sinensis*, Acc. No. I-43-2007.

252. *Brevipalpus phoenicis* (Geijskes, 1939)

*Brevipalpus phoenicis* (Geijskes). Cromroy 1958: 82; De León 1965a: 193; Abreu 1990:32; CABI/EPPO, 2013.

Ex *Bidens alba* (As *B. pilosa*), *Bidens cynapiifolia*, *Citharexylum caudatum* (As *C. fruticosum*), *Cocos nucifera*, *Cordia alliodora*, *Cordia sebestena*, *Erythrina* sp., *Inga vera*, *Ipomoea pescaprae*, *Malvaviscus* sp., *Merremia umbellata*, and *Pseudelephantopus spicatus*. Additional record: Isabela, 20 Nov. 2006, E. Abreu, ex *Citrus sinensis*, Acc. No. I-10-2006; Isabela, St 113, 1 Nov. 2007, E. Abreu, ex *Phoenix roebelenii*, Acc. No. I-92-2007.

253. *Brevipalpus trinidadensis* Baker, 1949

*Brevipalpus trinidadensis* Baker. De León 1965a: 193; Evans et al. 1993: 136.

Ex *Banara spicta*, *Bidens alba* (As *B. pilosa*), *Boerhavia erecta*, *Clerodendrum* sp., *Cyanthillium* (as *Vernonia*) *cinerea*, *Euphorbia heterophylla* (as *E. geniculata*), *Jasminum fluminense* (as *J. azoricum*), *Lantana involucrata*, *Merremia umbellata*, *Nephrolepis biserrata*, *Sida stipularis* (as *S. acuta*) and *Tridax procumbens*.

254. *Brevipalpus yothersi*, Baker, 1949

*Brevipalpus yothersi*. Beard et al. 2012 and 2015: 55.

Ex fig leaf.

255. *Dolichotetranychus floridanus* (Banks, 1900)

*Dolichotetranychus floridanus* (Banks). Medina-Gaud 1964: 67; Jeppson et al. 1975: 281; Abreu 1990: 30; Beard et al. 2012.

Ex *Ananas comosus*.

256. *Histriopalpus longisetosus* (Pritchard and Baker, 1958)

*Histriopalpus longisetosus* (Pritchard and Baker). Mesa et al. 2009: 36.

*Brevipalpus longisetosus* Pritchard and Baker. Baker 1949a: 377; Cromroy 1958: 40.

Ex unknown plant.

257. *Raoiella indica* Hirst, 1924

*Raoiella indica* Hirst. Calero et al. 2006: 5; O'Farrill-Nieves and Medina-Gaud 2007b: 50; Pons and Bliss 2007: 4; Rodrigues 2007: 103, b:19; Rodrigues and Ramírez-Lluch 2007: 1; Rodrigues et al. 2007: 22; Cruz et al. 2008: 58; Roda et al. 2008: 80; Marengo et al. 2009: 1; Colón and Rodrigues 2009: 7; Rodrigues et al. 2010: 1; Beard et al. 2012; Dowling et al. 2012: 259; Roda et al. 2012: 291; Rodrigues and Irish 2012: 309; Rodrigues and Peña 2012: 317; Jenkins et al. 2014: 49; Hoy et al. 2015: 1. Ex *Acoelorrhaphe wrightii*, *Aiphanes* sp., *Areca catechu*, *Bactris plummeriana*, *Caryota mitis*, *Chamaedorea* spp., *Cocos nucifera*, *Heliconia* spp., *Musa acuminata*, *M. paradisiaca* and *Veitchia merrillii*.

258. *Tenuipalpus anoplus* Baker and Pritchard, 1953

*Tenuipalpus anoplus* Baker. De León 1965a: 195.

Ex *Swietenia mahagoni*.

259. *Tenuipalpus bakeri* McGregor, 1949

*Tenuipalpus bakeri* McGregor. De León 1965a: 195, 1967a: 41; Evans et al. 1993: 147.

Ex *Psychotria berteriana*.

260. *Tenuipalpus frondosus* Cromroy, 1958

*Tenuipalpus frondosus* Cromroy, 1958: 84. De León 1965a: 195; Abreu 1990:32; Mesa et al. 2009: 82

Ex *Cyathea* (as *Trichipteris*) *borinquena* and fern tree.

261. *Tenuipalpus gumbolimbos* De León, 1961

*Tenuipalpus gumbolimbos* De León, 1965a: 195.

Ex *Hura crepitans*.

262. *Tenuipalpus pacificus* Baker, 1945

*Tenuipalpus pacificus* Baker. Martorell 1959: 3; Martorell and Medina-Gaud 1974: 118; Abreu 1990:33; O'Farrill-Nieves and Medina-Gaud 2007a: 103, 2007b: 50; Beard et al. 2012.

Ex *Cattleya* sp. orchid. Additional record: San Juan, 6 Sep. 1977, S. Medina-Gaud, ex *Platyterium* sp., Acc. No. PR 52-77, det. R. L. Smiley, SEL.

263. *Tenuipalpus panici* De León, 1965

*Tenuipalpus panici* De León, 1965a: 196; Mesa et al. 2009: 90.

Ex *Megathyrsus maximum* (as *Panicum maximum*).



264. *Tenuipalpus simarubae* De León, 1965  
*Tenuipalpus simarubae* De León, 1965a: 196; Mesa et al. 2009: 95.  
 Ex *Bursera simaruba*.

265. *Tenuipalpus simplychus* Cromroy, 1958  
*Tenuipalpus simplychus* Cromroy, 1958: 85; O'Farrill-Nieves and Medina-Gaud 2007b: 50; Mesa et al. 2009: 95.  
 Ex *Cordia sulcata*.

266. *Tenuipalpus tabebuiae* De León, 1965  
*Tenuipalpus tabebuiae* De León, 1965a: 195.  
 Ex *Tabebuia* sp.

267. *Tenuipalpus uvae* De León, 1965  
*Tenuipalpus uvae* De León, 1965a: 195, 1967a: 43.  
 Ex *Guazuma ulmifolia* and *Spondias dulcis*.

Family: Tetranychidae

268. *Eotetranychus lewisi* (McGregor, 1943)  
*Eotetranychus lewisi* (McGregor). Isabela, Agr. Exp. Stn., 12 Jan. 2000, E. Abreu, ex *Carica papaya*, Acc. No. I-3-2000, det. R. Ochoa, USDA, SEL; Isabela, Agr. Exp. Stn, 9 Jan. 2001, E. Abreu, ex *C. papaya*, Acc. No. I-1-2001. det. A. Belloti, CIAT. **NR**.

269. *Eurytetranychus banksi* (McGregor, 1914)  
*Eutetranychus banksi* (McGregor). Cromroy 1958: 49; Abreu 1990: 32.  
 Ex *Erythrina* sp. and *Trichilia pallida*. Additional record: Juana Díaz, Agr. Exp. Stn., 6 Oct. 1987, A. Pantojas, ex *Citrus* sp., Acc. No. I-15-87.

270. *Oligonychus pratensis* (Banks, 1912)  
*Oligonychus pratensis* (Banks). Cromroy 1958: 56; Jeppson et al. 1975: 212; Abreu 1990:30; Bolland et al. 1998: 124.  
 Ex *Paspalum fimbriatum*.

271. *Oligonychus punicae* (Hirst, 1926)  
*Oligonychus punicae* (Hirst). Cromroy 1958: 59; Jeppson et al. 1975: 198; Abreu 1990: 31-32; Anonymous 1988: 19; O'Farrill-Nieves and Medina-Gaud 2007b: 50.  
 Ex *Mangifera indica* and *Persea americana*. (Aponte (1976) reported that *O. yothersi* as pest in Puerto Rico but probably refered to this species).

272. *Oligonychus sacchari* (McGregor, 1942)

*Paratetranychus sacchari* McGregor, 1942: 91. Wolcott and Martorell 1943: 102; Wolcott 1948: 29; McGregor 1950: 351; Abreu 1990:30; Bolland et al. 1998: 129; Migueon and Dorkeld 2006; Vélez 2014: 344.

*Oligonychus sacchari* (McGregor). Pritchard and Baker 1955: 355. Cromroy 1958: 60. Jeppson et al. 1975: 216.

Ex *Saccharum officinarum*.

273. *Oligonychus smithi* Cromroy, 1958

*Oligonychus smithi* Cromroy, 1958: 61; O'Farrill-Nieves and Medina-Gaud 2007b: 50; Bolland et al. 1998: 129; Migueon and Dorkeld 2006-15.

Ex *Tetrazygia elaeagnoides*.

274. *Oligonychus viridis* (Banks, 1894)

*Paratetranychus viridis* Banks. Smyth 1919: 135, 1920b: 84; Wolcott 1948: 29.

*Oligonychus viridis* (Banks). Jeppson et al. 1975: 200; Bolland et al. 1998: 134; Migueon and Dorkeld 2006-15.

Ex *Saccharum officinarum* and white clover.

275. *Panonychus citri* (McGregor), 1916

*Panonychus citri* (McGregor). Denmark 1964: 1. Gottwald et al. 2002: 122; Toro (1989) listed *Eotetranychus sexmaculatus* Riley but this species have not been reported in Puerto Rico. Additional record: Corozal, Agr. Exp. Stn., 2 Feb. 1995, F. Román, ex *Citrus sinensis*, Acc. No. I-3-95.

276. *Schizotetranychus* sp.

*Schiotetranychus* sp. Medina-Gaud and García-Tudurí 1977: 409; Bolland et al. 1998: 161.

Ex *Oryza sativa*.

277. *Schizotetranychus asparagi* (Oudemans, 1928)

*Schizotetranychus asparagi* (Oudemans). Pritchard and Baker 1955: 238; Jeppson et al. 1975: 183; Abreu 1990:33; Baker and Tuttle 1994: 201; Migueon and Dorkeld 2006-15.

Ex *Asparagus officinalis* and ferns.

278. *Mononychellus caribbeanae* (McGregor, 1950)

*Tetranychus caribbeanae* McGregor, 1950: 283.

*Eotetranychus caribbeanae* (McGregor). Cromroy 1958: 52; Pritchard and Baker 1955: 147.

*Mononychellus caribbeanae* (McGregor). Jeppson et al. 1975: 189; Cruz 1980: 81; Abreu 1990: 31; O'Farrill-Nieves and Medina-Gaud 2007b: 50; Bolland et al. 1998: 90; Abreu 1999: 7; Vélez 2014: 344; Migueon and Dorkeld 2006-15.

Ex *Manihot esculenta* (*M. utilissima*). Additional records: Ponce, Mercedes Farm, 26 Aug. 1977, M. Perez, ex *Manihot esculenta*, Acc. No. PR 51-77, det. R. L. Smiley, SEL; Isabela, Agr. Exp. Stn., A. Segarra, ex *M. esculenta*, Acc. No. I-2-86; Isabela, Bo. Bejucos, 30 Jan. 1995, ex *M. utilissima*, E. Abreu, Acc. No. I-2-95.

279. *Mononychellus planki* (McGregor, 1950)

*Tetranychus planki* McGregor, 1950: 300.

*Eotetranychus planki* (McGregor). Cromroy 1958: 52; Pritchard and Baker 1955: 148.

*Mononychellus planki* (McGregor). Jeppson et al. 1975: 189; Abreu 1990: 31-32; Beaver et al. 1992: 20; O'Farrill-Nieves and Medina-Gaud 2007b: 50. Bolland et al. 1998: 92; Migueon and Dorkeld 2006-15.

Ex *Centrosema virginianum*, *Erythrina berteroana* and *Phaseolus vulgaris*. Additional record: Isabela, 26 Mar. 1990, E. Abreu, ex *Cajanus cajan*, Acc. No. I-7-90.

280. *Mononychellus progresivus* Doreste, 1981

*Mononychellus progresivus* Doreste. Nyiira 1982: 47; Migueon and Dorkeld 2006-15.

Ex. *Manihot utilissima*.

281. *Tetranychus* spp.

*Tetranychus* spp. Catoni 1920: 38; Leonard 1932: 124, 133; Plank and Winters 1949: 4.

Ex *Annona muricata*, *Exostema* (as *Cinchona*) sp., *Manihot utilissima* and citrus.

282. *Tetranychus abacae* Banks and Pritchard, 1962

*Tetranychus abacae* Banks and Pritchard. Abreu et al. 1987: 401; Abreu 1990: 31; Bolland et al. 1998: 175; Migueon and Dorkeld 2006-15.

Ex *Musa* spp.

283. *Tetranychus cinnabarinus* (Boisduval, 1867)

*Tetranychus cinnabarinus* (Boisduval). Cromroy 1958: 66; Jeppson et al. 1975: 221; Abreu 1990:31; Anonymous 1992: 15; Abreu 1994: 60; O'Farrill-Nieves and Medina-Gaud 2007a: 103, 2007b: 50.

Ex *Jatropha gossypifolia* (As *Adenoropium gossypifolium*) and *Manihot esculenta* (As *M. utilissima*). Additional records: Río Piedras, Agr. Exp. Stn., 12 Jun. 1974, H. Gandía, ex *Solanum melongena*, Acc. No. PR 50-74, det. E. W. Baker, USDA SEL; Río Piedras, Agr. Exp. Stn., 21 Jun. 1978, E. Abreu, ex *Rhynchosia* sp. (As *Dolicholus*), Acc. No. PR 23-78, det. R. L. Smiley, USDA SEL; Santurce, 27 Aug. 1976, S.

Medina-Gaud, ex *Codiaeum variegatum*, Acc. No. PR 70-76, det. E. W. Baker, USDA SEL.

284. *Tetranychus desertorum* Banks, 1900

*Tetranychus desertorum* Banks. Cromroy 1958: 69; Jeppson et al. 1975: 227; Bolland et al. 1998: 179; Migueon and Dorkeld 2006-15.

Ex *Cordia alliodora* and *Ipomoea* sp.

285. *Tetranychus evansi* Baker and Pritchard, 1960

*Tetranychus evansi* Baker and Pritchard. Medina-Gaud and García Tudurí 1977: 409; Abreu 1990: 30; Armstrong 1990: 33; Anonymous 1992: 15; Bolland et al. 1998: 182; Migueon and Dorkeld 2006-15; OSAL (53476); Vélez 2014: 344.

Ex *Lycopersicon lycopersicum*.

286. *Tetranychus gloveri* Banks, 1900

*Tetranychus gloveri* Banks. Bolland et al. 1998: 185; Migeon and Dorkeld 2006-15.

*Tetranychus quinquenychus* McGregor. Cotton 1918a: 256, 1918b: 291.

*Tetranychus antillarum* Banks, 1917: 1940.

Ex *Asclepias curassavica*

287. *Tetranychus ludeni* Zacher, 1913

*Tetranychus ludeni* Zacher. Cromroy 1958: 71; Jeppson et al. 1975: 227.

Ex *Digitaria insularis*, *Ipomoea* sp., *Lantana camara* and *Trichachne insularis*.

288. *Tetranychus marianae* McGregor, 1950

*Tetranychus marianae* McGregor. Cromroy 1958: 72; Jeppson et al. 1975: 228; Abreu 1990: 30; Bolland et al. 1998: 185; Migeon and Dorkeld 2006-15.

Ex *Abelmoschus esculentus*, *Petiveria alliacea* and *Urena lobata*.

289. *Tetranychus neocaledonicus* Andre, 1933

*Tetranychus equatorius* McGregor, 1950: 285.

*Tetranychus cucurbitae* Rahman and Punjab. Abreu 1990: 31, 33; Pritchard and Baker 1955: 420; McGregor 1950: 285; Cromroy 1958: 68; Jeppson et al. 1975: 229; Abreu 1990: 30; Armstrong 1990: 33; Anonymous 1992: 15; Bolland et al. 1998: 185; Migeon and Dorkeld 2006-15.

Ex *Bauhinia purpurea*, *Cajanus cajan* (As *Cajanus cajanus*), *Cordia alliodora*, *Datura stramonium*, *Gynandropsis* (As *Cleome*) *gynandra*, *Ipomoea* sp., *Lablab purpureus* (As *Dolichos lablab*), *Lycopersicon lycopersicum*, *Phyllanthus niruri*, and *Pueraria montana* var *lobata* (as *P. hirsuta*). Additional records: Río Piedras, Agr. Exp. Stn., 3 Feb. 1986,

A. Rodríguez, ex *Oryza sativae*, Puerto Rico Acc. No. 12-86; Isabela, 4 Nov. 1986, E. Abreu, ex *Bauhinia purpurea*, Acc. No. I-27-86; Isabela, 27 Feb. 1986, E. Abreu, ex *Dieffenbachia seguine* (as *D. maculata*), Acc. No. I-7-86; Isabela, Urb Medina, 11 Feb. 2008, E. Abreu, ex *Averrhoa carambola*, Acc. No. I-6-2008.

290. *Tetranychus tumidus* (Banks, 1900)

*Tetranychus antillarum* Banks, 1917: 194.

*Tetranychus tumidus* Banks. Cromroy 1958: 73; Jeppson et al. 1975: 230; Ingles 1985: 35; O'Farrill et al. 1986:17; Abreu 1990: 31-33; Abreu 1994: 60; Migueon and Dorkeld 2006-15.

Ex *Abelmoschus esculentus*, *Amaranthus bispinosus*, *Asclepias curassavica*, *Caladium bicolor* (as *C. colocasia*), *Centrosema pubescens*, *Colocasia esculenta*, *Elephantopus mollis*, *Gossypium barbadense*, *Ipomoea batatas*, *Ipomoea indica* var *acuminata* (as *I. learii*), *Leonotis nepetaefolia*, *Macroptilium lathyroides*, *Rauwolfia viridis* (As *Rauwolfia lamarckii*), *Salvia splendens*, *Sida stipularis* (as *S. acuta* or *S. carpinifolia*), *Synedrella nodiflora* and *Xanthosoma violaceum*. Additional records: Isabela, 3 Apr. 1976, E. Abreu, ex *Ricinus communis*, Acc. No. I-2-76, det. G. S. Ide, OSU (OSAL 53575-6, 53592); Gurabo, Agr. Exp. Stn., 17 Sep. 1975, S. Rodríguez, ex *Anthurium* sp., Acc. No. PR 146-75, det. E. W. Baker, SEL; Río Piedras, 7 Jul. 1978, E. Abreu, ex *Colocasia* sp., Acc. No. PR 24-78, det. R. L. Smiley, USDA SEL; Río Piedras, 8 Sep. 1978, E. Abreu, ex *Amaranthus* sp., Acc. No. PR 26-78; Juana Díaz, Fortuna Agr. Exp. Stn., 28 Apr. 1975, A. Beale-Cosio, ex *Musa* sp., PR Acc.No. 64-75, det. E. W. Baker, SEL; Río Piedras, Agr. Exp. Stn., 9 Aug. 1978, E. Abreu, ex *Ricinus communis*, Acc. No. PR 25-78, det. R. L. Smiley, SEL; Isabela, Agr. Exp. Stn., 9 Aug. 1987, E. Abreu, ex *Hippeastrum puniceum*, Acc. No. I-9-87; Isabela, Agr. Exp. Stn, 12 Feb. 1990, E. Abreu, ex *Glycine max*, Acc. No. I-1-90; Isabela, 5 May 1998, E. Abreu, ex *Typha* sp., Acc. No. I-16-98; Isabela, 23 Apr. 1998, E. Abreu, ex *Colocasia esculenta*, Acc. No. I-3-98; Isabela, 8 Nov. 2005, E. Abreu, ex *Carica papaya*, Acc. No. I-8-2005; Isabela, 29 Mar. 2006, E. Abreu, ex *Cajanus cajan*, Acc. No I-3-2006, Isabela, Agr. Exp. Stn., 17 Feb. 2007, E. Abreu, ex *Veitchia merrillii*, Acc. No. I-5-2007.

291. *Tetranychus urticae* Koch, 1836

*Tetranychus quinquenychus* (McGregor). Cotton 1918a: 256, 1918b.

*Tetranychus bimaculatus* Harvey. Felt 1914: 481; Wolcott 1948: 29; Rodríguez and Martorell 1956: 83; Abreu 1990: 30; Gagné 1995: 26.

*Tetranychus telarius* (L). Wolcott 1948: 29; O'Farrill-Nieves and Medina-Gaud 2007b: 50,

*Tetranychus urticae* Koch. Abreu 1990:32; Bolland et al. 1998: 185; Migeon and Dorkeld 2006-15; O'Farrill-Nieves and Medina-Gaud 2007a: 103.

Ex *Gossypium barbadense*, *Medicago sativa*, *Vigna* sp. and *Phaseolus vulgaris*. Additional records: Río Piedras, 20 May 1976, L. Liu, ex *Rosa* sp., Acc. No. PR 51-76, det. E. W. Baker, USDA, SEL; Barranquitas, Bo. Canobro, Sector La Torre, 12 Mar. 1986, A. del Valle, ex *Arracacia xanthorrhiza*, Acc. No. I-14-86; Isabela, Bo. Arenales Altos, 1 Nov. 1995, E. Abreu, ex plantain (*Musa balbisiana* x *M. acuminata*), Acc. No. I-16-95.

Family: Trombiculidae

292. *Enemothrombium* sp.

*Enemothrombium* sp. Legner 1965: 112.

Ex animal excrement.

293. *Eutrombicula (Eutrombicula) alfreddugesi* (Oudemans, 1902)

*Trombicula tropica* Ewing. Anonymous 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31.

*Trombicula (Eutrombicula) alfreddugesi* (Oudemans). Wharton and Fuller 1952: 113; Kurta et al. 2007: 953.

Ex goat, hen, horse, man and *Pteronotus quadridens*.

294. *Eutrombicula (Eutrombicula) batatas* (L.)

*Trombicula (Eutrombicula) batatas* (L). Wharton and Fuller 1952: 113.

Ex man and domestic animals.

295. *Microtrombicula boneti* (Hoffmann, 1952)

*Microtrombicula boneti*. Kurta et al. 2007: 955.

Ex *Pteronotus quadridens* and *Mormoops blainvillii*.

296. *Microtrombicula carmenae* Brennan and Jones, 1960

*Microtrombicula carmonae*. Kurta et al. 2007: 955.

Ex *Pteronotus quadridens* and *Mormoops blainvillii*.

297. *Perates discors* (Bennan and Jones, 1960)

*Perates discors*. Kurta et al. 2007: 955.

Ex *Pteronotus quadridens* and *Mormoops blainvillii*.

298. *Perates monops* (Brennan and Jones, 1960).

*Perates monops*. Kurta et al. 2007: 955.

Ex *Pteronotus quadridens* and *Mormoops blainvillii*.

299. *Perates anophthalma* (Hoffmann, 1960)

*Perates anophthalma*. Kurta et al. 2007: 955.

Ex *Mormoops blainvillii* and *Pteronotus parnellii*.

300. *Whartonia (Asolentria) guerrerensis* (Hoffmann, 1960)  
*Whartonia (Asolentria) guerrerensis*. Kurta et al. 2007: 955; Vélez  
2014: 344.  
Ex *Pteronotus quadridens* and *Mormoops blainvillii*.

Family: Tuckerellidae

301. *Tuckerella knorii* Baker and Tuttle, 1975  
*Tuckerella knorii* Baker and Tuttle. Isabela, Urb. Medina Bo. Mora,  
Nov 1990, coll. E. Abreu, ex *Citrus aurantifolia*, Acc. No. I-18-90.  
**NR**

302. *Tuckerella ornata* (Tucker, 1926)  
*Tuckerella ornata* (Tucker). Isabela, 25 Nov. 1988, E. Abreu, ex *Citrus*  
*aurantifolia*, Acc. No. I-6-88. **NR**.

303. *Tuckerella pavoniformis* Ewing, 1922  
*Tuckerella pavoniformis* Ewing. Abreu et al. 1987: 401.  
Ex *Hibiscus rosa sinensis*.

Family: Tydeidae

304. *Lorryia boycei* Baker, 1944  
*Lorryia boycei* Baker. Abreu et al. 1987: 401.  
Ex *Citrus* sp. Additional record: Isabela, Agr. Exp. Stn., 4 Feb. 1997, E.  
Abreu, ex *Citrus sinensis*, Acc. No I-7-97.

305. *Lorryia formosa* Cooreman, 1958  
*Lorryia formosa* Baker. Isabela, Agr. Exp. Stn., 30 Apr. 1997, E. Abreu,  
ex *Citrus sinensis*, Acc. No. I-7-97. **NR**.

306. *Microtydeus* sp.  
*Microtydeus* sp. Peck and Kukalova 1981: 64.  
Ex cave litter Mona Island, Diamante Cave.

307. *Tydeus* nr. *catenulata* (Thor, 1931)  
*Lorryia* nr. *catenulata* (Thor). Isabela, Agr. Exp. Stn., 17 Nov. 2006,  
E. Abreu, ex *Calophyllum antillanum* (as *calaba*), Acc. No. I-46-2006.  
**NR**.

308. *Tydeus* spp.  
*Tydeus* spp. Peck 1981: 73; Howard et al. 1990: 249; Abreu 1994:60.  
Ex bat's guano, *Cocos nucifera* and *Carica papaya*.

**Order Sarcoptiformes****Suborder Oribatida****Cohort Astigmata**

## Family: Acaridae

309. *Acotyledon* sp. nr. *krameri* (Berlese, 1881)  
*Acotyledon* sp. nr. *krameri* (Berlese). Peck 1981: 72.  
Ex bat's guano.

310. *Horstia* sp.  
*Horstia* sp. Abreu et.al. 1987: 401.  
Ex *Xylocopa mordax*.

311. *Rhizoglyphus echinopus* Fumouze and Robin, 1868  
*Rhizoglyphus phylloxerae* Riley. Wolcott 1936: 901; Plank 1948: 21.  
Ex *Diaprepes abbreviatus* and *Strategus quadrifoveatus*.

312. *Rhizoglyphus* sp.  
*Rhizoglyphus* sp. Peck 1981: 73.  
Ex bat's guano. Additional record: Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-32-75, det. G. S. Ide, OSU, OSAL 46942.

313. *Sancassania* sp.  
*Sancassania* sp. Peck 1981: 73.  
Ex bat's guano.

314. *Tyrophagus* sp.  
*Tyroglyphes* sp. Smyth 1917 (a): 9.  
*Tyrophagus* sp. Río Piedras, 18 Nov. 1977, S. Medina-Gaud, ex *Cannabis sativa*, Acc. No. PR 61-77, det. R. L. Smiley, USDA SEL.

315. *Tyrophagus lintneri* (Osborn, 1886)t  
*Tyroglyphes lintneri* (Osborn). Childers and Cibes 1948: 48; Wolcott 1948: 27.  
Ex mushroom and *Vanilla planifolia*.

316. *Tyrophagus longior* (Gervais, 1844)  
*Tyroglyphus heteromorphus* Felt. Smyth 1920a: 28; Wolcott 1948: 26.  
Ex *Strategus quadrifoveatus*. Additional record: Río Piedras, 18 Apr. 1977, S. Medina-Gaud and J. Rodríguez, ex *Solanum melongena* seed, Acc. No. PR 33-77, det. R. L. Smiley, USDA SEL.



317. *Tyrophagus putrescentiae* (Schrank, 1781)  
*Tyrophagus putrescentiae* (Schrank). Maldonado-Capriles et al. 1991: 62.  
Ex dead human body. Additional record: Río Piedras, 18 Apr. 1977, S.  
Medina-Gaud and J. Rodríguez, ex *Solanum melongena* seed, Acc. No.  
PR 33-77, det. R. L. Smiley, USDA SEL; Isabela, Bo. Llanadas, 5 Jun.  
2006, E. Abreu, ex associated with dead ants, Acc. No. I-47-2006.

Family: Anagidae

318. *Bertsella* sp.  
*Bertsella* sp. Rodríguez-Ruiz 2011.  
Ex *Eulampis holosericeus*.

319. *Megninia cubitalis* (Megnin, 1877)  
*Megninia cubitalis* Megnin. Anonymous 1936: 24; Van Volkenberg  
1939: 2; Dickmans 1945: 239; Wolcott 1948: 31; Becklund 1964: 31.  
Ex hen, parakeet, and pigeon.

Family: Atopomelidae

320. *Chirodiscoides caviae* Hirst, 1917  
*Chirodiscoides caviae* Hirst. Tamsitt and Fox 1970a: 399.  
Ex *Cavia porcellus*.

Family: Chaetodactylidae

321. *Chaetodactylus* sp.  
*Trichotarsus* sp. Wolcott 1948: 26, 1955: 115.  
Ex *Chlorida festiva* and *Leucophaea maderae*.

Family: Chirodiscidae

322. *Dentocarpus silvai* Dusbabek and De La Cruz, 1966  
*Dentocarpus silvai* Dusbabek and De La Cruz. Tamsitt and Fox  
1970a: 399.  
Ex *Molossus molossus fortis* and *Mus musculus*.

323. *Lawrenceocarpus puertoricensis* De la Cruz, Tamsitt and  
Valdivieso, 1974.  
*Lawrenceocarpus micropilus* Dusbabek and De la Cruz. Tamsitt and  
Fox 1970a: 399; Gannon and Willig 1994: 182; Gannon et al. 2005: 172;  
Kurta et al. 2007: 955.  
*Lawrenceocarpus puertoricensis* De la Cruz, Tamsitt and Valdivieso.  
Webb and Loomis 1977: 86.  
Ex *Brachyphylla cavernarum*, *Pteronotus parnellii*, *Pteronotus qua-*  
*dridens*.

## Family: Cytoditidae

324. *Cytodites nudus* (Vizioli, 1870)

*Cytoleichus nudus* (Vizioli). Anonymous 1936: 24; Volkenberg 1939: 2; Dickmans 1945: 239; Wolcott 1948: 31.

*Cytodites nudus*. Becklund 1964: 31.

Ex birds.

## Family: Echimyopodidae

325. *Blomia tropicalis* Bronswijk, Cock and Oshima, 1973

*Blomia tropicalis* Bronswijk, Cock and Oshima. Arruda et al. 1997: 343; Montealegre et al. 1997b: 119, 1997a: 343, 2002: 87; Collazo and Díaz 2003: 346; Fonseca and Díaz 2003; Mora et al. 2003: 28; Montealegre et al. 2006a: 9, 2006b: 119, 2007: 110; Cruz et al. 2008: 163; Flores et al. 2003: 12; Milán and Díaz 2004: 50.

Ex mattresses dusts.

## Family: Epidermoptidae

326. *Epidermoptes* sp.

*Epidermoptes* sp. Anonymous 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31.

Ex hen.

327. *Myialges anchora* Sergent and Trouessart, 1907

*Myialges anchora* Sergent and Trouessart. McLaughlin 1968: 102; Abreu and Garris 1984a: 114.

Ex *Ornithoica confluenta* and *Pseudolynchia canariensis*.

## Family: Ewingiidae

328. *Askinasia antillarum* Fain, Yunker Van Goethen and Johnston, 1982

*Askinasia antillarum* Fain, Yunker Van Goethen and Johnston. Díaz et al. 2002b: 14; Rodríguez-Ruiz 2009. Additional record: Santa Isabel, Dec. 1999, A. Díaz, ex *Coenobita clypeatus* **NR**.

329. *Ewingia coenobitae* Pearse, 1929

*Ewingia coenobitae* Pearse. Díaz et al. 2002b: 14; Rodríguez-Ruiz 2009. Additional records: Santa Isabel, Dec. 1999, A. Díaz, ex *Coenobita clypeatus*; Isabela, Sardinera Beach, 25 Oct. 2006, E. Abreu, ex *Coenobita clypeatus*, Acc. No. I-9-2006. **NR**.

Family: Gabuciniidae

330. *Coraciacarus* sp.  
*Coraciacarus* sp. Rodríguez-Ruiz 2011.  
Ex *Coccyzus minor*.

331. *Piciformobia* sp.  
*Piciformobia* sp. Abreu and Garris 1984b: 115.  
Ex *Quiscalus niger brachypterus*.

Family: Histiostomatidae

332. *Ancyranoetes virkkii*, Fain and Santiago-Blay, 1993  
*Ancyranoetes virkkii*, Fain and Santiago-Blay, 1993: 339.  
Ex *Lema nigripes*.

333. *Histiostoma* sp.  
*Histiostoma* sp. Peck 1981: 73.  
Ex bat's guano.

334. *Ovanoetus* sp.  
*Ovanoetus* sp. Díaz et al. 2002b: 14; Rodríguez-Ruiz 2009.  
Ex *Coenobita clypeatus*.

Family: Knemidocoptidae

335. *Knemidokoptes mutans* (Robin and Lanquetin, 1859)  
*Cnemidocoptes mutans* (Robin and Lanquetin). Anonymous 1936: 24;  
Van Volkenberg 1929: 29.  
Ex hen.

Family: Labidocarpidae

336. *Paralabidocarpus artibeii* Pinichpongse, 1963  
*Paralabidocarpus artibeii* Pinichpongse. Tamsitt and Fox 1970a: 399;  
Webb and Loomis 1977: 86; Garrison and Willig 1996: 221; Gannon  
and Willig 1994: 182; Gannon et al. 2005:172.  
Ex *Stenoderma rufum darioi* and *Artibeus jamaicensis jamaicensis*.

337. *Paralabidocarpus foxi* De la Cruz, Tamsitt and Valdivieso, 1974  
*Paralabidocarpus foxi* De la Cruz, Tamsitt and Valdivieso, 1974: 7;  
Garrison and Willig 1996: 221; Gannon et al. 2005: 172.  
Ex *Artibeus jamaicensis jamaicensis* and *Stenoderma rufum darioi*.

338. *Paralabidocarpus stenodermi* De La Cruz, Tamsitt and  
Valdivieso, 1974

*Paralabidocarpus stenodermi* De la Cruz, Tamsitt and Valdivieso, 1974: 9; Webb and Loomis 1977: 87; Garrison and Willig 1996: 221; Gannon and Willig 1994: 182; Gannon et al. 2005: 172.

Ex *Artibeus jamaicensis jamaicensis* and *Stenoderma rufum darioi*.

Family: Listrophoridae

339. *Felistrophorus radovskyi* (Tenorio, 1974)

*Felistrophorus radovskyi* (Tenorio). Fox 1977b: 242; Fox and De León 1982: 139.

Ex cat and *Mus musculus*.

340. *Leporacarus gibbus* (Pagenstecher, 1861)

*Leporacarus gibbus* (Pagenstecher). Fox and De León 1979: 84.

*Listrophorus gibbus* Pagenstecher. Fox et al. 1967: 402; Tamsitt and Fox 1970a: 398; Rodríguez-Pastrana 1988: 13.

Ex *Oryctolagus cuniculus* and *Rattus norvegicus* and *Rattus rattus*.

341. *Listrophoroides* sp.

*Listrophoroides* sp. Fox, 1958: 761.

Ex *Rattus norvegicus* and *Rattus rattus*.

342. *Listrophoroides expansus* Ferris, 1932

*Listrophoroides expansus* Ferris. Fox and García-Moll 1961: 569; Fox et al. 1964: 887; Tamsitt and Fox 1970a: 399.

Ex *Rattus norvegicus* and *Rattus rattus* and *Mus musculus*.

343. *Listrophorus musculus* Wilson and Lawrence, 1967

*Listrophorus musculus* Wilson and Lawrence. Tamsitt and Fox 1970a: 399.

Ex *Mus musculus*.

Family: Myocoptidae

344. *Myocoptes musculus* (Koch, 1884)

*Myocoptes musculus* (Koch). Fox and De León 1979: 84.

Ex *Mus musculus*. Additional record: Río Piedras, Tropical Medicine School, 1 Feb. 1985, H. Seda, ex *Rattus* sp., Acc. No. I-3-85.

Family: Proctophyllodidae

345. *Proctophyllodes* sp.

*Proctophyllodes* sp. Abreu and Garris 1984b: 115; Rodríguez-Ruiz 2011.

Ex *Columbina passerina portoricensis* and *Quiscalus niger*.

Family: Psoroptidae

346. *Otodectes cynotis* (Hering, 1838)

*Otodectes cynotis* (Hering). Anonymous 1936: 24; 1938: 84; Van Volkenberg 1939: 2; Wolcott 1948: 31.

Ex cat and dog.

347. *Psoroptes ovis* (Hering, 1938)

*Psoroptes bovis* (Gerlach). Anonymous 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31.

Ex cattle, horse and sheep.

348. *Psoroptes cuniculi* (Delafond, 1859)

*Psoroptes communis* (Fürstenberg). Rivera 1922: 4; Dickmans 1927a: 31; 1929: 27.

*Psoroptes cuniculi* (Delafond). Van Volkenberg 1939: 2; Wolcott 1948: 31; Fox et al. 1967: 402.

Ex *Oryctolagus cuniculus*. Additional record: Cidra, Río Abajo, 4 Dec. 1981, E. Abreu, ex *Mus musculus*, Acc. No. I-24-81.

349. *Psoroptes equi* (Hering, 1838)

*Psoroptes equi* (Hering). Anonymous 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31. Ex horse.

Family: Pterolichidae

350. *Ardeacarus* sp.

*Ardeacarus* sp. Rodríguez-Ruiz 2011.

Ex *Ardea alba*.

Family: Pyroglyphidae

351. *Dermatophagoides* sp.

*Dermatophagoides* sp. Santos 1978: 420; Montealegre et al. 1997b: 109, 2007: 109, Mary et al. 2008: 163.

Ex house dust and mattresses dusts.

352. *Dermatophagoides farinae* Hughes, 1961

*Dermatophagoides farinae*. Montealegre et al. 1997b: 109; Milán and Díaz 2004: 51; Cruz et al. 2008: 163; Nazario et al. 2012: 25. Ex mattresses dusts.

353. *Dermatophagoides pteronyssinus* (Trouessart, 1897)

*Dermatophagoides pteronyssinus* Montealegre et al. 1997b: 109, 1997a: 343, 2002: 87; Collazo and Díaz 2003: 346; Flores et al. 2003: 12; Milán

and Díaz 2004: 51; Montealegre et al. 2006a: 9, 2006b: 119, 2007: 110; Cruz et al. 2008: 163; Nazario et al. 2012: 25; Laboy-Nieves 2015.  
Ex house mattresses dusts.

354. *Dermatophagoides siboney* Dusbabek, Cueva and De la Cruz, 1982

*Dermatophagoides siboney*. Milán and Díaz 2004: 51; Montealegre et al. 1997b: 109, 2007: 110.

Ex mattresses dusts.

355. *Euroglyphus maynei* (Cooreman, 1950)

*Euroglyphus longior* (Trouessart). Milán and Díaz 2004: 51; Montealegre et al. 1997b: 109, 2007b: 110, 2006b: 119; Cruz et al. 2008: 163.

Ex house mattresses dusts.

Family: Sarcoptidae

356. *Notoedres cati* (Hering, 1838)

*Notoedres cati* (Hering). Anonymous 1936: 24, 1938: 84; Volkenberg 1939: 2; Wolcott 1948: 31; Fox et al. 1967: 402.

Ex cat.

357. *Sarcoptes scabiei* (De Geer, 1877)

*Sarcoptes scabiei* var. *equi* Gerlach. Anonymous 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31.

*Sarcoptes scabiei* var. *canis* Gerlach. Wolcott 1948: 31.

*Sarcoptes canis* (Gerlach). Anonymous 1938: 84; Van Volkenberg 1939: 2.

*Sarcoptes scabiei* var. *suis* Gerlach. Rivera 1922: 8; Anonymous 1926: 13, 1936: 24; Van Volkenberg 1939: 2; Wolcott 1948: 31.

*Sarcoptes scabiei* (*ovis*) Megnin. Rivera 1922: 3.

*Sarcoptes scabiei* (*v. caprae*) Furstenburg. Rivera 1922: 8.

*Sarcoptes scabiei* var. *hominis* (Hering). Van Volkenberg 1939: 2;

Wooldridge 1948: 363; Vázquez-Botet and Ramos-Caro 1982: 19;

González-Ortiz 1989: 6; Vélez 2014: 346.

Ex cat, dog, goat, horse, man, sheep, and swine.

Family: Suidasiidae

358. *Suidasia pontifica* Oudemans

*Suidasia melanensis* (sic). Montealegre et al. 1997b: 109, 2007: 109.

*Suidasia pontifica* Oudemans, 1905; Fain and Philips 1978: 117

*Suidasia insectorum* Fox, 1950: 205.

Ex dead insects and mattresses dusts.

359. *Suidasia* sp.

*Suidasia* sp. Montealegre et al. 1997b: 111.

Ex mattresses dusts.

Family: Winterschmidtiiidae

360. *Calvolia transversostriata* (Oudemans, 1911)  
*Calvolia transversostriata* (Oudemans). De León 1967a: 45.  
Ex plant leaf. Additional record: Luquillo, 29 Nov. 1977, M. A. Díaz, ex  
unknown plant, Acc. No. PR 62-77, det. R. L. Smiley, USDA SEL.

**SubOrder Oribatida**

Family: Carabodidae

361. *Carabodes* nr. *jamaicensis* Wooley  
*Carabodes* nr. *jamaicensis* Wooley. Guánica, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-35-75, det. R. Norton, OSU. **NR.**

Family: Cymbaeremaeidae

362. *Scapheremaeus* sp.  
*Scapheremaeus* sp. Garrison and Willig 1996: 221. Ex forest litter.

Family: Dampfiellidae

363. *Beckiella* sp.  
*Beckiella* sp. Garrison and Willig 1996: 221.  
Ex forest litter.

Family: Damaeidae

364. *Belba* sp.  
*Belba* sp. Abreu et al. 1987: 401.  
Ex forest litter.

Family: Eremulidae

365. *Eremulus* sp.  
*Eremulus* sp. Garrison and Willig 1996: 221. Ex forest litter.

366. *Eremulus nigrisetosus* Hammer, 1958.  
*Eremulus nigrisetosus* Hammer. Abreu et al. 1987: 401.  
Ex forest litter.

Family: Galumnidae

367. *Acrogalumna* / *Allogalumna* group  
*Acrogalumna* / *Allogalumna* group. Garrison and Willig 1996: 221.  
Ex forest litter.

368. *Erogalumna* sp.

*Erogalumna* sp. Peck and Kukulova 1981: 64.

Ex bat's guano, Mona Island, Diamante Cave.

369. *Galumna* sp.

*Galumna* sp. Peck 1981: 73.

Ex. bat's guano. Additional records: Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-21-75, det. G. S. Ide, OSU; Río Piedras, 11 Aug. 1978, E. Abreu, ex forest litter, Acc. No. PR 27-78, det. R. L. Smiley, USDA SEL.

370. *Orthogalumna terebrantis* Wallwork, 1965

*Orthogalumna terebrantis* Wallwork. Isabela, 17 Nov. 2005, E. Abreu, ex *Eichhornia crassipes*, Acc. No. I-6-2005. **NR**.

371. *Pergalumna* sp.

*Pergalumna* sp. Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-37-75, det. R. Norton, OSU. **NR**.

372. *Trichogalumna* sp.

*Trichogalumna* sp. Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-37-75, det. R. Norton, OSU. **NR**.

## Family: Gymnodamaeidae

373. *Gymnodamaeus* sp.

*Gymnodamaeus* sp. Abreu et al. 1987: 401.

Ex forest litter.

## Family: Haplozetidae

374. *Haplozetes* sp.

*Haplozetes* sp. Peck 1981: 74; Garrison and Willig 1996: 221.

Ex bat's guano and forest litter.

375. *Rostrozetes* sp.

*Rostrozetes* sp. Garrison and Willig 1996: 221.

Ex forest litter.

376. *Rostrozetes foveolatus* Sellnick, 1925

*Rostrozetes foveolatus* Shellnick. Guánica, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-36-75, det. R. Norton, OSU. **NR**.



Family: Liacaridae

377. *Liacarus* sp.

*Liacarus* sp. Wolcott 1948: 27.

Ex *Saccharum officinarum* rotten stalk.

Family: Liodidae

378. *Liodes concentricus* (Say, 1821)

*Neoliodes concentricus* Banks. Wolcott 1948: 27.

Ex grass and tree bark.

Family: Lohmanniidae

379. *Lohmannia* sp.

*Lohmannia* sp. Peck and Kukalova 1981: 64.

Ex bat's guano, Mona Island, Las Loquetas Cave.

Family: Malaconothridae

380. *Malaconothrus* sp.

*Malaconothrus* sp. Peck 1981: 73; Peck and Kukalova 1981: 64.

Ex bat's guano, Mona Island, Las Loquetas Cave.

381. *Trimalaconothrus* sp.

*Trimalaconothrus* sp. Garrison and Willig 1996: 221. Ex forest litter.

Family: Mochlozetidae

382. *Dynatozetes* sp.

*Dynatozetes* sp. Hammer 1969: 72.

Ex plant materials.

383. *Mochloribatula* sp.

*Mochloribatula* sp. San Juan, USDA, PPQ interception, 1993, T. Ruiz, ex *Lantana camara*, det. R. Norton, 1993. **NR**.

384. *Podoribates* sp.

*Podoribates* sp. Peck 1981: 73.

Ex bat's guano. Additional record: Guánica, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-27-75, det. G. S. Ide, OSU.

Family: Nothridae

385. *Nothrus* sp.

*Nothrus* sp. Abreu et al. 1987: 401.

Ex forest litter.

## Family: Oppiidae

386. *Brachioppia* sp.

*Brachioppia* sp. Peck 1981: 73.

Ex bat's guano.

387. *Globoppia* sp.

*Globoppia* sp. Hammer 1969: 71.

Ex *Heliconia* sp.

388. *Lanceoppia* sp.

*Lanceoppia* sp. Abreu et al. 1987: 401.

Ex forest litter.

389. *Multioppia* sp.

*Multioppia* sp. Peck 1981: 73.

Ex bat's guano.

390. *Oppia* sp.

*Oppia* sp. Abreu et al. 1987: 401; Garrison and Willig 1996: 221.

Ex forest litter.

391. *Oppia nitens* Koch, 1839

*Damaeus nitens* Nicolet. Wolcott 1948: 27.

Ex debris and excrements of *Diatraea saccharalis*.

## Family: Oribatellidae

392. *Lamellobates* sp. nr. *palustris* Hammer, 1958

*Lamellobates* sp. nr. *palustris* Hammer. Guánica, Jun.-Jul. 1975, J.

Maldonado-Capriles, ex forest litter, Acc. No. I-38-75. **NR.**

## Family: Parakalummidae

393. *Neoribates* sp.

*Neoribates* sp. Plank and Winters 1949: 4.

Ex *Exostema* (as *Cinchona*) sp.

394. *Protokalumma* sp.

*Protokalumma* sp. Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-35-75. **NR.**

## Family: Phthiracaridae

395. *Atropacarus (Hoplophorella) brachys* Niebala 2004

*Atropacarus (Hoplophorella) brachys* Niebala 2004: 132.

Ex forest litter.

Family: Plasmobatidae

396. *Hoplophorella* sp.  
*Hoplophorella* sp. Garrison and Willig 1996: 221.  
Ex forest litter.

Family: Protoplophoridae

397. *Cryptoplophora* sp.  
*Cryptoplophora* sp. Peck 1981: 73.  
Ex bat's guano.

Family: Scheloribatidae

398. *Scheloribates* sp.  
*Scheloribates* sp. Wolcott 1948: 27; Peck and Kukalova 1981: 64; Peck 1981: 73; Garrison and Willig 1996: 221.  
Ex as prey of *Bufo marinus*, bat's guano in Mona Island, Diamante Cave and forest litter.

Family: Scutoverticidae

399. *Arthrovertex* sp.  
*Arthrovertex* sp. In San Juan intercepted by USDA PPQ, 17 Sep. 1988, R. Ayala and J. Cruz, ex *Malphigia emarginata* (as *M. puniceifolia*) fruit, det R. Norton, 7 Oct. 1989. **NR**.

Family: Sphaerochthoniidae

400. *Sphaerochthonius* sp.  
*Sphaerochthonius* sp. Peck and Kukalova 1981: 64.  
Ex bat's guano, Mona Island, Diamante Cave.

Family: Trhypochthoniidae

401. *Afronthrus* sp.  
*Afronthrus* sp. Garrison and Willig 1996: 221. Ex forest litter.

402. *Allonothrus* sp.  
*Allonothrus* sp. Abreu et al. 1987: 402; Garrison and Willig 1996: 221.  
Ex forest litter.

403. *Archegozetes* sp.  
*Archegozetes* sp. Peck 1981: 73.

Ex bat's guano. Additional records: Cayey, Jun.-Jul. 1975, J. Maldonado-Capriles, ex forest litter, Acc. No. I-18-75, det. G. S. Ide, OSU; Río Piedras, Agr. Exp. Stn., 11 Aug. 1978, E. Abreu, ex *Bambusa vulgaris* litter, Acc. No. PR 27-78, det. R. L. Smiley, USDA SEL.

404. *Archegozetes longisetosus* Aoki, 1965

*Archegozetes longisetosus* Aoki. Smrz and Norton 2004: 111.  
Ex forest litter.

405. *Trhypochthonius* sp.

*Tumidalvus* sp. Wolcott 1948: 27.  
Ex as prey of *Bufo marinus*.

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