A checklist of chiggers from Brazil, including new records (Acari: Trombidiformes: Trombiculidae and Leeuwenhoekiidae)

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Abstract
A checklist of the family Trombiculidae and Leeuwenhoekiidae is presented, containing 63 species in 30 genera of chiggers from 80 different hosts and 146 localities in Brazil. The type locality and depository are provided, including new locality and host records for the country.

Keywords
Brazil, Chigger mites, Cricetidae, Didelphidae, distribution
Introduction

The mites known as “chiggers” or “chigger mites” belong to three families: Trombiculidae Ewing, 1944, Leeuwenhoekiidae Womersley, 1944, and Walchiidae Ewing, 1946 sensu Wen (1999). The larvae are ectoparasites of vertebrates, and during the parasitism, they liquefy and suck the host’s epithelial tissue by the enzymatic action of their saliva. Blood is not ingested in this process, but some blood cells can be found in the gut of the mite (Jones 1950). Deutonymphs and adults are free living predators (Crossley 1960).

Studies of the biology and taxonomy of these mites were intensified during World War II, thus increasing considerably the number of known species. Soldiers were attacked in encampments and contracted rickettsioses from infected larvae (Wharton and Fuller 1952). According to these authors, in the front of the situation, the public health departments were faced with the need for cataloging studies, description, morphology, and biology of these mites. Although they are considered potential vectors of pathogens, the role of these mites in the epidemiology of rickettsiosis is unknown in the Neotropical region (Azad and Beard 1998, Poinar and Poinar 1998).

In South America, the countries that have a checklist of chiggers species are: Venezuela (Brennan and Reed 1975), Peru (Brennan and Jones 1961), Surinam (Brennan and Lukoschus 1971) and recently Chile (Stekolnikov and González-Acuña 2015). Ewing (1931) compiled the first list of chigger mites from the New World, eight species from Brazil. Wharton and Fuller (1952) increased the number by eight genera and 18 species. Fonseca (1955) reported the first human hosts for Brazil. Brennan and Goff (1977) reported 87 chigger genera for the Nearctic and Neotropical regions, of which 18 were recorded from Brazil.

The Brazilian territory is composed by five regions (north, northeast, central-west, southeast and south), 26 states and one federal district (Contel 2014). Between the 1970s and 1990s, new species were described by various researchers from specimens collected primarily in the northern and central-western parts of the country, but have never been summarized (Stekolnikov and González-Acuña 2015). Therefore, here we are compiling a checklist of species from Brazil, including new hosts and localities.

Materials and methods

In the checklist, the taxa comprise two families, Trombiculidae and Leeuwenhoekiidae. The genera and species are arranged alphabetically, in the follow format: Genus - Valid name, author and data; Species – Checklist number, valid name of species, author, date, type locality, host, and type depository, in parenthesis are the typification and the collection number, when available. In cases where the original host name has changed, the current host name is listed with the original host name in parenthesis. The host species were updated based on the IUCN (2017).
The following abbreviations were used:

BPBM     USA, Hawaii, Honolulu, Bernice Pauahi Bishop Museum;
FMNH     USA, Illinois, Chicago, Field Museum of Natural History Chicago (cited in original description as CNHM);
IBSP     Brazil, São Paulo, São Paulo, Instituto Butantan;
MNRJ     Brazil, Rio de Janeiro, São Cristovão, Universidade do Rio Janeiro, Museu Nacional;
MZSP     Brazil, São Paulo, São Paulo, Museu de Zoologia da Universidade de São Paulo;
NHMUK    United Kingdom, London, The Natural History Museum [formerly British Museum (Natural History)] (cited in original description as BMNH or BM);
OMNH     USA, Oklahoma, Norman, University of Oklahoma, Oklahoma Museum of Natural History;
OSAL     USA, Ohio, Columbus, Ohio State University Acarology Laboratory;
RMNH     Netherlands, Leiden, Naturalis Biodiversity Centre [formerly Rijksmuseum van Natuurlijke Historie];
SAM      Australia, South Australia, Adelaide, South Australian Museum;
USNM     USA, Washington D.C., National Museum of Natural History, [formerly United States National Museum] which is housed at the Systematic Entomology Laboratory (BARC-USDA-ARS), cited in original descriptions as NMNH.

Details of the records in Brazil were provided based on the bibliographic review, followed to the new records for the country, when available. The new records from the checklist are based on the material deposited in the IBSP collection. Some of these species were also reported outside Brazilian territory. These recordings of literature were included in other records.

In addition, a list of chiggers from Brazil is summarized with their respective hosts (Appendix 1) and a list of vertebrate hosts and their respective chiggers and the published information from Brazil (Appendix 2).

**Results**

A Brazilian checklist with eight species of the family Leeuwenhoekiidae and 55 of the family Trombiculidae, totaling 63 chigger species in 30 genera from approximately 70 different hosts is presented. Some regions just have one or two chigger records and most of these records are represented by the type series. Species of the family Walchii-dade were never recorded in the Brazilian territory until this work.

The chigger species *P. aemulata*, *Q. flochi*, *Q. mirandae*, and *Q. trapezoides* are reported for the first time in Brazil, and new records of locality for *T. bakeri* and new localities and hosts for the species *C. spinosus*, *E. tinami*, *K. brasiliensis*, *Q. pazca*, and *S. tamarina* are provided too.
Checklist of larvae chigger species (in alphabetical order) recorded from Brazil

Family LEEUWENHOEKIIDAE Womersley, 1944

Genus *Apolonia* Torres & Braga, 1938: 172

1. *Apolonia tigpioensis* Torres & Braga, 1938: 172; Tigipió, Pernambuco state, Brazil, ex *Gallus gallus domesticus*; IBSP (syntype, n° 1954).

   **Records from Brazil.** In addition to the type data, Carneiro (1949, 1952) reported *A. tigpioensis* parasitizing humans and *Nothura maculosa cearensis* (Tinamiformes) in Limoeiro (Pernambuco). This chigger was also found parasitizing the birds *Struthio camelus* (Struthioniformes) and *Passer domesticus* (Passeriformes) in Petrolina (Pernambuco) (Ornelas-Almeida et al. 2007).

   **Other records.** Venezuela (Brennan and Reed 1975).

Genus *Hannemania* Oudemans, 1911: 137

2. *Hannemania hepatica* Fonseca, 1936: 30; Butantan, São Paulo, São Paulo state, Brazil; ex *Leptodactylus latrans* (= *L. ocellatus*); IBSP (holotype, n° 31).

   **Records from Brazil.** Only the type data.

3. *Hannemania hylodeus* (Oudemans, 1910): 88; Brazil, ex *Hylodes* sp.; RMNH (n° 6247).

   **Records from Brazil.** Only the type data, no locality information was provided by the author.

4. *Hannemania newsteadi* Sambon, 1928: 127; Urucum, Mato Grosso do Sul state, Brazil, ex *Hyla rubra*; NHMUK.

   **Records from Brazil.** Only the type data.

5. *Hannemania stephensi* Sambon, 1928: 127; Tombador, Mato Grosso state, Brazil, ex *Pristimantis conspicillatus* (= *Hylodes conspicillatus*); NHMUK.

   **Records from Brazil.** Only the type data.

Genus *Leeuwenhoekia* Oudemans, 1911: 137

6. *Leeuwenhoekia verduni* (Oudemans, 1910): 88; southern Brazil; ex *Didelphis* sp., “opossum” RMNH (n° 6250).

   **Records from Brazil.** Only the type data, this species was described from an unknown location in southern Brazil.
Genus *Whartonia* Ewing, 1944: 102

7. *Whartonia nudosetosa* (Wharton, 1938): 142; Cave near Oskutzcab, Yucatan, Mexico, ex *Artibeus jamaicensis yucatanicus* and “Peropteryx canina canina”; USNM (n° 1264).

   **Note.** The correct host name is *Peropteryx macrotis*, originally described as *Verper-tillio caninus*.

   **Records from Brazil.** Silveira et al. (2015) reported this species from Medina and São José da Safira (Minas Gerais state) on *Carollia perspicillata* (Chiroptera).

   **Other records.** Costa Rica (Webb and Loomis 1977); Guatemala (Brennan and Dalmat 1960); Jamaica (Brennan 1953); Nicaragua (Webb and Loomis 1977); Mexico (Wharton 1938, Hoffmann 1949, Loomis 1969, Webb and Loomis 1977); Surinam (Brennan and van Bronswijk 1975); Trinidad (Brennan and Jones 1960, Brennan 1967) and Venezuela (Reed and Brennan 1975).

8. *Whartonia pachywhartoni* Vercammen-Grandjean, 1966: 282; Lagoa Santa, Minas Gerais state, Brazil, ex *Micronycteris megalotis*, USNM (holotype, n° 10462/6).

   **Records from Brazil.** In addition to the type data, *W. pachywhartoni* was found in São José da Safira (Minas Gerais) parasitizing the bat *C. perspicillata* (Silveira et al. 2015).

Family TROMBICULIDAE Ewing, 1944

Genus *Aitkenius* Brennan, 1970: 1694

9. *Aitkenius vellosus* Brennan, 1970: 1695; Belém, Pará state, Brazil, ex *Proechimys guyannensis*, USNM (holotype and paratypes, n° 48876), FMNH (paratypes) and NHMUK (paratypes).

   **Records from Brazil.** In addition to the type data, *A. vellosus* was also found at the same locality, on *Hylaeamys megacephalus* (Rodentia), and in Bragança (Pará) on the water rat *Nectomys squamipes* (Rodentia) (Brennan 1970d).

Genus *Arisocerus* Brennan, 1970: 32

10. *Arisocerus amapensis* Brennan, 1970: 32; Serra do Navio, Amapá state, Brazil, ex *Euryoryzomys macconnelli*; USNM (holotype and paratypes, n° 49368).

   **Records from Brazil.** In addition to the type data, this species was also found at the same locality, on *H. megacephalus*, and in Belém (Pará) parasitizing *H. megacepha-lus* and *P. guyannensis* (Brennan 1970c).

   **Other records.** Suriname (Brennan 1970c, Brennan and van Bronswijk 1975) and Venezuela (Brennan and Reed 1975).
11. *Arisocerus hertigi* (Brennan & Jones, 1964): 308; Sommerfield, Paraguay, ex “agouti”; USNM (holotype and paratypes, n° 43427), FMNH (paratypes), OSAL (paratypes), BPBM (paratypes).

**Records from Brazil.** This species was found in Brasília (Federal District), parasitizing the marsupial *Didelphis albiventris* (Didelphimorphia) (Goff and Gettinger 1989). In addition, *A. hertigi* was found on the Archipelago Moleques do Sul (Santa Catarina) parasitizing *Cavia intermedia* (Rodentia) (Regolin et al. 2015).

**Other records.** Paraguay (Brennan and Jones 1964a).

Genus *Blankaartia* Oudemans, 1911: 123

12. *Blankaartia shatrovi* Bassini-Silva & Barros-Battesti, 2016: 83; São Paulo, São Paulo state, Brazil, ex “bird”; IBSP (holotype and paratypes, n° 367).

**Records from Brazil.** In addition to the type data, this species was also found in Coronel Pacheco (Minas Gerais) parasitizing *Trichotheaupis melanops* (Passeriformes) (Bassini-Silva et al. 2016).

13. *Blankaartia sinnamaryi* Floch & Fauran, 1956: 3; Sinnamary, French Guiana, ex *Homo sapiens*.

**Records from Brazil.** This species was found in Paraty (Rio de Janeiro) parasitizing *Manacus manacus* (Passeriformes), in Juiz de Fora (Minas Gerais) parasitizing *Pitumnys cirratus* (Piciformes), *Tachyphonus coronatus*, *Thamnophilus caerulescens* and *Turdus rufiventris* (Passeriformes), and in Coronel Pacheco (Minas Gerais) parasitizing *Conopophaga lineata* and *Turdus albicollis* (Passeriformes) (Bassini-Silva et al. 2016).

**Other records.** Costa Rica (Arnold 1970, Stekolnikov et al. 2007), Cuba (Daniel and Stekolnikov 2003), French Guiana (Floch and Fauran 1956), Jamaica (Brennan 1953), Panama (Brennan and Yunker 1966), Peru (Brennan and Jones 1961a), Surinam (Brennan and van Bronswijk 1975), Trinidad (Brennan and Jones 1960), USA (Brennan 1965, Spalding et al. 1997) and Venezuela (Brennan and Reed 1975).

Genus *Buclypeus* Brennan, 1972: 1178

14. *Buclypeus catatonus* Brennan, 1972: 1178; Belém, Pará state, Brazil, ex *Proechimys guyannensis*; USNM (holotype and paratypes, n° 49322), NHMUK (paratypes), BPBM (paratypes) and FMNH (paratypes).

**Records from Brazil.** Only the type data.

15. *Buclypeus ignotus* (Brennan, 1971): 214; Belém, Pará state, Brazil, ex *Proechimys guyannensis*, USNM (holotype and paratypes, n° 49322), NHMUK (paratypes) and FMNH (paratypes).

**Records from Brazil.** Only the type data.
Genus *Caamembecaia* Gazêta, Amorim, Bossi, Linhares & Serra-Freire, 2006: 137

16. *Caamembecaia gratiosus* Gazêta, Amorim, Bossi, Linhares & Serra-Freire, 2006: 137; Itatiaia National Park, Rio de Janeiro state, Brazil, ex *Trinomys gratiosus*; MNRJ (holotype, n° 67498).

Records from Brazil. Only the type data.

Genus *Chiroptella* Vercammen-Grandjean, 1960: 469

17. *Chiroptella* (*Oudemansidium*) *australis* (Brennan, 1970): 810; Pedras Negras, Rondônia state, Brazil, ex *Nyctinomops laticaudatus* (= *Tadarida laticaudata*); USNM (holotype and paratypes, n° 50192), NHMUK (paratypes) and FMNH (paratypes).

Records from Brazil. Only the type data.

Other records. Venezuela (Brennan and Reed 1975).

Genus *Colicus* Brennan, 1970: 271

18. *Colicus brasiensis* Goff, Whitaker & Dietz, 1983: 185; São Roque de Minas, Minas Gerais state, Brazil, ex *Oligoryzomys formesi* (= *Oryzomys fornesi*) and *Cerradomys subflavus* (= *Oryzomys subflavus*); BPBM (holotype, n°12711 and paratypes).

Records from Brazil. Only the type data.

19. *Colicus icomi* Brennan, 1970: 271; Serra do Navio, Amapá state Brazil, ex *Proechimys guyannensis*; USNM (holotype and paratypes, n° 49342).

Records from Brazil. Only the type data.

Other records. Surinam (Brennan and van Bronswijk 1975).

20. *Colicus spinosus* Goff & Gettinger, 1989: 554; Brasília, Federal District, Brazil, ex *Gracilinannus agilis*; MZSP (holotype), BPBM (paratypes), OMNH (paratypes) and USNM (paratypes).

Records from Brazil. Only the type data.

New record. IBSP 11116 (1 larva), Condomínio Vila Verde, Itapevi, São Paulo, state of São Paulo, 29-XI-2012, *Monodelphis* sp. (Didelphimorphia) (#VV 105).

Genus *Euschoengastia* Ewing 1938: 293

21. *Euschoengastia trouessarti* (Oudemans, 1910): 87; southern Brazil; ex *Didelphis* sp.; RMNH.

Records from Brazil. Only the type data, this species was described from an unknown location in southern Brazil.
Genus *Eutrombicula* Ewing, 1938: 293

22. *Eutrombicula alfreddugesi* Oudemans, 1910: 84; México, ex *Homo sapiens*; RMNH.

**Records from Brazil.** This species was found in Correntes (Mato Grosso) parasitizing the snake, *Xenodon merremii* and a human in São Paulo (São Paulo) (Fonseca 1932a). This species was also found in Unaí (Minas Gerais) and Pirenópolis (Goiás) parasitizing *Tropidurus oreadicus*, *Tropidurus itambere* and *Tropidurus torquatus* (Squamata) (Carvalho et al. 2006). There are additional records from Chapada do Araripe (Ceará) on *Tropidurus hispidus* (Squamata) (Delfino et al. 2011) and from Morro do Chapéu (Bahia), on *Tropidurus hispidus*, *Tropidurus cocorobensis*, *Tropidurus semitae-niatus* and *Tropidurus erythrocephalus* (Menezes et al. 2011). Recently this species was found parasitizing goats in Maranhão state (Faccini et al. 2017).

**Other records.** Bolivia (Brennan 1970a); Costa Rica (Arnold 1970); Cuba (Daniel and Stekolnikov 2004); USA (Rohani and Cromroy 1979); Guatemala (Brennan and Dalmar 1960); Mexico (Oudemans 1910, Wharton 1938, Pearse et al. 1936, Hoffmann 1949, Jenkins 1949, Kroman et al. 1967, Loomis 1969, Loomis and Spath 1969, Hoffmann 1990, Estébanes-González and Cervantes 2005); Panama (Brennan and Yunker 1966); Surinam (Brennan and van Bronswijk 1975; Brennan and Lukoschus 1971); Trinidad (Brennan and Jones 1960) and Venezuela (Brennan and Reed 1974).

23. *Eutrombicula batatas* (Linnaeus, 1758): 617; Surinam, ex unknown host; NHMUK.

**Records from Brazil.** This species was found in Manaus and Carvoeiro (Amazonas) parasitizing *G. domesticus*, and in Belém (Pará), parasitizing *Meleagris gallopavo* (Galliformes) (Ewing 1925). There are also records of *E. batatas* parasitizing *Dasyprocta agouti* (Rodentia) and unidentified Cervidae in Pará state (Bequaert 1926). Conlalonieri and De Carvalho (1973) found *E. batatas* parasitizing *G. domesticus* in Mangaratiba (Rio de Janeiro). This species was also found parasitizing equines in Cáceres (Mato Grosso) (Conlalonieri and Benez 1976) and on goats in Maranhão state (Faccini et al. 2017).

**Other records.** Argentina (Brennan and Jones 1964b); Bolivia (Brennan 1970a); Costa Rica (Arnold 1970); Curaçao (Brennan 1967); Guatemala (Brennan and Dalmar 1960); Jamaica (Brennan 1953); Mexico (Linnaeus 1758, Jenkins 1949, Loomis and Stephens 1962, Loomis 1969, Hoffmann 1990, Estébanes-González and Cervantes 2005); Panama (Brennan and Yunker 1966); Surinam (Linnaeus 1758, Brennan and Lukoschus 1971, Brennan and van Bronswijk 1975); Trinidad (Brennan and Jones 1960, Bennett and Loomis 1980) and Venezuela (Brennan and Reed 1974).

24. *Eutrombicula bruyanti* (Oudemans, 1910): 85; southern Brazil; ex *Didelphis* sp. “opossum”; RMNH.

**Records from Brazil.** Only the type data, this species was described from an unknown location in southern Brazil.
25. *Eutrombicula goeldii* (Oudemans, 1910): 84; Brazil; ex *Dasyprocta aguti*; RMNH.  
**Records from Brazil.** Only the type data, no locality information was provided by the author.  
**Other records.** Bolivia (Brennan 1970a); Colombia (Boshell and Kerr 1942, Brennan 1968a); Costa Rica (Arnold 1970); Dominica (Brennan 1967); Panama (Brennan and Yunker 1966); Surinam (Brennan 1970c, Brennan and Lukoschus 1971, Brennan and van Bronswijk 1975); Trinidad (Brennan and Jones 1960); Venezuela (Brennan and Reed 1974).

26. *Eutrombicula tinami* (Oudemans, 1910): 84; Brazil; ex *Crypturus noctivagus*; RMNH.  
**Records from Brazil.** Only the type data, no locality information was provided by the author.  
**New record.** IBSP 11368 (8 larvae), Condomínio Vila Verde, Itapevi, São Paulo, state of São Paulo, 19-VI-2013, *Didelphis aurita* (#VV 107).  
**Other records.** Panama (Brennan and Lukoschus 1971); Surinam (Brennan and Lukoschus 1971); and Venezuela (Brennan and Reed 1974).

**Genus Fonsecia** Radford, 1942: 56

27. *Fonsecia ewingi* (Fonseca, 1932): 153; Correntes, Mato Grosso state, Brazil, ex *Xenodon merremii*; IBSP (syntypes, n° 27).  
**Records from Brazil.** In addition to the type data, this species was also found at the following localities: Quiteriozinho (Mato Grosso), Birigui, Guatapará, Jacaré, Matão, Penápolis, Promissão and Silvania (São Paulo), Morrinhos (Goiás) and Rio Negro (Paraná) (Fonseca 1932b).  
**Other records.** Trinidad (Brennan 1967).

28. *Fonsecia ophidica* (Fonseca, 1932): 151; Promissão, São Paulo state, Brazil, ex *Xenodon merremii*; IBSP (syntypes, n° 29).  
**Records from Brazil.** In addition to the type data, this species was also found in Matão (São Paulo), on the same host (Fonseca 1932b).

29. *Fonsecia travassosi* (Fonseca, 1936): 29; Angra dos Reis, Rio de Janeiro state, Brazil; ex *Spilotes pullatus*; IBSP (holotype, n° 30).  
**Records from Brazil.** Only the type data.

**Genus Hooperella** Vercammen-Grandjean, 1967: 853

30. *Hooperella spinostru* (Vercammen-Grandjean, 1967): 854; Lagoa Santa, Minas Gerais state, Brazil, ex *Micronycteris megalotis*; USNM (holotype, n° 10462/B).  
**Records from Brazil.** Only the type data.
Genus *Kymocta* Yunker & Brennan, 1962: 572

31. *Kymocta brasiliensis* (Fonseca, 1936): 32; Butantan, São Paulo, São Paulo state, Brazil, ex “wild mouse”; IBSP (holotype, n° 334).

**Records from Brazil.** Only the type data.

**New records.** IBSP 11129C (3 larvae), Morro Grande, Cotia, state of São Paulo, 26-IV-2012, *Akodon montensis* (#MGR 38).

32. *Kymocta faitkeni* Brennan, 1968: 614; Serra do Navio, Amapá state, Brazil, ex *Hylaeamys megacephalus* (= *Oryzomys capito*); USNM (holotype and paratypes, n° 48875) and NHMUK (paratypes).

**Records from Brazil.** In addition to the type data, this species was record in the same locality and host by Brennan and van Bronswijk (1973) and was also found in Bragança (Pará) parasitizing *Necromys lasiurus* (= *Zygodontomys lasiurus*) (Rodentia) and *Didelphis marsupialis* (Didelphimorphia) (Brennan and van Bronswijk 1973).

**Other records.** Trinidad (Brennan 1968b) and Venezuela (Brennan and Yunker 1969, Brennan and van Bronswijk 1973).

33. *Kymocta inca* (Brennan & Jones, 1961): 177; Quince Mil, Cuzco, Peru, *Nephelemys keaysi* (= *Oryzomys keaysi*); USNM (holotype and paratypes, n° 33554).

**Records from Brazil.** In addition to the type data, this species was record in the same locality and host by Brennan and van Bronswijk (1973) and on the rodent *P. guyannensis* in Bragança (Pará) (Brennan and van Bronswijk 1973).

**Other records.** Peru (Brennan and Jones 1961a) and Venezuela (Brennan and Yunker 1969).

34. *Kymocta lutui* Goff, Whitaker & Dietz, 1983: 185; National Park of Serra da Canastra, Minas Gerais state, Brazil, *Necromys lasiurus* (= *Zygodontomys lasiurus*); BPBM (holotype and paratypes, n°12712).

**Records from Brazil.** Only the type data.

Genus *Microtrombicula* Ewing, 1950: 297

35. *Microtrombicula brachytrichia* Brennan, 1971: 214; Belém, Para state, Brazil, *Proechimys guyannensis*; USNM (holotype and paratypes n° 50350).

**Records from Brazil.** Only the type data.

36. *Microtrombicula brennani* Goff, Whitaker & Dietz, 1986: 171; Poço das Antas Biological Reserve, Rio de Janeiro state, Brazil, ex *Lentopithecus rosalia*; USNM (holotype and paratypes) and BPBM (paratypes).

**Records from Brazil.** Only the type data.
37. *Microtrombicula rhipidomysi* Goff, Whitaker & Dietz, 1983: 183; National Park of Serra da Canastra, state of Minas Gerais, Brazil, ex *Rhipidomys mastacalis*; BPBM (holotype, n° 12710 and paratypes)

**Records from Brazil.** Only the type data.

**Genus Neoschoengastia** Ewing, 1929: 187

38. *Neoschoengastia esorhina* Brennan, 1971: 666; Ananindeua, Pará state, Brazil, ex *Automolus infuscatus*, USNM (holotype and paratypes, n° 56193).

**Records from Brazil.** Only the type data.

**Genus Parascoshoengastia** Vercammen-Grandjean, 1960: 469

39. *Parascoshoengastia aemulata* (Brennan & Jones, 1964): 307; Rancho Grande, Aragua, Venezuela, ex *Anoura caudata*; USNM (holotype and paratypes, n° 40658), FMNH (paratypes), OSAL (paratypes), BPNM (paratypes).

**Records from Brazil.** Present study.

**New record.** IBSP 12558 (1 larva), Morro Grande, Cotia, São Paulo, 20-X-2015, *Akodon* sp. (#MGR 246).

**Other records.** Venezuela (Brennan and Jones 1964a).

**Genus Parasecia** Loomis, 1966: 191

40. *Parasecia aitkeni* (Brennan & Jones, 1960): 510; Cumaca, Trinidad, ex *Nectomys squamipes*; USNM (holotype and paratypes, n° 33628), FHMUK (paratypes), FMNH (paratypes) and SAM (paratypes).

**Records from Brazil.** In addition to the type data, this species was found in the same locality, but parasitizing the marsupial *Monodelphis domestica* (Whitaker and Dietz 1987).

**Other records.** Bolivia (Brennan 1970a); Surinam (Brennan and Lukoschus 1971); Trinidad (Brennan and Jones 1960, Brennan 1969c) and Venezuela (Brennan and Reed 1975).

41. *Parasecia fundata* Brennan, 1969: 664; Belém, Pará state, and Serra do Navio, Amapá state, Brazil, ex *Caluromys philander, Didelphis marsupialis* and *Glyphorynchus spirurus*; USNM (holotype and paratypes, n° 49323) and NHMUK (paratypes).

**Records from Brazil.** In addition to the type data, this species was also found parasitizing *P. guyannensis* in Serra do Navio (Amapá) (Brennan 1969c).

**Other records.** Costa Rica (Stekolnikov et al. 2007).
42. *Parasecia lasiurus* Goff & Gettinger, 1991: 401; Brasília, Federal District, Brazil, ex *Necromys lasiurus* and *Oxymycterus* sp.; MZSP (holotype), BPBM (paratypes), OMNH (paratypes).
   **Records from Brazil.** Only the type data.

43. *Parasecia orphana* Brennan, 1971: 212; Belém, Pará state, Brazil, ex *Proechimys guyannensis*; USNM (holotype and paratypes, n° 50351), NHMUK (paratypes), FMNH (paratypes).
   **Records from Brazil.** Only the type data.

44. *Parasecia thalurania* Brennan, 1969: 663; Belém, Pará state, Brazil; ex *Thalurania furcata*; USNM (holotype, n°49374).
   **Records from Brazil.** Only the type data.

45. *Parasecia valida* Brennan, 1969: 663; Bragança, Pará state, and Serra do Navio, Amapá state, Brazil, ex *Hylaeamys megacephalus, Necromys lasiurus (= Zygodontomys lasiurus fuscinus)* and *Monodelphis brevicaudata*; USNM (holotype and paratypes, n° 49092) and NHMUK (paratypes).
   **Records from Brazil.** Only the type data.
   **Other records.** Surinam (Brennan and Lukoschus 1971).

**Genus Paratrombicula** Goff & Whitaker, 1984: 329

46. *Paratrombicula plaumanni* (Brennan & Jones, 1964): 309; Nova Teutônia, Santa Catarina state, Brazil, ex *Ctenomys minutus*; USNM (holotype and paratypes, n° 34911), NHMUK (paratypes), FMNH (paratypes), OSAL (paratypes), BPNM (paratypes).
   **Records from Brazil.** Only the type data.
   **Other records.** Chile (Stekolnikov and González-Acuña 2012).

**Genus Perissopalla** Brennan & White, 1960: 303

47. *Perissopalla barticonycteris* Brennan, 1969: 429; Belém, Pará state, Brazil, ex *Glyphonycteris daviesi*; USNM (holotype and paratypes, n° 49939).
   **Records from Brazil.** Only the type data.
   **Other records.** Bolivia (Brennan 1970a) and Surinam (Brennan and Lukoschus 1971, Brennan and van Bronswijk 1975).

48. *Perissopalla ipeani* Brennan, 1969: 429; Belém, Pará state, Brazil, ex *Carollia perspicillata*; USNM (holotype and paratypes, n° 49366).
   **Records from Brazil.** In addition to the type data, this species was also reported from *Tonatia bidens* (Chiroptera) in Parque Estadual Pedra Branca (Rio de Janeiro) (Almeida et al. 2011).
Other records. Surinam (Brennan and van Bronswijk 1975, Brennan and Lukoschus 1971).

49. *Perissopalla tanydera* Brennan, 1969: 430; Icabarú, Bolivar, Venezuela, ex *Peropteryx* sp.; RML (holotype and paratypes, n° 49833).

   Records from Brazil. This species was found in Príncipe de Beira (Rondônia) parasitizing the bat *Saccopteryx bilineata* (Brennan 1970a).

   Other records. Bolivia (Brennan 1970a); Surinam (Brennan and van Bronswijk 1975) and Venezuela (Brennan 1969b, Brennan and Reed 1975).

Genus *Polylopadium* Brennan & Jones, 1961: 112

50. *Polylopadium aspasium* Brennan, 1969: 868; Serra do Navio, Amapá state and Bragança, Pará state, Brazil; ex *H. megacephalus* (= *Oryzomys capito*); RML (holotype and paratypes, n° 49341).

   Records from Brazil. In addition to the type data, this species was found in the same host, but in Belém (Pará) (Brennan 1969a).and also was found on the rodent *Proechimys* sp.in Príncipe da Beira (Rondônia) (Brennan 1970a).

   Other records. Venezuela (Brennan and Reed 1975).

Genus *Quadraseta* Brennan, 1970: 1695

51. *Quadraseta brasiliensis* Goff & Gettinger, 1989: 557; Brasília, Federal District, Brazil, ex *Hylaeamys megacephalus, Gracilinannus agilis, Monodelphis Americana*; MZSP (holotype), BPBM (paratypes) and OMNH (paratypes).

   Records from Brazil. Only the type data.

52. *Quadraseta flochi* (Brennan & Jones, 1960): 503; Maingot state, Trinidad, ex *Rattus rattus*; USNM (holotype and paratypes, n° 33885), FMNH (paratypes), NHMUK (paratypes) and SAM (paratypes).

   Records from Brazil. Present study.

   New record. IBSP 11096F (2 larvae), Morro Grande, Cotia, São Paulo state, 20-VI-2012, *Euryoryzomys russatus* (#MGR 32).

   Other records. Colombia (Brennan 1968a), Surinam (Brennan and Lukoschus 1971), Trinidad (Brennan and Jones 1960) and Venezuela (Brennan and Reed 1975).

53. *Quadraseta mirandae* Goff & Brennan, 1977: 504; Quebrada Chacaito, Miranda, Venezuela, ex *Nephelomys albigularis* (= *Oryzomys albigularis*); USNM (holotype and paratypes, n° 52518) and BPBM (paratypes).

   Records from Brazil. Present study.
**New records.** IBSP 10606C (1 larva), Morro Grande, Cotia, São Paulo state, 13-IX-2011, *Akodon montensis* (#MGR 6); 1 larva (IBSP 11129B), same locality and host (#MGR 38), 26-VI-2012.

**Other records.** Venezuela (Goff and Brennan 1977).

54. *Quadraseta pazca* (Brennan & Jones, 1964): 700; Azul, Buenos Aires, Argentina, ex *Rattus* sp. and *Mus* sp.; USNM (holotype and paratypes, n° 38090), NHMUK (paratypes), FMNH (paratypes) and OSAL (paratypes).

**Records from Brazil.** Whitaker and Dietz (1987) reported this species from the Serra da Canastra National Park (Minas Gerais) on the rodent *Calomys tener*.

**New records.** IBSP 10606B (1 larva), Morro Grande, Cotia, São Paulo state, 13-IX-2011, *Akodon montensis* (#MGR 6); 2 larvae (IBSP 11096E), same locality, 20-VI-2012, *Euryoryzomys russatus* (#MGR 32).

**Other records.** Argentina (Brennan and Jones 1964b).

55. *Quadraseta trapezoides* (Brennan & Jones, 1964): 699; Azul, Buenos Aires, Argentina, ex “fox”; USNM (holotype and paratypes, n° 38095), NHMUK (paratypes), FMNH (paratypes) and OSAL (paratypes).

**Records from Brazil.** Present study.

**New record.** IBSP 11110C (12 larvae), Morro Grande, Cotia, São Paulo state, 16-VII-2012, *Nectomys squamipes* (#MGR 40).

**Other records.** Argentina (Brennan and Jones 1964b).

**Genus Rhinibius** Brennan & Yunker, 1969: 304

56. *Rhinibus tamandua* Brennan & Yunker, 1969: 304; Belém, Pará state, ex *Tamandua tetradactyla*; USNM (holotype and paratypes, n° 49365), FMNH (paratypes) and NHMUK (paratypes).

**Records from Brazil.** Only the type data.

**Other records.** Venezuela (Brennan and Reed 1975, Brennan and Yunker 1969).

**Genus Serratacarus** Goff & Whitaker, 1984: 162

57. *Serratacarus dietzi* Goff & Whitaker, 1984: 163; Serra da Canastra National Park, Minas Gerais state, Brazil; ex *Necromys lasiurus*; USNM (holotype and paratypes) and BPBM (paratypes).

**Records from Brazil.** Only the type data.

58. *Serratacarus lasiurus* Goff & Whitaker, 1984: 166; Serra da Canastra National Park, Minas Gerais state, Brazil; ex *Necromys lasiurus*; USNM (holotype and paratypes) and BPBM (paratypes).

**Records from Brazil.** Only the type data.
A checklist of chiggers from Brazil

Genus *Speleocola* Lipovsky, 1952: 132

59. *Speleocola tamarina* Goff, Whitaker & Dietz, 1987: 198; Poço das Antas Biological Reserve, Rio de Janeiro state, Brazil, ex *Lentopithecus rosalia*; USNM (holotype and paratypes).

**Records from Brazil.** The type data and the present study.

**New records.** IBSP 11364B (1 larva), Morro Grande, Cotia, São Paulo, 21-VII-2013, *Sooretamys angouya* (#MGR 148).

Genus *Trombewingia* Fonseca, 1955: 3

60. *Trombewingia bakeri* (Fonseca, 1955): 3; Reserva Florestal do Horto Florestal de São Paulo, São Paulo state, Brazil, ex *Guerlinguetus ingrami*; IBSP (Lectotype and Paralectotypes, n° 344).

**Records from Brazil.** In addition to the type data, Whitaker and Dietz (1987) reported it from the Serra da Canastra National Park (Minas Gerais) parasitizing the marsupial *M. domestica*. Other recent reports from São Paulo state include the municipality of Campos do Jordão and municipality of Cotia parasitizing *A. montensis*, and the rodents *Delomys dorsalis* and *Sooretamys angouya* (Jacinavicius et al. 2015).

61. *Trombewingia brasiliensis* Goff & Gettinger, 1991: 401; Brasilia, Federal District, Brazil, ex *Necromys lasiurus* (*= Bolomys lasiurus*); MZSP (holotype), BPBM (paratypes) and OMNH (paratypes).

**Records from Brazil.** Only the type data.

Genus *Trombicula* Berlese, 1905: 155

62. *Trombicula truncata* Brennan, 1970: 272; Príncipe de Beira, Rondônia state, Brazil, ex *Saccopteryx bilineata*; USNM (holotype and paratypes, n° 50188), FMNH (paratypes) and NHMUK (paratypes).

**Records from Brazil.** Only the type data.

Genus *Vercammenia* Audy & Nadchatram, 1957: 95

63. *Vercammenia yorkei* (Sambon, 1928): 119; Urucum, Mato Grosso do Sul state, Brazil, ex *Scinax funereus* (*= Hyla rubra*); NHMUK (holotype, n° 147-9).

**Records from Brazil.** Only the type data.
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Appendix 1

Taxonomic list of chiggers and their respective hosts.

Leeuwenhoekiidae

*Apolonia tigipioensis* Torres & Braga, 1938

Aves

- Galliformes
  - Phasianidae
    - *Gallus gallus domesticus*
- Passeriformes
  - Passeridae
    - *Passer domesticus*
- Struthioniformes
  - Struthionidae
    - *Struthio camelus*
- Tinamiformes
  - Tinamidae
    - *Nothura maculosa cearensis*

Mammalia

- Primates
  - Hominidae
    - *Homo sapiens*
**Hannemania hepatica** Fonseca, 1936
Amphibia
Anura
Leptodactylidae
*Leptodactylus latrans*

**Hannemania hylodeus** (Oudemans, 1910)
Amphibia
Anura
Hylodidae
*Hylodes* sp.

**Hannemania newsteadi** Sambon, 1928
Amphibia
Anura
Hylidae
*Scinax funereus*

**Hannemania stephensi** Sambon, 1928
Amphibia
Anura
Craugastoridae
*Pristimantis conspicillatus*

**Leeuwenboekia verduni** (Oudemans, 1910)
Mammalia
Didelphimorphia
Didelphidae
*Didelphis* sp.

**Whartonia nudosetosa** (Wharton, 1938)
Mammalia
Chiroptera
Phyllostomidae
*Carollia perspicillata*

**Whartonia pachywhartonii** Vercammen-Grandjean, 1966
Mammalia
Chiroptera
Phyllostomidae
*Carollia perspicillata*
*Micronycteris megalotis*
Trombiculidae

*Aitkenius vellosus* Brennan, 1970
Mammalia
   Rodentia
      Cricetidae
         *Hylaearmys megacephalus*
         *Nectomys squamipes*
      Echimyidae
         *Proechimys guyannensis*

*Arisocerus amapensis* Brennan, 1970
Mammalia
   Rodentia
      Cricetidae
         *Euryoryzomys macconnelli*
         *Hylaearmys megacephalus*
      Echimyidae
         *Proechimys guyannensis*

*Arisocerus hertigi* (Brennan & Jones, 1964)
Mammalia
   Didelphimorphia
      Didelphidae
         *Didelphis albiventris*
   Rodentia
      Caviidae
         *Cavia intermedia*

*Blankaartia shatrovi* Bassini-Silva & Barros-Battesti, 2016
Aves
   “bird”
      Passeriformes
         Thraupidae
            *Trichothraupis melanops*

*Blankaartia sinnamaryi* Floch & Fauran, 1956
Aves
   Passeriformes
      Conopophagidae
         *Conopophaga lineata*
      Pipridae
         *Manacus manacus*
Thamnophilidae
   *Thamnophilus caerulescens*
Thraupidae
   *Tachyphonus coronatus*
Turdida
   *Turdus albicollis*
   *Turdus rufiventris*
Piciformes
   Picidae
   *Picumnus cirratus*
Mammalia
   Primates
   Hominidae
   *Homo sapiens*

*Buclypeus catatonus* Brennan, 1972
Mammalia
   Rodentia
   Echimyidae
   *Proechimys guyannensis*

*Buclypeus ignotus* (Brennan, 1971)
Mammalia
   Rodentia
   Echimyidae
   *Proechimys guyannensis*

*Caamembecaia gratiosus* Gazêta, Amorim, Bossi, Linhares & Serra-Freire, 2006
Mammalia
   Rodentia
   Echimyidae
   *Trinomys gratiosus*

*Chiroptella* (*Oudemansidium*) *australis* (Brennan, 1970)
Mammalia
   Chiroptera
   Molossidae
   *Nyctinomops laticaudatus*
Colicus brasiliensis Goff, Whitaker & Dietz, 1983
Mammalia
   Rodentia
      Cricetidae
         Cerradomys subflavus
         Oligoryzomys fornesi

Colicus icomi Brennan, 1970
Mammalia
   Rodentia
      Echimyidae
         Proechimys guyannensis

Colicus spinosus Goff & Gettinger, 1989
Mammalia
   Didelphimorphia
      Didelphidae
         Gracilinannus agilis
         Monodelphis sp.

Euschoengastia trouessarti (Oudemans, 1910)
Mammalia
   Didelphimorphia
      Didelphidae
         Didelphis sp.

Eutrombicula alfreddugesi Oudemans, 1910
Mammalia
   Artiodactyla
      Bovidae
         “goats”
   Primates
      Hominidae
         Homo sapiens
Reptilia
   Squamata
      Colubridae
         Xenodon merremii
   Tropiduridae
      Tropidurus cocorobensis
      Tropidurus erythrocephalus
      Tropidurus hispidus
      Tropidurus itambere
Tropidurus oreadicus
Tropidurus semitaeniatus
Tropidurus torquatus

**Eutrombicula batatas (Linnaeus, 1758)**
Aves
Galliformes
Phasianidae
*Gallus domesticus*
*Meleagris gallopavo*
Mammalia
Artiodactyla
Cervidae
Unidentified
Bovidae
“goats”
Perissodactyla
Equidae
“Equines”
Rodentia
Dasyproctidae
*Dasyprocta agouti*

**Eutrombicula bruyanti (Oudemans, 1910)**
Mammalia
Didelphimorphia
Didelphidae
*Didelphis* sp.

**Eutrombicula goeldii (Oudemans, 1910)**
Mammalia
Rodentia
Dasyproctidae
*Dasyprocta agouti*

**Eutrombicula tinami (Oudemans, 1910)**
Aves
Tinamiformes
Tinamidae
*Crypturellus noctivagus*
Mammalia
Didelphimorphia
Didelphidae
*Didelphis aurita*
Fonsecia ewingi (Fonseca, 1932)
Reptilia
Squamata
Colubridae
Xenodon merremii

Fonsecia ophidica (Fonseca, 1932)
Reptilia
Squamata
Colubridae
Xenodon merremii

Fonsecia travassosi (Fonseca, 1936)
Reptilia
Squamata
Colubridae
Spilotes pullatus

Hooperella spinirostra (Vercammen-Grandjean, 1967)
Mammalia
Chiroptera
Phyllostomidae
Micronycteris megalotis

Kymocta brasiliensis (Fonseca, 1936)
Mammalia
Rodentia
“wild mouse”
Cricetidae
Akodon montensis

Kymocta faitkeni Brennan, 1968
Mammalia
Didelphimorphia
Didelphidae
Didelphis marsupialis
Rodentia
Cricetidae
Hylaeamys megacephalus
Necromys lasiurus
**Kymocta inca** (Brennan & Jones, 1961)
Mammalia
   Rodentia
      Cricetidae
         *Hylaeamys megacephalus*
   Echimyidae
      *Proechimys guyannensis*

**Kymocta lutui** Goff, Whitaker & Dietz, 1983
Mammalia
   Rodentia
      Cricetidae
         *Necromys lasiurus*

**Microtrombicula brachytrichia** Brennan, 1971
Mammalia
   Rodentia
      Echimyidae
         *Proechimys guyannensis*

**Microtrombicula brennani** Goff, Whitaker & Dietz, 1986
Mammalia
   Primates
      Callitrichidae
         *Lentopithecus rosalia*

**Microtrombicula rhipidomysi** Goff, Whitaker & Dietz, 1983
Mammalia
   Rodentia
      Cricetidae
         *Rhipidomys mastacalis*

**Neoschoengastia esorhina** Brennan, 1971
   Aves
      Passeriformes
         Furnariidae
            *Automolus infuscatus*

**Parascoschoengastia aemulata** (Brennan & Jones, 1964)
Mammalia
   Rodentia
      Cricetidae
         *Akodon sp.*
**Parasecia aitkeni** (Brennan & Jones, 1960)
Mammalia  
  Didelphimorphia  
  Didelphidae  
  *Monodelphis domestica*
Rodentia  
  Cricetidae  
  *Calomys tener*  
  *Nectomys squamipes*

**Parasecia fundata** Brennan, 1969
Aves  
  Passeriformes  
  Dendrocolaptidae  
  *Glyphorynchus spirurus*
Mammalia  
  Didelphimorphia  
  Didelphidae  
  *Caluromys philander*  
  *Didelphis marsupialis*
Rodentia  
  Echimyidae  
  *Proechimys guyannensis*

**Parasecia lasiurus** Goff & Gettinger, 1991
Mammalia  
  Rodentia  
  Cricetidae  
  *Necromys lasiurus*  
  *Oxymycterus* sp.

**Parasecia orphana** Brennan, 1971
Mammalia  
  Rodentia  
  Echimyidae  
  *Proechimys guyannensis*

**Parasecia thalurania** Brennan, 1969
Aves  
  Apodiformes  
  Trochilidae  
  *Thalurania furcata*
**Parasecia valida** Brennan, 1969  
Mammalia  
Didelphimorphia  
Didelphidae  
*Monodelphis brevicaudata*  
Rodentia  
Cricetidae  
*Hylaeamys megacephalus*  
*Necromys lasiurus*

**Paratrombicula plaumanni** (Brennan & Jones, 1964)  
Mammalia  
Rodentia  
Ctenomyidae  
*Ctenomys minutus*

**Perissopalla barticonycteris** Brennan, 1969  
Mammalia  
Chiroptera  
Phyllostomidae  
*Glyphonycteris daviesi*

**Perissopalla ipeani** Brennan, 1969  
Mammalia  
Chiroptera  
Phyllostomidae  
*Carollia perspicillata*  
*Tonatia bidens*

**Perissopalla tanycera** Brennan, 1969  
Mammalia  
Chiroptera  
Emballonuridae  
*Saccopteryx bilineata*

**Polylopadium aspasium** Brennan, 1969  
Mammalia  
Rodentia  
Cricetidae  
*Hylaeamys megacephalus*  
Echimyidae  
*Proechimys sp.*
**Quadraseta brasiliensis** Goff & Gettinger, 1989
Mammalia
  Didelphimorphia
    Didelphidae
      *Gracilinannus agilis*
      *Monodelphis americana*
Rodentia
  Cricetidae
    *Hylaeamys megacephalus*

**Quadraseta flochi** (Brennan & Jones, 1960)
Mammalia
  Rodentia
    Cricetidae
      *Euryoryzomys russatus*

**Quadraseta mirandae** Goff & Brennan, 1977
Mammalia
  Rodentia
    Cricetidae
      *Akodon montensis*

**Quadraseta pazca** (Brennan & Jones, 1964)
Mammalia
  Rodentia
    Cricetidae
      *Euryoryzomys russatus*
      *Calomys tener*

**Quadraseta trapezoides** (Brennan & Jones, 1964)
Mammalia
  Rodentia
    Cricetidae
      *Nectomys squamipes*

**Rhinibus tamandua** Brennan & Yunker, 1969
Mammalia
  Pilosa
    Myrmecophagidae
      *Tamandua tetradactyla*
**Serratacarus dietzi** Goff & Whitaker, 1984
Mammalia
Rodentia
Cricetidae
*Nectomys lasiurus*

**Serratacarus lasiurus** Goff & Whitaker, 1984
Mammalia
Rodentia
Cricetidae
*Nectomys lasiurus*

**Speleocola tamarina** Goff, Whitaker & Dietz, 1987
Mammalia
Primates
Callitrichidae
*Lentopithecus rosalia*
Rodentia
Cricetidae
*Sooretamys angouya*

**Trombewingia bakeri** (Fonseca, 1955)
Mammalia
Rodentia
Cricetidae
*Akodon montensis*  
*Delomys dorsalis*  
*Sooretamys angouya*  
Sciuridae
*Guerlinguetus ingrami*
Didelphimorphia
Didelphidae
*Monodelphis domestica*

**Trombewingia brasiliensis** Goff & Gettinger, 1991
Mammalia
Rodentia
Cricetidae
*Necromys lasiurus* (= *Bolomys lasiurus*)
A checklist of chiggers from Brazil

Trombicula truncata Brennan, 1970
Mammalia
  Chiroptera
    Emballonuridae
      Saccopteryx bilineata

Vercammenia yorkei (Sambon, 1928)
  Amphibia
    Anura
      Hylidae
        Scinax funereus

Appendix 2
List of hosts, their associations with chiggers and the respective reference.

Amphibia
  Anura
    Craugastoridae
      Pristimantis conspicillatus
        Hannemania stephensi Sambon 1928
    Hylidae
      Scinax funereus
        Hannemania newsteadi Sambon 1928
        Vercammenia yorkei Sambon 1928
    Hylodidae
      Hyloxalis sp.
        Hannemania hylodeus Oudemans 1910
    Leptodactylidae
      Leptodactylus latrans
        Hannemania hepatica Fonseca 1936

Reptilia
  Squamata
    Colubridae
      Spilotes pullatus
        Fonsecia travassosi Fonseca 1936
      Xenodon merremii
        Eutrombicula alfreddugesi Fonseca 1932a
        Fonsecia ewingi Fonseca 1932b
        Fonsecia ophidica Fonseca 1932b
Tropiduridae

*Tropidurus cocorobensis*
*Eutrombicula alfreddugesi* Menezes et al. 2011

*Tropidurus erythrocephalus*
*Eutrombicula alfreddugesi* Menezes et al. 2011

*Tropidurus hispidus*
*Eutrombicula alfreddugesi* Delfino et al. 2011, Menezes et al. 2011

*Tropidurus itambere*
*Eutrombicula alfreddugesi* Carvalho et al. 2006

*Tropidurus oreadicus*
*Eutrombicula alfreddugesi* Carvalho et al. 2006

*Tropidurus semitaeniatus*
*Eutrombicula alfreddugesi* Menezes et al. 2011

*Tropidurus torquatus*
*Eutrombicula alfreddugesi* Carvalho et al. 2006

Aves

“bird”

*Blankaartia shatrovi* Bassini-Silva et al. 2016

Apodiformes

Trochilidae

*Thalurania furcata*
*Parasecia thalurania* Brennan 1969c

Galliformes

Phasianidae

*Gallus domesticus*

*Apolonia tigipioensis* Torres and Braga 1938

*Eutrombicula batatas* Ewing 1925, Confalonieri and De Carvalho 1973

*Meleagris gallopavo*

*Eutrombicula batatas* Ewing 1925

Passeriformes

Conopophagidae

*Conopophaga lineata*

*Blankaartia sinnamary* Bassini-Silva et al. 2016

Dendrocolaptidae

*Glyphorynchus spirurus*

*Parasecia fundata* Brennan 1969c

Furnariidae

*Automolus infuscatus*

*Neoschoengastia esorhina* Brennan 1971a
A checklist of chiggers from Brazil

Pipridae
  Manacus manacus
    Blankaartia sinnamaryi Bassini-Silva et al. 2016

Passeridae
  Passer domesticus
    Apolonia tigipoensis Ornelas-Almeida et al. 2007

Thamnophilidae
  Thamnophilus caerulescens
    Blankaartia sinnamaryi Bassini-Silva et al. 2016

Thraupidae
  Tachyphonus coronatus
    Blankaartia sinnamaryi Bassini-Silva et al. 2016
    Trichothraupis melanops
    Blankaartia shatrovi Bassini-Silva et al. 2016

Turdidae
  Turdus albicollis
    Blankaartia sinnamaryi Bassini-Silva et al. 2016
  Turdus rufiventris
    Blankaartia sinnamaryi Bassini-Silva et al. 2016

Piciformes
  Picidae
    Picumnus cirratus
      Blankaartia sinnamaryi Bassini-Silva et al. 2016

Struthioniformes
  Struthionidae
    Struthio camelus
      Apolonia tigipoensis Ornelas-Almeida et al. 2007

Tinamiformes
  Tinamidae
    Crypturellus noctivagus
      Eutrombicula tinami Oudemans 1910
    Nothura maculosa cearensis
      Apolonia tigipoensis Carneiro 1949, 1952

Mammalia
  Artiodactyla
    Bovidae
      Goats
        Eutrombicula batatas Faccini et al. 2017
        Eutrombicula alfreddugesi Faccini et al. 2017
Cervidae
Unidentified
*Eutrombicula batatas* Bequaert 1926

Chiroptera
Emballonuridae
*Saccopteryx bilineata*
*Perissopalla tanydera* Brennan 1970a
*Trombicula truncata* Brennan 1970a

Phyllostomidae
*Carollia perspicillata*
*Perissopalla ipeani* Brennan 1969b
*Whartonia nudosetosa* Silveira et al. 2015
*Whartonia pachywhartoni* Silveira et al. 2015

*Glyphonycteris daviesi*
*Perissopalla barticonycteris* Brennan 1969b

*Micronycteris megalotis*
*Hooperella spinirostra* Vercammen-Grandjean 1967
*Whartonia pachywhartoni* Vercammen-Grandjean 1966

*Tonatia bidens*
*Perissopalla ipeani* Almeida et al. 2011

Molossidae
*Nyctinomops laticaudatus*
*Chiroptella* (Oudemansidium) australis Brennan 1970a

Didelphimorphia
Didelphidae
*Caluromys philander*
*Parasecia fundata* Brennan 1969c

*Didelphis alivventris*
*Arisocerus hertigi* Goff and Gettinger 1989

*Didelphis aurita*
*Eutrombicula tinami* this study

*Didelphis marsupialis*
*Kymocta faikeni* Brennan and Bronswijk 1973
*Parasecia fundata* Brennan 1969c

*Didelphis sp.*
*Euschoengastia trouessarti* Oudemans 1910
*Eutrombicula bruyanti* Oudemans 1910
*Leeuwenhoekia verduni* Oudemans 1910

*Gracilinannus agilis*
*Colicus spinosus* Goff and Gettinger 1989
*Quadraseta brasiliensis* Goff and Gettinger 1989

*Monodelphis americana*
*Quadraseta brasiliensis* Goff and Gettinger 1989
Monodelphis brevicaudata
  Parasecia valida Brennan 1969c
Monodelphis domestica
  Parasecia aitkeni Whitaker and Dietz 1987
  Trombewingia bakeri Whitaker and Dietz 1987
Monodelphis sp.
  Colicus spinosus this study

Perissodactyla
Equidae
  “Equines” Confalonieri and Benez 1976
    Eutrombicula batatas

Pilosa
Myrmecophagidae
  Tamandua tetradactyla
    Rhinibus tamandua Brennan and Yunker 1969

Primates
Callitrichidae
  Lentopithecus rosalia
    Microtrombicula brennani Goff et al. 1986
    Speleocola tamarina Goff et al. 1987

Hominidae
  Homo sapiens
    Apolonia tigpioensis Carneiro 1949, 1952
    Eutrombicula alfreddugesi Fonseca 1932a

Rodentia
unknown
  “wild mouse”
    Kymocta brasiliensis Fonseca 1936

Caviidae
  Cavia intermedia
    Arisocerus hertigi Regolin et al. 2015

Cricetidae
  Akodon montensis
    Kymocta brasiliensis this study
    Quadrastetra mirandae this study
    Quadrastetra pazca this study
    Trombewingia bakeri Jacinavicius et al. 2015
  Akodon sp.
    Parascoschoengastia aemulata this study

Calomys tener
  Parasechia aitkeni Whitaker and Dietz 1987
  Quadrastetra pazca Whitaker and Dietz 1987
Cerradomys subflavus
  Colicus brasiliensis Goff et al. 1983
Delomys dorsalis
  Trombewingia bakeri Jacinavicius et al. 2015
Euryoryzomys macconnelli
  Arisocerus amapensis Brennan 1970
Euryoryzomys russatus
  Quadrata flocchi this study
  Quadrata pazca this study
Necromys lasiurus
  Kymocta faitkeni Brennan and Bronswijk 1973
  Kymocta lutui Goff et al. 1983
  Parasecia lasiurus Goff and Gettinger 1991
  Parasecia valida Brennan 1969c
  Serratacarus dietzi Goff and Whitaker 1984a
  Serratacarus lasiurus Goff and Whitaker 1984a
  Trombewingia brasiliensis Goff and Gettinger 1991
Nectomys squamipes
  Aitkenius vellosus Brennan 1970d
  Parasecia aitkeni Brennan and Jones 1960, Whitaker and Dietz 1987
  Quadrata trapezoides this study
Hylaemys megacephalus
  Aitkenius vellosus Brennan 1970d
  Arisocerus amapensis Brennan 1970c
  Kymocta faitkeni Brennan 1968b
  Kymocta inca Brennan 1968b, Brennan and Bronswijk 1973
  Parasecia valida Brennan 1969c
  Polypodium aspasia Goff 1969a
  Quadrata brasiliensis Goff and Gettinger 1989
Oligoryzomys fornesi
  Colicus brasiliensis Goff et al. 1983
Oxymycterus sp.
  Parasecia lasiurus Goff and Gettinger 1991
Rhipidomys mastacalis
  Microtrombicula rhipidomysi Goff et al. 1983
Sooretamys angouya
  Speleocola tamarina this study
  Trombewingia bakeri Jacinavicius et al. 2015
Ctenomyidae
  Ctenomys minutus
  Paratrombicula plaumanni Brennan and Jones 1964a
Dasyproctidae

*Dasyprocta aguti*

*Eutrombicula batatas* Bequaert 1926

*Eutrombicula goeldii* Oudemans 1910

Echimyidae

*Proechimys guyannensis*

*Aitkenius vellosus* Brennan 1970

*Arisocrates amapensis* Brennan 1970c

*Buclypeus catatonus* Brennan 1972

*Buclypeus ignotus* Brennan 1971b

*Colicus icomi* Brennan 1970b

*Kymocta inca* Brennan and Bronswijk 1973

*Microtrombicula brachytrichia* Brennan 1971b

*Parasecia fundata* Brennan 1969c

*Parasecia orphana* Brennan 1971b

*Proechimys* sp.

*Polylopadium aspasium* Brennan 1970a

*Trinomys graciosus*

*Caamembecaia gratiosa* Gazêta et al. 2006

Sciuridae

*Guerlinguetus ingrami*

*Trombewingia bakeri* Fonseca 1955