NEW RECORDS OF CHIGGERS FROM THE WEST INDIES

by

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This study is based principally on chiggers collected by Dr. P. Wagenaar Hummelink (Zoologisch Laboratorium, Utrecht) and associates. Supplemental material from Dr. Thomas H. G. Aitken (Trinidad Regional Virus Laboratory, Port-of-Spain) has provided several new records, and Mr. A. Ventura (University College of the West Indies, Kingston), has supplied additional records of Eutrombicula balatas in Jamaica. - The bat hosts collected by Hummelink have been identified by Dr. A. M. Husson (Rijksmuseum van Natuurlijke Historie, Leiden).

In all, our knowledge of trombiculid mites in the Caribbean has been substantially increased. Forty-five species are now known from the West Indies and chiggers are recorded for the first time from Saint-Barthélemy, Dominica, Patos Island (Venezuela), Margarita, Curacao and Aruba.

The material covered in this paper comprises:

<table>
<thead>
<tr>
<th>Chigger</th>
<th>Host</th>
<th>Locality (Sta.)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wagenaaria similis</td>
<td>Mormoops megalophyila</td>
<td>Curacao (340)</td>
<td>148</td>
</tr>
<tr>
<td>Euschoengastia antillarum</td>
<td>Sylvilagus floridanus</td>
<td>Curacao</td>
<td>150</td>
</tr>
<tr>
<td>Trombicula thresca sp. n.</td>
<td>Tadarida brasiliensis</td>
<td>Saint-Barthélemy</td>
<td>152</td>
</tr>
<tr>
<td>Odontacarus tubercularis (Brennan)</td>
<td>Rattus sp.</td>
<td>Patos (Venezuela)</td>
<td>153</td>
</tr>
<tr>
<td>Whartonia guerrerensis</td>
<td>Erophylla sesekorni</td>
<td>New Providence (494)</td>
<td>153</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------</td>
<td>----------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Hoffmann</td>
<td>Peropteryx macrolis</td>
<td>Margarita (142)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mormoops megalophylla</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whartonia nudosetosa</td>
<td>Carollia perspicillata</td>
<td>Trinidad (570)</td>
<td>153</td>
</tr>
<tr>
<td>(Wharton)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euschoengastia colombiae</td>
<td>Diaemus youngi</td>
<td>Trinidad</td>
<td>154</td>
</tr>
<tr>
<td>(Boshell &amp; Kerr)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euschoengastia desmodus</td>
<td>Erophylla sesekorni</td>
<td>New Providence (494)</td>
<td>154</td>
</tr>
<tr>
<td>Brennan &amp; Dalmat</td>
<td>Peropteryx macrolis</td>
<td>Margarita (142)</td>
<td>154</td>
</tr>
<tr>
<td>Speleocola secunda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brennan &amp; Jones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blankaartia amersonii</td>
<td>Anous stolidus</td>
<td>Soldado Rock (Trin.)</td>
<td>154</td>
</tr>
<tr>
<td>Brennan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurombiacula batatae</td>
<td>Sylvilagus floridanus</td>
<td>Curaçao</td>
<td>154</td>
</tr>
<tr>
<td>(Linnaeus)</td>
<td>Columbigalla passerina</td>
<td>Jamaica</td>
<td></td>
</tr>
<tr>
<td></td>
<td>domestic chicken</td>
<td>Jamaica</td>
<td></td>
</tr>
<tr>
<td>Eurombiacula goeldii</td>
<td>Anolis bimaculatus</td>
<td>Dominica</td>
<td>154</td>
</tr>
<tr>
<td>(Oudemans)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fonsecia ewingi (Fonseca)</td>
<td>Tripanurgus compressus</td>
<td>Trinidad</td>
<td>154</td>
</tr>
<tr>
<td>Trombicula anophthalma</td>
<td>Erophylla sesekorni</td>
<td>New Providence (494)</td>
<td>155</td>
</tr>
<tr>
<td>Hoffmann</td>
<td>Myotis nigricans</td>
<td>Trinidad</td>
<td>155</td>
</tr>
<tr>
<td>Trombicula longicalcar</td>
<td>Anous stolidus</td>
<td>Soldado Rock (Trin.)</td>
<td>155</td>
</tr>
<tr>
<td>Brennan &amp; Jones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trombicula thompsonii</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brennann</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trombicula tibettsi</td>
<td>Erophylla sesekorni</td>
<td>New Providence</td>
<td>155</td>
</tr>
<tr>
<td>Brennan &amp; White</td>
<td>Glossophaga elongata</td>
<td>Curaçao (219?)</td>
<td></td>
</tr>
<tr>
<td>Trombicula usitata</td>
<td>Mormoops megalophylla</td>
<td>Curaçao (340)</td>
<td></td>
</tr>
<tr>
<td>Brennann</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trombicula vespuriginis</td>
<td>Carollia perspicillata</td>
<td>Trinidad (570)</td>
<td>155</td>
</tr>
<tr>
<td>Brennan &amp; Jones</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wagenaaria gen. n.

Leeuwenhoekiine larvae lacking anteromedian scutal projection, spiracles and tracheae, and eyes. Cheliceral blades with tricuspid cap only. Palpal tibial claw bifurcate and with tenent hairs; palpal tarsus with 7 branched setae and a tarsala. Sensilla flagelliform. Tarsal claws with tenent hairs and empodia simple.

Type species: Wagenaaria similis sp. n.

This genus is the second eyeless member of a group including
Chatia Brennan, Parashunseennia Kumada, Sasacarus Brennan & Jones and Shunseennia Jameson & Toshioka. Collecting data suggest that the single species assigned to Wagenaaria is parasitic on Chiroptera exclusively. No species of the other genera have been recorded from bats.

Wagenaaria shares various characteristics with the four genera mentioned above, but appears to be most closely related to Parashunseennia from which it is distinguished by presence of tenent hairs on tarsal claws of the legs and tibial claws of the palps; coxal setae 2-1-1 (2-2-2 in Parashunseennia).

Named for the collector, P. WAGENAAR HUMMELINCK.

Wagenaaria similis sp. n.

(Fig. 42)

Type data: Holotype and 2 paratypes, RML 45403, off Mormoops megaphylla, Cueba di Ratón, Hato, CURAÇAO, 26 September 1948 (Station 340); 19 paratypes, same host and locality, 20 October (Sta. 340a) and 1 December 1948 (Sta. 340b), Hummelinck.

Holotype and some paratypes in the Rocky Mountain Laboratory, other paratypes in the U. S. National Museum, British Museum (Natural History), Field Museum of Natural History, Australian National Insect Collection, Canberra, and Institute of Acarology, Columbus, Ohio.

Diagnosis: In the group of genera mentioned above, W. similis is the only species with 3 genualae I and the only one parasitic on bats.

Body: Oval. Length and width of holotype, engorged, 504 by 298 μ. Eyes, spiracles and tracheae absent. Anus at approximate fifth row of ventral setae.

Gnathosoma: Punctate. Blades broad and strong, with tricuspid cap only. Galeal setae branched. Palpal setae B/B/BBB, tarsus with 7 branched setae and a tarsala; tibial claw bifurcate, the prongs short, a row of long tenent hairs on inner ventral surface.

Fig. 42. *Wagenaaria similis* sp. n., from CURAÇAO on Mormoops. — Scutum, palp, and specialized setae of legs I, II and III with measurements in microns.
Legs: Coxae densely, other segments moderately, punctate. Specialized setae as figured, 3 genualae I, a genuala II and III, tarsalae long, no parasubterminala. Tarsal claws with tenent hairs, empodia bare. Non-specialized setae lightly to heavily branched, seta on coxa III at inner, anterior margin.

Body setae: Four or more humerals, 44 to 48 μ long; dorsal setae more than 150, 33 to 44 μ; ventral setae 2–2 sternals plus more than 100.

**Euschoengastia antillarum** sp. n.
(Fig. 43)

Type data: Holotype and 7 paratypes, RML 45473, off *Sylvilagus floridanus* (syn. *S. nigronuchalis*), CURAÇAO, 8 March 1949 (Brother Godefried), Hummelinck. Holotype and some paratypes in the Rocky Mountain Laboratory, other paratypes in the U. S. National Museum, British Museum (Natural History), Field Museum of Natural History and Australian National Insect Collection.

Diagnosis: Separated from its 3 Argentinian relatives, *E. azulae*, *E. pazca* and *E. trapezoides*, by having 4 humeral setae instead of 2, nude palpal laterotibial seta, shape of scutum and different dorsal setal formula.

Body: Obovate. Length and width of holotype, engorged, 406 by 260 μ. Eyes small, 2/2, in a plate, the anterior larger. Anus at fourth row of ventral setae.

Gnathosoma: Sparsely to moderately punctate. Cheliceral bases about two-thirds longer than wide, mildly angulate laterally; blades short and stout, with tricuspid cap. Galeal seta nude, unusually long. Palpal setae B/B/BNB, tarsus with 4 branched setae and a small tarsala, tibial claw trifurcate.


Legs: Lightly punctate. Specialized setae as figured, 2 genualae I, a genuala II and III. Non-specialized setae lightly to moderately branched. Seta on coxa III near anterior margin.

Body setae: Dorsal setae arranged 4–8–8–8–8–4–2, 21 to 30 μ,
the shorter ones posterior. Ventral setae 2–2 sternals plus 36, postanals like dorsals.

Addendum: Since this paper went to press Dr. Hummelinck sent 7 more specimens of *Euschoengastia antillarum*, collected by him from the host species in Curaçao, 1963.

Fig. 43. *Euschoengastia antillarum* sp. n., from Curaçao, on Sylvilagus. – Eyes, scutum, and specialized setae of legs.
**Trombicula thresca** sp. n.

(Fig. 44)

*Type data:* Holotype and a paratype, RML 45392, off *Tadarida brasiliensis*, in a church, Lorient, SAINT-BARTHÉLEMY, 3 June 1949, Hummelinck.

In the collection of the Rocky Mountain Laboratory.

*Diagnosis:* The absence of mastitarsala III distinguishes this bat chigger, *T. thresca*, from other Caribbean species having a bifurcate palpal tibial claw (*T. dicrura*, off rodents, Panama; *T. insularis*, off lizard, Dominican Republic; *T. thompsoni*, off see birds, Jamaica and Trinidad).

*Fig. 44. Trombicula thresca* sp. n., from St.-BARTHÉLEMY, on *Tadarida*. – Eyes, scutum, and specialized setae of legs.
Body: Ellipsoidal. Length and width of holotype, engorged, 515 by 340 μ. Eyes prominent, 2/2, in a plate. Anus at fourth row of ventral setae.

Gnathosoma: Moderately punctate, cheliceral bases densely punctate basally. Blades with tricuspid cap. Galeal seta nude. Palpal setae B/N/NNB, ventrotibial may be forked; tarsus with 5 branched setae, a subterminala and a tarsala; tibial claw bifurcate, the axial prong inner and ventral.

Scutum: In the holotype, as figured, in the paratype posterior margin not quite so angulate; sparsely punctate. Sensilla branched on apical half. PL > AM = AL. Measurements of holotype: AW 67, PW 77, SB 27, ASB 24, PSB 25, AP 22, AM 23, AL 23, PL 27.

Legs: Sparsely punctate. Specialized setae as figured, 2 genualae I, a genuala II and III. Non-specialized setae lightly branched. Seta on coxa III near anterior edge.

Body setae: Dorsal setae similar to scutals, 23 to 25 μ, arranged 2–6–6–4–4. Ventral setae 2–2(sternals)–2–4–2–2–2, postanals similar to dorsals.

**Odontacarus tubercularis** (Brennan)

*Acomatacarus tubercularis* BRENNAN, 1952: 146.

Twenty specimens off *Rattus* sp., Patos Island, Venezuela, 5 August 1962, Aitken.

**Whartonia guerrerensis** Hoffmann


Nine larvae off *Erophylla sesekorni*, Hunt's Cave, New Providence, Bahamas, 22 August 1949 (Sta. 494); 1 off *Peropteryx macrotis*, Cueva del Piache, El Valle, Margarita, Venezuela, 10 July 1936 (Sta. 142); 9 off *Mormoops megalophylla*, Cueva di Ratón, Hato, CURAÇAO, 26 September (Sta. 340) and 20 October 1948 (Sta. 340a) and 23 May 1955 (Sta. 340c), Cueva di Quadirikiri, ARUBA, 23 December 1936 (Sta. 251) and 18 May 1949 (Sta. 251c), Hummelinck.

**Whartonia nudosetosa** (Wharton)

*Hannemania nudosetosa* WHARTON, 1938: 142.

Two specimens off *Carollia perspicillata*, Tamana Bat Cave, TRINIDAD, 9 January 1955 (Sta. 570), Hummelinck.
Euschoengastia colombiae (Boshell & Kerr)

Neoschoengastia colombiae BOSHELL & KERR, 1942: 16 (reprint).
Three specimens off vampire bats, Diaemus youngi, Majuba Road, Petit Valley, Diego Martin, TRINIDAD, 8 January 1963, Aitken.

Euschoengastia desmodus Brennan & Dalmat

Euschoengastia desmodus BRENNAN & DALMAT, 1960: 188.
Two larvae off Erophylla sezekorni, Hunt’s Cave, NEW PROVIDENCE, Bahamas, 22 August 1949 (Sta. 494), Hummelinck.

Speleocola secunda Brennan & Jones

One specimen off Peropteryx macrotis, Cueva del Piache, El Valle, MARGARITA, 10 July 1936 (Sta. 142), Hummelinck.

Blankaartia amersoni Brennan

Blankaartia amersoni BRENNAN, 1965: 888.
Two larvae from 2 Anous stolidus (attached just inside external nares of nestlings), Soldado Rock, TRINIDAD, 9 May 1965, Aitken.

B. amersoni was but recently described from Johnston Atoll, Pacific Ocean, where all specimens found were occupying an intra-oral habitat in their sea-bird hosts, Sterna fuscata and Phaethon rubicauda.

Eutrombicula batatas (Linnaeus)

Acarus batatas LINNAEUS, 1758: 617.
One specimen off Sylvilagus floridanus, CURAÇAO, 8 March 1949 (Brother Godefried), Hummelinck; 16 off Columbigallina passerina, Caymanas, JAMAICA, 25 January and 17 May 1962, & off domestic chicken, Jamaica, 28 November 1961, Ventura.

Eutrombicula goeldii (Oudemans)

Microthrombidium goeldii OUDEMANS, 1910: 84.
Numerous larvae off Anolis bimaculatus, South Chiltern, St. Luke Parish, DOMINICA, 6 June 1965, Aitken.

Fonsecia ewingi (Fonseca)

Trombicula ewingi FONSECA, 1932: 153.
Two larvae off snake, Tripanurgus compressus, Bush Bush Forest, Nariva Swamp, TRINIDAD, 16 November 1962, Aitken.
First record since described from various localities in Brazil off Ophis merremii.
Trombicula anophthalma Hoffmann


One specimen off *Erophylla sezekorni*, Hunt’s Cave, New Providence, Bahamas, 22 August 1949 (Sta. 494), Hummelinck.

Trombicula longicalcar Brennan & Jones


Trombicula thompsoni Brennan


Fifteen larvae off *Anous stolidus*, Soldado Rock, Trinidad, 9 May 1965, Aitken.

First record since described from a single specimen off *Arenaria interpres*, Jamaica.

Trombicula tibbettsi Brennan & White


One larva off *Erophylla sezekorni*, Hunt’s Cave, New Providence, Bahamas, 22 August 1949 (Sta. 494), Hummelinck; 1 off *Glossophaga elongata*, Cave of Hato, Curacao, 22 December 1950 (A. D. Ringma), Hummelinck.

Trombicula usitata Brennan


Two larvae off *Mormoops megalophylla*, Cueba di Ratón, Hato, Curacao, 26 September (Sta. 340) and 20 October 1948 (Sta. 340a), Hummelinck.

Trombicula vesperuginis Brennan & Jones


Three specimens off *Carollia perspicillata*, Tamana Bat Cave, Trinidad, 9 January 1955 (Sta. 570), Hummelinck.

LITERATURE


BRENNAN, J. M., 1965. Two new species and other records of chiggers from Texas 

BRENNAN, J. M., 1965. A small collection of chiggers from the North Central Pacific 


FONSECA, FLAVIO DA, 1932. Notas de acareologia. VI. Duas novas especies de larvas 
do genero Trombicula: Trombicula ophidica, sp. n. e Trombicula ewingi, sp. n. 
(Acarina: Trombidiidae); nota sobre Trombicula butantanensis Fl. da Fonseca, 
Butantan* 7: 151–158.

HOFFMANN, ANITA, 1960. Contribuciones al conocimiento de los trombiculidos 

HOFFMANN, ANITA, 1960a. Contribuciones al conocimiento de los trombiculidos 
mexicanos (Acarina, Trombiculidae). 9a parte. *Acta Zoologica Mexicana* 4, 4: 
1–9 (reprint).

L. Salvius. [Genus 235, species 22, p. 617]


137–152.