The False Spider Mites of Northwestern and North Central Mexico (Acarina: Tenuipalpidae)

EDWARD W. BAKER, DONALD M. TUTTLE, and MICHAEL J. ABBATIELLO
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Edward W. Baker, Donald M. Tuttle, and Michael J. Abbatiello
ABSTRACT

Baker, Edward W., Donald M. Tuttle, and Michael J. Abbatiello. The False Spider Mites of Northwestern and North Central Mexico (Acarina: Tenuipalpidae.) Smithsonian Contributions to Zoology, number 194, 23 pages, 36 figures. 1975.—Seventy-one species of false spider mites representing five genera (Pseudoleptus, Aegyptobia, Tenuipalpus, Brevipalpus, and Priscapalpus) occurring in Mexico are recognized and discussed. Figures for 24 species are included, of which 21 are new. The following are new species: Aegyptobia cercidium, A. allionia, A. incarnata, Brevipalpus solanum, B. neohyptis, B. sida, B. chamaeorea, B. pseudophoenicus, B. ceils, B. bouchea, B. pluchea, B. cassia, B. frankenia, B. psilostrophe, B. viguiera, B. origanum, B. cercidium, B. filifolia, B. incanum, B. coldenia, and B. encelia.
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The False Spider Mites of Northwestern and North Central Mexico (Acarina: Tenuipalpidae)

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Introduction

This study, a continuation of previous ones by Baker and Tuttle (1964), and De Leon (1957, 1960, 1961, 1961a, 1962, and 1965), consists of a survey of plants for plant-feeding mites and their predators in the states of Sonora, Sinaloa, Nayarit, Jalisco, Zacatecas, Coahuila, and Chihuahua. A few other collections have been included. Plants were beaten over a United States Department of Agriculture #20 seed sieve into a funnel and vial, and the mites thus obtained were preserved in an AGA solution (alcohol, glycerin, and acetic acid) and mounted later. Mites were found on all plants sampled. Collections were made by D. M. Tuttle, M. J. Abbatiello, and E. W. Baker in 1970 unless otherwise stated.

We express our appreciation to Dr. Charles T. Mason, Jr., and Mrs. Caryl L. Sagar, Department of Botany, University of Arizona, for the determination of plants and review of plant names appearing in this study.

Genus Pseudoleptus Bruyant


This genus is characterized by four to five palpal segments; two pairs of dorsosublateral setae; a bifurcate rostral shield; ventral plate absent; and by a characteristic striation pattern on hysterosoma. Type-Species.—Pseudoleptus arechavaletae Bruyant, monotypy.

Pseudoleptus palustria Pritchard and Baker


This species was originally described from Distichlis in California and was subsequently collected in Kansas. The Mexican specimens were collected on Sporobolus flexuosus (Thurber) Rydberg, Torreon, Coahuila, 5 August.

Genus Aegyptobia Sayed


This genus is distinctive in having four pairs of dorsosublateral setae, a five-segmented palpus, and typically shaped genital and ventral plates.

The southwestern United States, and the areas collected in Mexico, are rich in species belonging to this genus. Without more collecting and further study we are not certain whether we are looking at species or variations—when in doubt we became conservative and placed the so-called variants under one name. The key to the species in Baker...
and Tuttle (1964) is applicable to most of the Mexican species.

**Type-Species.**—*Aegyptobia tragardhi* Sayed, monotypy.


This species was originally described from *Flourensia cernua* De Candolle, Portal, Arizona. It was collected on *Hymenoclea monogyra* Torrey and Gray, Chihuahua, 8 August.

*Aegyptobia campsis* Baker and Tuttle


This mite was originally collected from *Campsis radicans* (Linnaeus) Seemann, Yuma, Arizona. The Mexican collections were made as follows: *Ambrosia confertiflora* (De Candolle) Rydberg, Hermosillo, 17 July; *Solanum elaeagnifolium* Cavara, Alamos, 20 July; *Parthenium hysterophorus* Linnaeus, Los Mochis, 24 July; *Artemisia ludoviciana* Nuttall, Chihuahua, 8 August; and *Tridens pulchellus* (Humboldt, Bonpland, and Kunth) Hitchcock, 80 miles south of Chihuahua, 8 August.

*Aegyptobia cassiae* Baker and Tuttle

*Aegyptobia cassiae* Baker and Tuttle, 1964:12.

This mite, originally collected on *Solanum elaeagnifolium* Cavara, Yuma, Arizona, was found on Spanish-moss (*Tillandsia usneoides* Linnaeus) from Puebla, Mexico, at the El Paso Quarantine Station by J. H. Cross, 25 January 1972.

*Aegyptobia desertorum* Baker and Tuttle


This species was originally collected on *Atriplex canescens* (Pursh) Nuttall, Yuma County, Arizona. A single specimen was found on *Atriplex aequalis aequalis* Sobel. It was taken on *Senecio* sp. and *Haplopappus tenuisectus* (Greene) S. F. Blake at Fresnillo, 3 August.

*Aegyptobia crotonae* Baker and Tuttle


This mite was described from specimens collected on *Croton corymbulosus* Engelmann at Portal, Arizona. It was also found on *Ambrosia confertiflora* (De Candolle) Rydberg at Riverside, California. The Mexican collections were made on the first-mentioned host at Cuencame, 4 August; on *Crusea* sp., Guadalajara, 31 July; and on *Sida diffusa* Humboldt, Bonpland, and Kunth at Chihuahua, 8 August.

*Aegyptobia ceibae* De Leon


This mite was collected from *Ceiba* sp., 12 miles south of Guadalajara, Jalisco, 13 March 1957.

*Aegyptobia macswaini* Pritchard and Baker


This mite is known from various hosts in Arizona and California. It was collected on *Abronia maritima* Nuttall and Watson, Hermosillo, 17 July. De Leon collected it on *Pectis arenaria* Bentham, from San Blas, Nayarit, April 1957.

*Aegyptobia haplopappus* Baker and Tuttle


This species was originally collected on *Haplopappus spinulosus* (Pursh) De Candolle in Arizona and at Alpine, California, on *Alopecurus aequalis* Sobel. It was taken on *Senecio* sp. and *Haplopappus tenuisectus* (Greene) S. F. Blake at Fresnillo, 3 August.

*Aegyptobia cercidium*, new species

**Figure 1**

This species is distinctive in having a reticulate pattern on the dorsum of the propodosoma.

**Female.**—Rostrum elongate, reaching to distal...
FIGURES 1-4.—Dorsum of female: 1, Aegyptobium cereidium, new species; 2, Aegyptobia allionia, new species; 3, Aegyptobia incarnata, new species; 4, Brevipalpus solanum, new species.
tip of tibia I. Dorsal setae of femora I and II slender and serrate; dorsal setae of genua missing; those of tibia I and II similar to those of femora; claws strongly uncinate. Rostral shield absent; anterior margin of propodosoma sometimes slightly indented; propodosoma with dorsal reticulate pattern as figured; setae slightly lanceolate and serrate. Hysterosoma with faint transverse striation pattern as figured; setae lanceolate-serrate and broader than those of propodosoma. Genital setae slender, faintly serrated; ventral plate not visible, area with transverse striae. Length of body including rostrum 287\(\mu m\); width 172\(\mu m\).

**Holotype.**—Female, USNM 3621, ex *Cercidium floridum* Bentham, Mazatlan, 26 July.

**Paratypes.**—Eight females with the above data.

*Aegyptobia allionia*, new species

**Figure 2**

The claws are padlike, not hooked; the body is lightly striated; and the dorsal body setae are slender and with few serrations.

**Female.**—Rostrum slender, reaching to distal end of genua I and II; setae of femora I and II strong, straight, and serrate. Tarsal claws padlike, not uncinate. Propodosoma with few, weak longitudinal striae, slightly indented anteriorly; propodosomal setae slender, with few serrations. Hysterosoma with few striae, those anterior transverse, those posterior longitudinal; setae of hysterosoma slender and with few striae as on propodosoma. Ventral plate with few longitudinal striae; genital plate with few longitudinal striae. Length of body including rostrum 382\(\mu m\); width 204\(\mu m\).

**Holotype.**—Female, USNM 3622, ex *Allionia incarnata* Linnaeus, 10 miles south of Chihuahua, 7 August.

*Aegyptobia incarnata*, new species

**Figure 3**

The padlike tarsal claws and strong dorsal body setae are distinctive.

**Female.**—Rostrum slender, reaching to distal end of genua I. Dorsal setae of femora I and II and tibiae and genua I and II long, strong, and serrate. Tarsal claws padlike. Anterior margin of propodosoma not emarginate. Dorsum of body with few, distinct striae (see figure). Dorsal body setae strong, strongly serrate. Ventral body setae strong and serrate; ventral plate present; with few transverse striae; genital plate similar. Length of body including rostrum 351\(\mu m\); width 191\(\mu m\).

**Holotype.**—Female, USNM 3623, ex *Allionia incarnata* Linnaeus, Hermosillo, 18 July.

**Paratypes.**—Six females with the above data.

**Genus Tenuipalpus Donnadieu**


This genus is characterized by a very broad propodosoma and a narrow opisthosoma; the ventral plate is not a distinct entity; the number of palpal segments may vary; and usually there is a pair of long posterior whiplike setae.

**Type Species.**—(*Tenuipalpus palmatus* Donnadieu) = *T. caudatus* (Dugès), by subsequent designation.

*Tenuipalpus meekeri* De Leon

*Tenuipalpus meekeri* De Leon, 1957:82.

This species was collected on a fern in a mangrove swamp at San Blas, Nayarit, 31 March 1957.

*Tenuipalpus dasples* Baker and Pritchard


This species was described from *Sabal megacarpa* Small, 19 April 1950 and *Sabal palmetto* Loddiges, 27 December 1950, Florida. Mexican specimens of both sexes have been collected at United States Quarantine Station, San Antonio, Texas, on *Chamaedorea* sp., 11, 29 November 1966, 11 November 1971, 26 September 1972, 16 October 1972, and from *Sabal* sp. near Veracruz by De Leon 29 December 1956.

*Tenuipalpus rhysus* Baker and Pritchard


This species has been collected on *Chaemadorea*
sp. from Chiapas at San Antonio Quarantine Station. It differs from the preceding species in that the second propodosomal setae are small rather than large as in T. dasples. De Leon (1957:92) believes that T. rhysus and T. argus are variants of T. bakeri McGregor.

**Tenuipalpus coyacus De Leon**

*Tenuipalpus coyacus* De Leon, 1957:83.

This mite was collected by De Leon from “coco de aceite” (*Cocos nucifera* Linnaeus) at San Blas and Aticama, Nayarit, 8 April 1957.

**Tenuipalpus unimerus De Leon**

*Tenuipalpus unimerus* De Leon, 1957:84.

This species is from “aquacate” or avocado (*Persea americana* Miller), San Blas, Nayarit, 31 March 1957.

**Tenuipalpus tabebuiae De Leon**


This species was collected from *Tabebuia pentaphylla* (Linnaeus) Hemsley, San Luis Potosí, 21 December 1956, and *Tabebuia* sp., San Blas, Nayarit, 28 March 1957.

**Tenuipalpus tepicanus De Leon**


This species was collected on “capulincillo” at San Blas and Aticama, Nayarit, by De Leon, 28 March 1957 and 13 April 1957.

**Tenuipalpus crescentiae De Leon**


This mite was collected from “coasteconate” (*Parmentiera alata* Miers) at San Blas, Nayarit, by De Leon, 8 April 1957.

**Tenuipalpus sanblasensis De Leon**

*Tenuipalpus sanblasensis* De Leon, 1957:89.

This mite was collected from “naranjilla” (*Cap-
Figures 5-8.—*Brevipalpus solanum*, new species: 5, nymph I (molting to II). *Brevipalpus allenrolfia* Baker and Tuttle: 6, female taken from *Suaeda* sp.; 7, female taken from *Allenrolfia* sp.; 8, nymph taken from *Allenrolfia* sp.
the female, three distal setae on the palpus, and six pairs of hysterosomal marginal setae.

**Brevipalpus lagascaeae** De Leon

*Brevipalpus lagascaeae* De Leon, 1960:176.

This species was collected from *Lagascea angustifolia* De Candolle, Jalisco, 24 March 1957.

**Brevipalpus tubercellus** De Leon

*Brevipalpus tubercellus* De Leon, 1960:177.

This species was collected from a “lauraceous” tree and *Nectandra tabascensia* Lundell at Nayarit. No dates available.

**Brevipalpus formosus** De Leon

*Brevipalpus formosus* De Leon, 1960:177.

This mite was collected from *Licaria* sp., Nayarit, 8 April 1957.

**Brevipalpus albus** De Leon

*Brevipalpus albus* De Leon, 1960:179.

This species was collected from *Quercus aristata* Hooker and Arnott, Nayarit, 24 March 1957.

**Brevipalpus oreopanacis** De Leon


This species was collected from *Oreopanax pellatum* Linden, Nayarit, 24 March 1957.

**Brevipalpus perseae** De Leon

*Brevipalpus perseae* De Leon, 1960:182.

This species was collected from *Persea hintonii* C. K. Allen, Nayarit, 25 March 1957.

**Brevipalpus testudinalis** De Leon

*Brevipalpus testudinalis* De Leon, 1960:186.

This species was collected from an “unknown tree,” Nayarit, 29 April 1957.

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**Brevipalpus solanum**, new species

**FIGURES 4, 5**

The dorsal reticulate pattern of the female, the slender dorsal setae, and the short dorsal setae of the nymph are distinctive.

**FEMALE.**—Rostrum elongate, reaching to distal end of femur I; palpus with three distal setae; rostral shield sculptured. Tarsus II with a single solenidion; tarsal claws uncinate; femoral setae small, slender, and lightly serrate. Propodosoma entirely covered with rounded areolae; mediolateral grooves broad; setae relatively long, slender, and lightly serrate. Hysterosoma with areolae; posterior to second pair of dorsocentral setae pattern transverse; mediolateral groove broad; hysterosomal setae small, slender, and slightly serrate. Genital and ventral plates with rounded areolae; area anterior to ventral plate similar; area between metapodosomal setae punctate. Length of body including rostrum 287μm; width 147μm.

**MALE.**—In general, similar to female in reticulate pattern and setae. Length of body including rostrum 255μm; width 115μm.

**NYMPH I.**—All dorsal body setae short and slightly serrate; those on propodosoma somewhat longer than those on hysterosoma; setae of femora I and II similar to those on propodosoma; body with few striae.

**HOLOTYPE.**—Female, USNM 3624, ex *Solanum elaeagnifolium* Cavara, Alamos, 20 July.

**PARATYPES.**—Eight females, male, and nymph with above data.

Other specimens were collected as follows: ex *Solanum verbascifolium* Linnaeus, Topolobampo, 24 July; ex *Cynodon dactylon* (Linnaeus) Persoon, Cd. Obregon, 23 July; ex *Waltheria americana* Linnaeus, Mazatlan, 26 July, and ex *Sida* sp., Mazatlan, 24 July; ex *Tephrosia talpa* S. Watson, Tequila, 26 July; ex *Ambrosia confertifolia* (De Candolle) Rydberg, Tepic, 25 July; ex *Psilostrophe tagetina* (Nuttall) Greene, Torreon, 5 August; and ex *Cirsium wheeleri* (Gray) Petrak, Chihuahua, 8 August.

**Brevipalpus allenrolfia** Baker and Tuttle

**FIGURES 6-8**

*Brevipalpus allenrolfia* Baker and Tuttle, 1964:49.

This mite was first described from specimens col-
lected on *Allenrolfia occidentalis* (Watson) Kuntze, Dome Valley, Arizona. Mexican specimens were collected from *Atriplex polycarpa* (Torrey) Watson and *Suaeda torreyana* Watson, Hermosillo, 18 July; *Allenrolfia occidentalis* (Watson) Kuntze at Topolobampo, 24 July; and the same host at Los Mochis, 24 July. This appears to be a variable species, the setae and striation pattern varying as figured in Baker and Tuttle (1964) to those figured here. The Arizona specimens possess narrowly lanceolate dorsal setae; in the Mexican specimen the setae become progressively broader as figured; in the nymphs from *Atriplex* from Hermosillo, the marginal setae are small to large.

**Brevipalpus hypti** De Leon

*Brevipalpus hypti* De Leon, 1960:175.

This species was originally described from *Hyptis albida* Kunth, Ixtlan del Rio, Nayarit, 24 March 1957. Our specimens, all females, are from *Hyptis* sp., Tequila, 26 July and *Sida* sp., Guadalajara, 31 July.

**Brevipalpus neohyptis**, new species

*Figure 9*

This species is distinctive in having broad, strongly serrate femoral and anterior propodosomal setae. It is close to *Brevipalpus insinuatus* De Leon from *Quercus* in Chiapas and Morelia. It differs in that the ventral plate possesses transverse striae, not areolae.

**Female.**—With a single tarsal II solenidion; with three distal setae on palpus, and with six pairs of hysterosomal marginal setae. Rostrum short and broad, reaching about halfway to distal end of femur I. Dorsal setae of femora I and II broadly lanceolate and strongly serrate; dorsal genual setae of legs I and II slender and barely serrate; claws uncinate. Rostral shield with areolae. Propodosoma with dorsum evenly areolate, areolae small and rounded; anterior propodosomal setae broadly lanceolate and strongly serrate; second pair of propodosomals not as broadly lanceolate; third pair barely lanceolate. Hysterosomal pattern essentially similar to that of propodosoma, except for transverse pattern laterally; hysterosomal pores present; with deep longitudinal furrow mediolaterally; dorsocentral and marginal setae much smaller than those of the propodosoma, slender, and serrate. Venter lightly areolate. Length of body including rostrum 268μm; width 140μm.

**Holotype.**—Female, USNM 3625, ex *Hyptis* sp., Zapotlanejo, 30 July.

**Paratype.**—Female with the above data.

**Brevipalpus sida**, new species

*Figure 10*

The small dorsal areolae, the small smooth dorsal setae, and the entire venter covered with small areolae, except for the ventral and genital plates, which possess transverse striae, are distinctive.

**Female.**—As above; propodosoma not reaching to distal end of femur I; femur I with moderately broad, lanceolate, and serrate seta, that on femur II only slightly lanceolate and serrate; genual setae small and only slightly lanceolate, and serrate. Rostral shield not marked. Dorsum of body with small rounded areolae; dorsomedial portion depressed; marginal area raised and with more or less transverse pattern. Dorsal groove of hysterosoma broad but definite (see figure). Dorsal body setae small, slender, smooth, and slightly serrate. Venter of body except for plates covered with small areolae; plates with transverse striae. Length of body including rostrum 268μm; width 127μm.

**Holotype.**—Female, USNM 3626, ex *Sida* sp., Tequila, 26 July. Only a single female was collected. This may be a contaminant on the plant.

**Brevipalpus chamaedorea**, new species

*Figure 11*

The dorsal body pattern of strongly raised tubercles and striae as figured is distinctive.

**Female.**—As above; rostrum short and not broad, reaching about the middle of femur I; rostral shield lightly pebbled. Dorsal setae of femora I and II broadly lanceolate and strongly serrate; setae of genua small, slender. Dorsum of propodosoma with strong rounded tubercles; marginal area with longitudinal design. First pair of propodosomal setae very strong, broadly lanceolate, and serrate; second
Figures 13–16.—Dorsum of female: 13, Brevipalpus pseudophoenicis, new species; 14, Brevipalpus celtis, new species; 15, Brevipalpus bouchea, new species; 16, Brevipalpus pluchea, new species.
and third pairs much smaller. Hysterosoma with dorsomedian pattern transverse; mediolateral groove present; marginal pattern in general transverse. Dorsocentral setae similar to first pair of propodosomals; marginal setae short and serrate. Venter of body with small areolae except for area between metapodosomal setae which is punctate; ventral plates with areolae arranged in transverse pattern. Length of body including rostrum 338 μm; width 185 μm.

**MALE.**—Body ornamentation and setae similar to that of female. Length of body including rostrum 286 μm; width 185 μm.

**Holotype.**—Female, USNM 3627, ex Chamaedorea sp., Mexico at San Antonio Quarantine Station, 21 May 1973 by D. Johnston.

* Brevipalpus pseudophoenicus, new species
  
  **Figures 12, 13**

  The striation pattern is distinct, forming scallops on the propodosoma and a U-pattern on the hysterosoma.

  **FEMALE.**—Rostrum not reaching to distal end of femur I; with three setae on distal segment of palpus. Tarsal claws uncinate; dorsal femoral setae strong, slightly lanceolate, and serrate; genual setae more slender. Propodosomal setae strong, lanceolate, and serrate; rostral shield with few striae; propodosomal dorsomedially similar to *Brevipalpus phoenicis* in having a scalloped pattern, with few striae laterally. Hysterosoma with six pairs of marginal setae similar to those of propodosoma; both dorsocentral and marginal setae becoming smaller posteriorly; striation pattern unique, consisting of a U-shaped groove containing the dorsocentral setae and a few marginal striae; pores prominent and funnel shaped. Genital and ventral plate with broken transverse striae; area between ventral metapodosomal setae punctate. Length of body including rostrum 300 μm; width 160 μm.

  **MALE.**—Solenidion on tarsi long, slender; tarsal claws uncinate; femoral setae similar to those of female; genua setae similar. Body lightly marked, with more or less longitudinal striae. Dorsal body setae slender, serrate; posterior two pairs of hysterosomal setae smaller than others; hysterosomal pores strong as in female. Length of body including rostrum 242 μm; width 115 μm.

**Nymph.**—Distinctive in setal pattern; propodosomal setae one and three minute, two long, serrate. Hysterosomal dorsocentral setae minute; marginal setae, one, two, three, and five minute; marginals four and six long and serrate as figured.

**Holotype.**—Female, USNM 3628, ex Sida sp., Zapotleneja, 31 July.

**Paratypes.**—Five females, two males, and one nymph with the above data.

* Brevipalpus celtis, new species
  
  **Figure 14**

  The dorsal femoral and body setae are all large, broadly lanceolate; the areolae are large, rounded, and cover the dorsum.

  **FEMALE.**—Rostrum reaching to distal end of femur I; rostral shield lightly marked basally; palpus with three distal setae. Tarsal claws uncinate; tarsus II with single solenidion; dorsal femoral I and II setae broadly lanceolate, serrate; genual setae less so. Propodosoma with crenulate reticulate pattern (as figured); dorsal setae as on femora. Hysterosomal setae as on propodosoma but becoming smaller posteriorly; reticulate pattern as on propodosoma but tending to form transverse pattern posterior to second pair of dorsocentral setae; longitudinal pattern in mediolateral groove and more or less transverse pattern on margin. Ventral plate with well-defined transverse striae, slightly wider posteriorly; ventral and genital plates with transverse striae area around ventral metapodosomal setae with rounded areolae; without pattern between setae. Length of body including rostrum 389 μm; width 178 μm.

  **Holotype.**—Female, USNM 3629, ex Celtis palilida Torrey, Torreon, 5 August.

* Brevipalpus bouchea, new species
  
  **Figure 15**

  The nymphal setal pattern is distinctive; the reticulate pattern of the female is crenulate, the dorsal leg and body setae are slender, lanceolate, and serrate.

  **FEMALE.**—Rostrum reaching about halfway to distal end of femur I; with three setae on distal palpal segment; rostral shield without obvious...
pattern. Tarsal claws uncinate; tarsus II with single solenidion; femora I and II with small, lanceolate, and serrate setae; dorsal setae of genua small, slender, and faintly serrate. Propodosoma with crenulate striation pattern as figured; setae small, lanceolate, and serrate. Hysterosomal setae similar to those of propodosoma; striation pattern crenulate; mediolateral groove broad with longitudinal pattern; marginal pattern tending to be transverse. Genital and ventral plates with transverse striae; area between metapodosomal setae lightly areolate. Length of body including rostrum 242 μm; width 137 μm.

**Nymph.**—Setal pattern distinctive; setae of propodosoma small, lanceolate and slightly longer than those of hysterosoma; hysterosomal setae small except for the posterior pair, which are obviously larger.

**Holotype.**—Female, USNM 3630, ex *Bouchea prismatica* (Linnaeus) Kuntze, Guadalajara, 31 July.

**Paratypes.**—Eight females and one nymph with the above data.

*Brevipalpus pluchea,* new species

**Figures** 16, 17

The large polygonal reticulate pattern, the very strong femoral setae, and small dorsal body setae are distinctive.

**Female.**—Rostrum broad, strong, and reaching distal end of femur I; palpus with three distal setae; rostral shield with faint pattern. Tarsus II with one solenidion; tarsal claws strongly uncinate; femoral I and II setae broadly lanceolate, serrate. Dorsal body reticulations large and even. Propodosomal setae slender and slightly serrate; hysterosomal setae shorter and apparently nude. Marginal area of hysterosoma with irregular transverse striae; mediolateral groove narrow; small pores present. Genital plate with broadly transverse striae; ventral plate with transverse reticulate pattern; area anterior to ventral plate reticulate; area between metapodosomal setae lightly reticulate. Length of body including rostrum 268 μm; width 128 μm.

**Nymph.**—All dorsal body setae short, lanceolate.

**Holotype.**—Female, USNM 3631, ex *Pluchea odorata* (Linnaeus) Cassini, Topolobampo, 24 July.

**Paratypes.**—Twenty females with the same data and ten females from Los Mochis, 23 July.

*Brevipalpus cassia,* new species

**Figures** 18

The dorsal reticulate pattern of the propodosoma and hysterosoma are distinctive.

**Female.**—Rostrum elongate; reaching to distal end of femur I; with three distal palpal setae; rostral shield lightly striate proximally. Tarsus II with a single solenidion; claws uncinate; femoral I and II setae broadly lanceolate, and serrate. Propodosomal pattern large polygonal; not meeting medially; propodosomal setae broadly lanceolate and serrate, more or less similar to the dorsal setae of femora. Hysterosomal setae much more slender and serrate, becoming shorter posteriorly; reticulate pattern more or less similar to propodosomal pattern, strong mediolaterally with weak transverse striae dorsocentrally and laterally. Genital plate with few large areolae; anterior to ventral plate a few areolae; area between metapodal setae without design. Length of female including rostrum 300 μm; width 134 μm.

**Holotype.**—Female, USNM 3632, ex *Cassia crotolaroides* Kunth, Fresnillo, 3 August.

**Paratypes.**—Two females with the above data.

*Brevipalpus essigi* Baker

**Figure** 19


This species was originally described from *Acuba* sp., Berkeley, California. It was collected on orchid plant from Guadalajara at Nogales Quarantine station, 15 May 1949 by Ray Allen. The mite is recognized by the tarsal/palpal/setal count and by the even reticulate pattern which covers the dorsum of the body. Ventrally the genital plate possesses transverse striae, the ventral plate is areolate, the area anterior to the ventral plate has small areoli, and the area between the metapodosomal setae is without a design.

*Brevipalpus lewisi* McGregor


This is a widespread species found on various hosts throughout the world. It was collected on
Amorpha fruticosa Linnaeus at Alamos, 2 July; on Asclepias curassavica Linnaeus at Cd. Obregon, 22 July; on Abutilon sp. at Topolobampo, 24 July; and on Parthenocissus tricuspidata (Siebold and Zuccarini) Planchon at Chihuahua, 7 August.

Brevipalpus lilium Baker


This species has been collected from various hosts in Washington, Oregon, Florida, and Hawaii. De Leon collected it in British Guiana on Montrichardia arborescens Schott (= M. aculeata Schott), Synedrella nodiflora Gaertner, and Corchorus olitorius Linnaeus. We have collected it on Abutilon sp. and Hyptis sp., Tepic, Nayarit, 28 July.

This is a variable species, possibly a variant of Brevipalpus californicus (Banks). The dorsal reticulate pattern of the propodosoma may be entirely or irregularly reticulate.

Group II

This group includes only one species, which is here described. Tarsus II has a single solenidion, there is only one distal seta on the palpus, and there are six pairs of hysterosomal margin setae.

Brevipalpus frankenia, new species

**Figures 21-24**

The body setae are small, ovate, and serrate.

**Female.**—Rostrum long, reaching distal end of genu I; palpus unique in having only three segments and a single distal seta (solenidion); rostral shield with pattern. Tarsus II with single solenidion; tarsal claws strongly uncinate; dorsal setae of femora I and II and genua I and II broadly ovate and serrate. Propodosoma with reticulate pattern as figured; setae broadly ovate, serrate. Hysterosoma with transverse pattern mediiodorsally, longitudinal mediolaterally, and transverse marginally; setae broadly ovate and serrate. Genital plate with few transverse striae; ventral plate similar; few transverse striae anterior to ventral plate; anterior and posterior metapodosomal setae short and of equal length. Length of body including rostrum 306\(\mu m\); width 140\(\mu m\).

**Male.**—Similar to female in setal pattern. Striation pattern as figured. Length including rostrum 230\(\mu m\); width 108\(\mu m\).

**Nymph.**—The second stage nymph with typical striation pattern. Dorsal body setae as in adults but becoming smaller posteriorly.

**Holotype.**—Female, USNM 3633, ex Frankenia palmeri S. Watson, Hermosillo, 17 July.

**Paratypes.**—Twenty-five females, nine males, and twenty nymphs with the above data.

Group III

This group of mites is characterized by having a single solenidion on tarsus II of the female, two distal setae on the palpus, and six pairs of marginal hysterosomal setae.

Brevipalpus pocillator De Leon

Brevipalpus pocillator De Leon, 1961:47.

This species was collected from Verbesina? and Ficus?, Jalisco, 22 March 1957.

Brevipalpus psilotrophe, new species

**Figure 25**

The striation pattern distinguishes this species from the preceding one.

**Female.**—Rostrum reaching distal end of femur I; palpus with two distal setae; rostral shield with basal pattern. Tarsal claws uncinate; tarsus II with single solenidion; dorsal setae of femora and genua small, slender, similar to body setae, without obvious serrations. Propodosoma with reticulate pattern covering entire dorsum as figured; setae as on legs. Hysterosomal setae as on propodosoma; reticulate pattern in area of dorsocephals one to three; transverse striae pattern otherwise; mediolateral groove broad; with six pairs of marginal setae. Genital and ventral plate with transverse striae, those of ventral plate forming a V-pattern; area anterior to plates with transverse striae; area between metapodosomal setae with light transverse striae. Length of body including rostrum 300\(\mu m\); width 153\(\mu m\).

**Holotype.**—Female, USNM 3634, ex Psilotrophe tagetima (Nuttall) Greene, Chihuahua, 8 August.
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**Group IV**

This species group has two solenidia on the distal portion of tarsus II, three distal palpal setae, and six pairs of marginal hysterosomal setae.

*Brevipalpus encinarius* De Leon

*Brevipalpus encinarius* De Leon, 1961:42.

This species was collected from *Quercus* sp., Michoacan, 11 March 1957.

*Brevipalpus ardesiae* De Leon

*FIGURE 20*

*Brevipalpus ardesiae* De Leon, 1961:42.

This mite was described by De Leon (1961) from material collected near Tepic, Nayarit, on *Ardisia revoluta* Humboldt, Bonpland, and Kunth, 29 March 1957. We collected it at Los Mochis, 24 July on *Parthenium hysterophorus* Linnaeus, *Sphaeralcea angustifolia* (Cavara) G. Don, *Datura stramonium* Linnaeus, and *Abutilon californicum* Bentham. It was also found on *Fraxinus velutina* Torrey at Hermosillo, 18 July.

This species keys out to *Brevipalpus californicus* (Banks) but differs in having an irregular crenulate pattern dorsomedially on the propodosoma.

In the original description of this species, De Leon misspelled the genus of the host plant using *Ardesia*, whereas the name is correctly spelled *Ardisia*. He then assigned the species name *B. ardesiae*.

*Brevipalpus aepi* De Leon

*Brevipalpus aepi* De Leon, 1961:43.

This species was collected on *Verbesina* sp., Nayarit, 25 March 1957.

*Brevipalpus cochlospermi* De Leon

*Brevipalpus cochlospermi* De Leon, 1961:43.

This mite was collected on *Cochlospermum* sp., Nayarit, 21 May 1957.

*Brevipalpus alternatus* De Leon

*Brevipalpus alternatus* De Leon, 1961:46.

This species was collected on *Conocarpus erecta* Linnaeus, Nayarit, 28 March, 1957.

*Brevipalpus trinidadensis* Baker


This mite was found common on a cultivated shrublike tree—"agualama"—in San Blas, Nayarit, by De Leon. No collection dates available.

*Brevipalpus viguiera, new species*

*FIGURES 26, 27*

This species is distinguished by the reticulate pattern of the female and the enlarged marginal setae of the nymph.

**FEMALE.**—Rostrum short, broad, not reaching to distal end of femur I; rostral shield not obviously ornamented; distal segment of palpus with three setae. Femora I and II each with a strong broadly lanceolate serrate seta; tarsal claws strongly uncinate. Propodosomal and hysterosomal setae short, lanceolate, and serrate. Propodosomal reticulate pattern rounded, complete as figured; that of hysterosoma longitudinal in broad mediolateral groove and transverse on dorsomedial area posterior to second pair of dorsocentral setae. Genital plate and ventral plate normal. Length of body including rostrum 293 j.m; width 140 j.m.

**NYMPH.**—All marginal setae broadly lanceolate and strongly serrate; dorsocentral hysterosomal setae small, lanceolate, and serrate.

**HOLOTYPE.**—Female, USNM 3635, collected on *Viguiera* sp., Los Mochis, 23 July.

**PARATYPES.**—Fifty-five females and three nymphs with the above data.

*Brevipalpus californicus* (Banks)

*Tenuipalpus californicus* Banks, 1904:55.


This mite has been collected on *Datura stramonium* Linnaeus, and *Parthenium hysterophorus* Lin-
naeus, Los Mochis, 24 July. De Leon collected it on *Ficus carica* Linnaeus, Guadalajara, and *Musa paradisiaca sapientum* (Linnaeus) Kuntze, San Blas, Nayarit; no collection dates given.

**Group V**

This group has one solenidion on tarsus I, three distal setae on the palpus, and five pairs of marginal setae.

*Brevipalpus origanum*, new species

**Figure 28**

The reticulate pattern is distinctive.

**FEMALE.**—Rostrum short, broad, not reaching to distal end of femur I; palpus with three distal setae; rostral shield not ornamented. Tarsal claws strongly uncinate; tarsus II with a single solenidion; dorsal femoral setae short, lanceolate, and serrate; genual setae small and faintly lanceolate. Propodosoma with mediolateral reticulate pattern; dorso-central area punctate; propodosomal setae as on femora. Hysterosoma with reticulate pattern between first and second pair of dorsocentrals; hysterosomal pore present; pattern posterior to second pair of hysterosomals transverse; pattern in dorso-lateral groove longitudinal; hysterosomal setae small and lanceolate. Ventral plate with transverse areolae; genital plate similar; area anterior to ventral plate with areolae, area between metapodosomal setae punctate. Length of body including rostrum 287 \( \mu m \); width 172 \( \mu m \).

**HOLOTYPE.**—Female, USNM 3636, ex *Origanum* sp., Mexico at San Antonio Quarantine Station, 26 May 1973 by D. Johnston.

**Group VI**

This group contains those *Brevipalpus* with two solenidia on tarsus II of the female, three distal setae on the palpus, and five pairs of hysterosomal marginal setae.

*Brevipalpus phoenicis* (Geijskes)


**Figure 29**

This species was collected by De Leon on *Psidium* sp., *Byronima* sp., and *Anthurium* sp. on *Psidium* sp., *Byronima* sp., and *Anthurium* sp., Nayarit; no collection dates given. We have collected it as follows: ex *Hymenoclea monogyna* Torrey and Gray, Cd. Obregon, 22 July; *Pluchea purpurascens* (Swartz) De Candolle, Zinnia pumila Gray, and *Viguiera* sp., Los Mochis, 23 July; *Parthenium hysterophorus* Linnaeus and *Populus Fremontii* Watson, Los Mochis, 24 July; *Cissus sicyoides* Linnaeus, *Marah* sp., and *Lycium Andersonii* Gray, Topolobampo, 24 July.

This appears to be a variable species, especially among the immatures that vary in setal pattern.

**Brevipalpus cercidium**, new species

This species is distinctive in having small dorsal body setae, a short rostrum, and the venter entirely covered with a reticulate pattern.

**FEMALE.**—Rostrum short, not reaching to midpoint of femur I; palpus with three distal setae; rostral shield not ornamented. Tarsal claws with uncinate claws; with two solenidia; dorsal setae on femora I and II stronger than body setae and lanceolate-serrate. Hysterosoma with reticulate pattern between dorso-central, transverse pattern posterior to dorso-central; mediolateral groove broad and with longitudinal pattern; hysterosomal setae similar to those of propodosoma. Venter of body covered with reticulate pattern; genital plate with transverse striation pattern; ventral plate with small transverse areolae; area between metapodosomal setae with small areolae. Length of body including rostrum 290 \( \mu m \); width 121 \( \mu m \).

**NYPH.**—With all body and leg setae small, those of hysterosoma smaller.

**HOLOTYPE.**—Female, USNM 3637, *Cercidium floridum* Bentham, Mazatlan, 24 July.

Nymph with the same data but collected 26 July. Other specimens collected from *Brickellia californica* (Torrey and Gray) Gray, Fresnillo, 3 August, and *Ambrosia confertiflora* (De Candolle) Ryberg, Hermosillo, 17 July.

**Brevipalpus obovatus** Donnadieu

A single specimen was collected from *Anemopsis* sp., Zacatecas at El Paso Quarantine Station, 21 September 1972, by J. F. Karpat.

**Group VII**

This group of *Brevipalpus* possesses a single solenidion on tarsus II of the female, two distal setae on the palpus, and six pairs of hysterosomal marginal setae.

*Brevipalpus artemisia* Baker and Tuttle

This species, originally described from *Artemisia tridentata* Nuttall and *Grindelia aphanactis* Rydberg in Arizona, was collected on the first host near El Sueco (Rancho Grande), Chihuahua, 4 August.

*Brevipalpus parthenium* Baker and Tuttle

This species was originally described from *Parthenium incanum* Humboldt, Bonpland, and Kunth from Arizona. It was found on the same host at Chihuahua, 8 August.

*Brevipalpus portalis* Baker and Tuttle

This species was originally described from *Parthenium incanum* Humboldt, Bonpland, and Kunth. It was collected in Mexico on the same host at Fresnillo, 3 August, and at Torreon, 6 August.

*Brevipalpus filifolia*, new species

The broadly spatulate, barely serrate, dorsal body setae of the female and nymph are distinctive.

**FEMALE.**—Rostrum long, slender, reaching nearly to end of femur I; palpus with two distal setae; rostral shield with little ornamentation. Tarsus II with one solenidion; tarsal claws strongly uncinate; dorsal femoral setae strong, lanceolate and with weak serrations; genual setae similar. Propodosomal pattern of strong reticulations covering mediiodorsal area; elongate in mediolateral groove area; setae similar to those of femora. Hysterosomal reticulate pattern entire dorsocentrally and transverse posterior to second pair of hysterosomal setae; hysterosomal setae similar to propodosomal setae; with six pairs of marginal setae. Genital plate with transverse striae; ventral plate with transverse pattern of areolae; area between metapodosomal setae punctate. Length of body including rostrum 332μm; width 127μm.

**NYMPH I.**—Rostrum elongate. Femoral setae strong, lanceolate, and serrate. All marginal body setae long, strong, serrate, and the posterior two...
pairs much smaller than others. Only one dorso-central seta present—short and broadly lanceolate.

**Holotype.**—Female, USNM 3639, ex *Parthenium incanum* Humboldt, Bonpland, and Kunth, Fresnillo, 3 August.

**Paratypes.**—Twenty-four females and two nymphs, from above host, Chihuahua, 8 August.

**Brevipalpus coldenia, new species**

**Figure 34**

The small crenulate dorsal reticulate pattern, the strong femoral and propodosomal setae, and the transverse striae on the venter in the metapodosomal setal region are distinctive.

**Female.**—Rostrum elongate, reaching to distal end of genu I; palpus with two distal setae; rostral shield with reticulate pattern. Tarsus II with one solenidion; claws uncinate; dorsal setae of femora I and II long, strong, and serrate. Propodosomal reticulate pattern small and crenulate, longitudinal in dorsolateral depressed area; setae long, slender, serrate, and becoming progressively shorter posteriorly. Hysterosomal reticulate pattern transverse dorsomedially; longitudinal in dorsolateral groove; dorso-central setae slender, slightly lanceolate, and serrate; marginal setae shorter and similar. Genital and ventral plates with transverse pattern of areolae; area between metapodosomal setae with strong closely approximate transverse striae. Length of body including rostrum 255µm; 127µm.

**Male.**—Similar to female in dorsal reticulate design and setal patterns. Length of body including rostrum 233µm; width 96µm.

**Nymph.**—Setal pattern as in female.

**Holotype.**—Female, USNM 3640, ex *Celdenia greggi* (Torrey) Gray, Jimenez, Chihuahua, 4 August.

**Paratypes.**—Thirty-one females and sixteen males with the same data.

**Brevipalpus encelia, new species**

**Figures 35, 36**

The long rostrum and long dorsal body setae...
of the female and the long dorsal setae of the nymphal stage are distinctive. The female is similar to *Brevipalpus incanum*, new species, but the marginal setae are not progressively smaller. The dorsocentral setae of the nymph of *B. encelia* are long and slender, similar to the marginal setae.

**FEMALE.**—Rostrum long, slender, reaching past base of genu I; palpus with two distal setae; rostral shield with some basal sculpturing. Tarsus II with single solenidion; claws uncinate; dorsal femoral setae short, broadly lanceolate, and serrate. Propodosomal setae longer than distance between bases, slightly lanceolate, and serrate; body reticulations somewhat crenulate, completely covering dorsocentral region of propodosoma; pattern longitudinal in area of dorsolateral groove. Hysterosoma with reticulate pattern between first and second pairs of dorsocentral setae, transverse pattern in area posterior to this; longitudinal pattern in mediolateral groove area; dorsocentral setae as long as distance between bases, lanceolate, and serrate; marginal setae not as long and becoming progressively smaller toward posterior. Genital and ventral plates with transverse pattern of small areolae, areolae anterior to plates; metapodosomal area punctate. Length of body including rostrum 319 μm; width 178 μm.

**MALE.**—Similar to female. Length of body including rostrum 268 μm; width 134 μm.

**NYMPH I.**—All dorsal setae long, slender; hysterosomal marginal setae becoming progressively smaller posteriorly.

**HOLOTYPE.**—Female, USNM 3641, ex *Encelia farinosa* Gray, Hermosillo, 18 July.

**PARATYPES.**—Male and nymph with the above data.

A nymph was also collected on *Viguiera* sp., Hermosillo, 19 July.

**Genus Priscapalpus De Leon**

*Priscapalpus* De Leon, 1961a:93.

"Priscapalpus resembles *Brevipalpus* in dorsal chaetotaxy, but unlike *Brevipalpus* it bears an enlarged ventral plate and a rudimentary genital plate, the palpus is two segmented, and the legs are long in proportion to the length of the body."

**TYPE-SPECIES.**—*Priscapalpus macropilis* De Leon, by original designation.

**Priscapalpus macropilis De Leon**

*Priscapalpus macropilis* De Leon, 1961:93.

This species was taken on the undersides of leaves of "sapodilla," which is probably *Achras zapota* L. von Royen, a Sapotaceae, in Jalisco, 29 May 1957.

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