

ERIOPHYID STUDIES B-15

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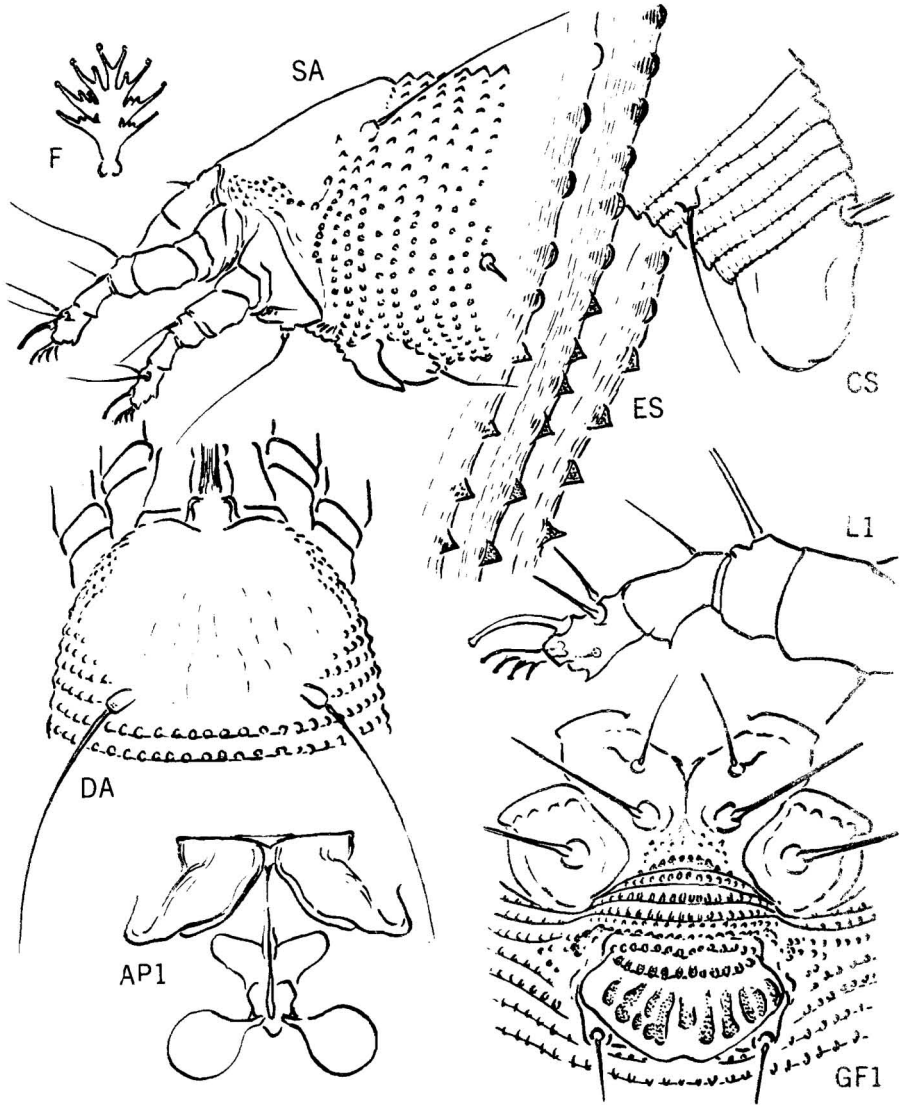


Plate 1 - *Aceria houstoniae*, new species

Aceria houstoniae, new species

Plate 1

The principal character distinguishing houstoniae is the abrupt change in the lateral microtubercles from rounded, in the dorsal direction, to pointed, ventrally. In this respect the species resembles medicaginis K. but otherwise differs by having 4-rayed featherclaws and wider ribs on the genital coverflap.

Female 150_u-190_u long, 55_u-60_u thick; a robust almost fusiform species probably light cream-white in life. Rostrum 22_u long, curved down; antepical seta 5_u-7_u long. Shield 30_u long, 44_u-48_u wide, broad, subsemicircular in anterior outline. Shield design very obscure, a thin band of granules along side and partial rings below dorsal tubercle. Dorsal tubercles 30_u apart; dorsal setae 45_u-50_u long. Forelegs 30_u-33_u long; tibia 8_u long, with 5_u seta at 1/4; tarsus 7_u long; claw 7_u long; featherclaw 4-rayed, somewhat palmate. Hindleg 29_u-31_u long, tibia 5_u long, tarsus 7_u long, claw 7_u long. Coxae with no special ornamentation, the anterior coxae rather narrowly connate centrally; first setiferous coxal tubercles a little farther apart than second and opposite anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen with about 47 rings ahead of ring bearing the third ventral seta; completely microtuberculate except on about 8 rings anterior to third ventral seta where the microtubercles are suppressed dorsally; these structures broad, resting on ring margins dorsally, and tending to be ahead of margins laterally and ventrally where they change from rounded to pointed. Lateral seta 37_u long, on ring 3 behind shield; first ventral seta 45_u-50_u long, on ring 17; second ventral 11_u long, on ring 29; third ventral 23_u-25_u long, on ring 4-5 ahead of rear. Accessory seta 13_u-15_u long. Female genitalia 25_u wide, 15_u long; coverflap with about 10 broad longitudinal ribs; the genital seta 10_u-15_u long.

Type locality: McNary, Arizona

Collected: June 29, 1962, by D. M. Tuttle

Host: Houstonia wrightii Gray (Rubiaceae)

Relation to host: the mites are presumably budmites

Type material: a type slide, so designated, with the above data
nine paratype slides
mites in liquid, form which the slides were made

Dr. D. M. Tuttle has collected a mite from Trifolium pinetorum Greene, at Eager, Ariz., August 15, 1963, that has the same characters as Aceria medicaginis (K.). This adds another host to the species which has heretofore been found only on alfalfa.

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Aceria palafoxiae, new species

Plate 2

This mite is similar to *dicoriae* K., but with less definite lateral shield lines.

Female 170_u-210_u long, 48_u-56_u thick; wormlike; color probably light yellowish-white. Rostrum 21_u long, curving down; antapical seta 5_u long. Shield 30_u long, 40_u wide, subsemicircular in anterior outline. Median line nearly complete, obscure just behind chelicera base; short lateral lines between median and admedians at about 3/4, followed by some granules. Admedians complete, sinuate, gradually diverging to rear. First submedian from side of chelicera base, extending back toward dorsal tubercles, breaking at about 2/3 and running into granular area in front of tubercles. Laterally the shield granular, two more or less distinct lines running back toward partial rings below dorsal tubercles. Dorsal tubercles 27_u apart; dorsal setae 19_u long. Forelegs 31_u long; tibia 5_u long, with 9_u seta at 1/3; tarsus 8_u long; claw 10_u long, tapering; featherclaw 3 to 6-rayed, most often 6. Hindlegs 29_u long, tibia 4_u long, tarsus 7_u long, claw 10_u long. Coxae ornamented with lines of granules; anterior coxae with short sternal line between; first setiferous coxal tubercles farther apart than second and opposite anterior coxal approximation; second tubercles well ahead of line across third tubercles. Abdomen with about 62 rings to ring bearing third ventral seta, these rings completely microtuberculate, the microtubercles touching rear margins and produced or pointed. Lateral seta 35_u long, on about ring 8 behind shield; first ventral seta on ring 20, 70_u long; second ventral 13_u long, on ring 38; third ventral 21_u long, on ring 6 from rear. Accessory seta 4.5_u long. Female genitalia 21_u wide, 15_u long; coverflap with rather fine basal granulations and about 10 longitudinal ribs; seta 22_u long.

Type locality: Yuma, Arizona

Collected: October 10, 1960, by D. M. Tuttle

Host: *Palafoxia linearis* (Cav.) (Compositae-Heleniae) Spanish needles

Relation to host: the mites presumably live among bud and leaf hairs

Type material: a type slide with the above data
five paratype slides
mites in liquid with the above data

Designations on plates -

- AP1 - Internal female genital structures
- CS - Side view caudal section of mite
- D - Dorsal view of mite
- ES - Side skin structures
- F - Featherclaw (empodium)
- GF1 - Female genitalia and coxae
- L1 - First left leg
- L2 - Second left leg
- S - Side view of mite
- SA - Side view of anterior section of mite

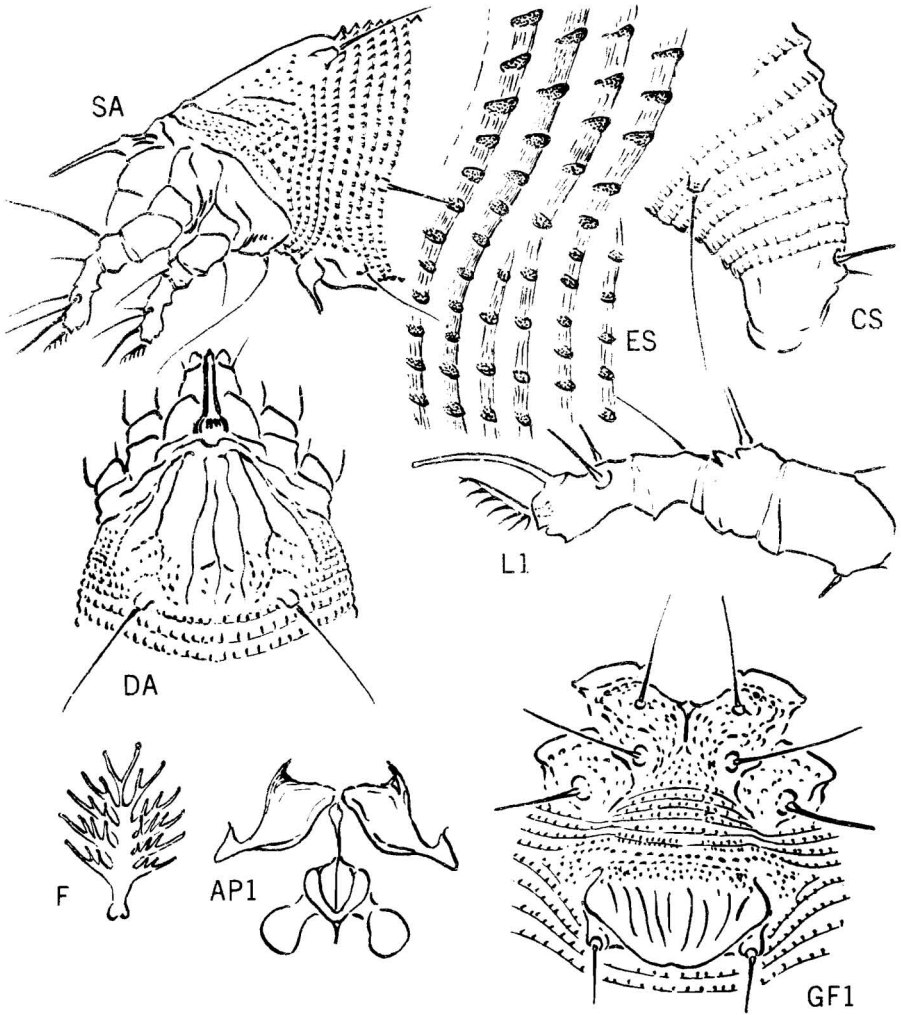


Plate 2 - *Aceria palafoxiae*, new species

Aceria portalis, new species

Plate 3

Characterized by 6-rayed featherclaw, second submedian line branching diagonally across in front of dorsal tubercle, short dashes along sides of shield, and broader dorsal rings caudally. The species is tending toward the *Paraphytoptus* type. *Aceria parthenii* K., a Composite infesting species with a 6-rayed featherclaw, has sides of the shield granular and has no thickened dorsal rings caudally.

Female 200_u-235_u long, 42_u-47_u thick; elongate-wormlike; color light cream-white. Rostrum 24_u long, curved down; antapical seta 6_u long. Shield 24_u long, 32_u wide, subtriangular in anterior outline. Median shield line complete; admedian lines complete, somewhat sinuate, diverging and slightly recurving at rear. First submedian line from chelicera base, subparallel to admedian, ending just beyond 1/2; second submedian from chelicera base, diverging to partial half rings below dorsal tubercle, but from about 1/2 sending a fork diagonally across in front of dorsal tubercle and ending centrad of tubercle. Dashes and an additional line in front of dorsal tubercle. Shield laterally with numerous short dashes and partial rings below tubercle. Dorsal tubercles 21_u apart; dorsal setae 30_u long, diverging. Foreleg 30_u long; tibia 6_u long with 10_u seta at 1/4; tarsus 9_u long; claw 9.5_u long; featherclaw 6-rayed. Hindleg 27_u long, tibia 5_u long, tarsus 7_u long, claw 9.5_u long. Coxae ornamented with some lines and dashes, the anterior coxae rather broadly connate, the sternal line moderately strong and bifurcating to rear; first setiferous coxal tubercles hardly farther apart than second and opposite anterior coxal approximation; second tubercles well ahead of line across third. Abdomen with about 60 rings to ring bearing third ventral seta, the rings completely microtuberculate, these structures somewhat elongate on dorsal half and reaching ring margins; ventrally more bead-like and ahead of margins. The ventral microtubercles slightly acuminate; caudally these structures smaller. Eight to twelve dorsal rings ahead of the last 3 or 4, broader and heavier on the ridge than others, and tending to be over one or two doubled ventral rings. Lateral seta 24_u long, on ring 9 behind shield; first ventral seta 65_u long, on ring 21; second ventral 20_u long, on ring 38; third ventral 24_u long, on ring 6 from rear. Accessory seta 4_u long. Female genitalia 20_u wide, 11_u long; coverflap with about 14 longitudinal ribs; seta 14_u long.

Type locality: Portal, Arizona

Collected: August 28, 1964, by D. M. Tuttle

Host: *Artemisia tridentata* Nutt. (Compositae) basin sagebrush

Relation to host: the mites presumably live among the leaf and bud hairs

Type material: a type slide, so designated, with the above data
four paratype slides

mites in liquid in the vial from which the slides made

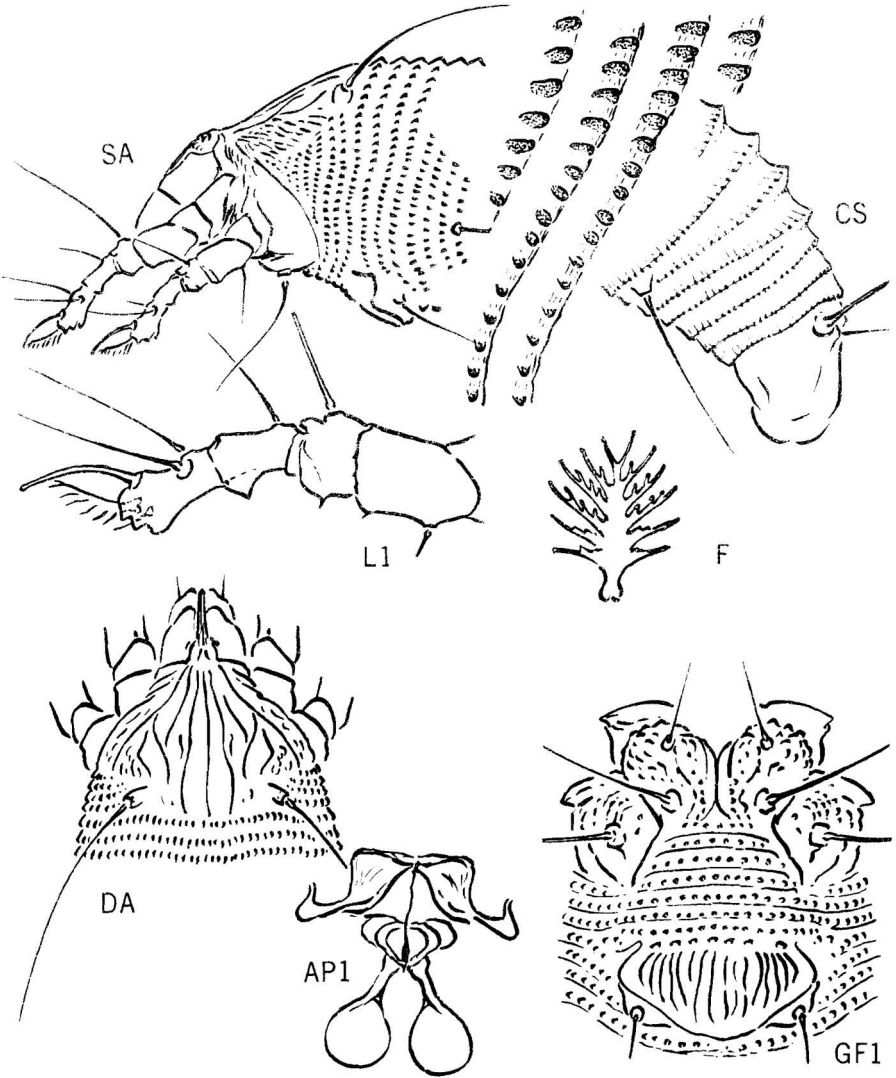


Plate 3 - *Aceria portalis*, new species

Aceria sawatchense, new species

Plate 4

The mite suggests *tulipae* (K.) due to its general appearance and to the 7-rayed featherclaw. But on *tulipae* the female genitalia are more deeply bowl-shaped. *Tulipae* also lacks the median line on the anterior 2/3 and it has the first submedian curving out.

Female 230 μ -260 μ long, 55 μ -60 μ thick; worm-like; light cream-white in color. Rostrum 25 μ long, curved down; antapical seta 6 μ long. Shield 37 μ long, 45 μ wide, subtriangular in anterior outline. Median line from near chelicera base to break at about 2/3, beyond break weaker and with granules. Admedian lines complete except for break at 2/3, sinuate, gradually diverging and slightly outcurved at rear, granules and dashes within area bounded by the admedians ahead of rear margin. First submedian from chelicera base, subparallel to admedian but gradually diverging, recurved at 2/3, with a backward branch on inner side at 1/4, and meeting transverse line at 2/3. Some granules ahead of dorsal tubercle. Second submedian line from chelicera base, extending laterally above supracoxal granular band and forming cells with lateral line below, a fork from second submedian to first at about 1/3. Dorsal tubercles 25 μ apart; dorsal setae 55 μ -70 μ long. Forelegs 37 μ long; tibia 8 μ long, with 9 μ seta at about 1/4; tarsus 8 μ long; claw 7 μ long, featherclaw 7-rayed. Hindleg 35 μ long, tibia 6 μ long, tarsus 8 μ long, claw 7 μ long. Coxae ornamented with dashes and lines of granules; anterior coxae narrowly connate centrally, the sternal line short; first setiferous coxal tubercles farther apart than second and ahead of anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen with about 63 rings from shield to ring bearing third ventral seta; rings completely microtuberculate the microtubercles more on ring margins dorsally, ahead ventrally; these structures more or less pointed, especially ventrally and caudally. Lateral seta 45 μ -52 μ long, on ring 10 behind shield; first ventral seta 60 μ -65 μ long, on ring 23; second ventral 30 μ long, on ring 39; third ventral 30 μ long, on ring 7 ahead of rear. Accessory seta 5 μ -6 μ long. Female genitalia 30 μ wide, 16 μ long; coverflap with about 14-18 irregular ribs; seta 26 μ long.

Type locality: McNary, Arizona

Collected: August 14, 1963, by D. M. Tuttle

Host: *Polygonum sawatchense* Small (Polygonaceae) knotweed

Relation to host: the mites are presumably budmites

Type material: a type slide, so labeled, with the above data
five paratype slides from the McNary location
four paratypes from Dome Valley, Arizona,
collected September 29, 1960 by D. M. Tuttle

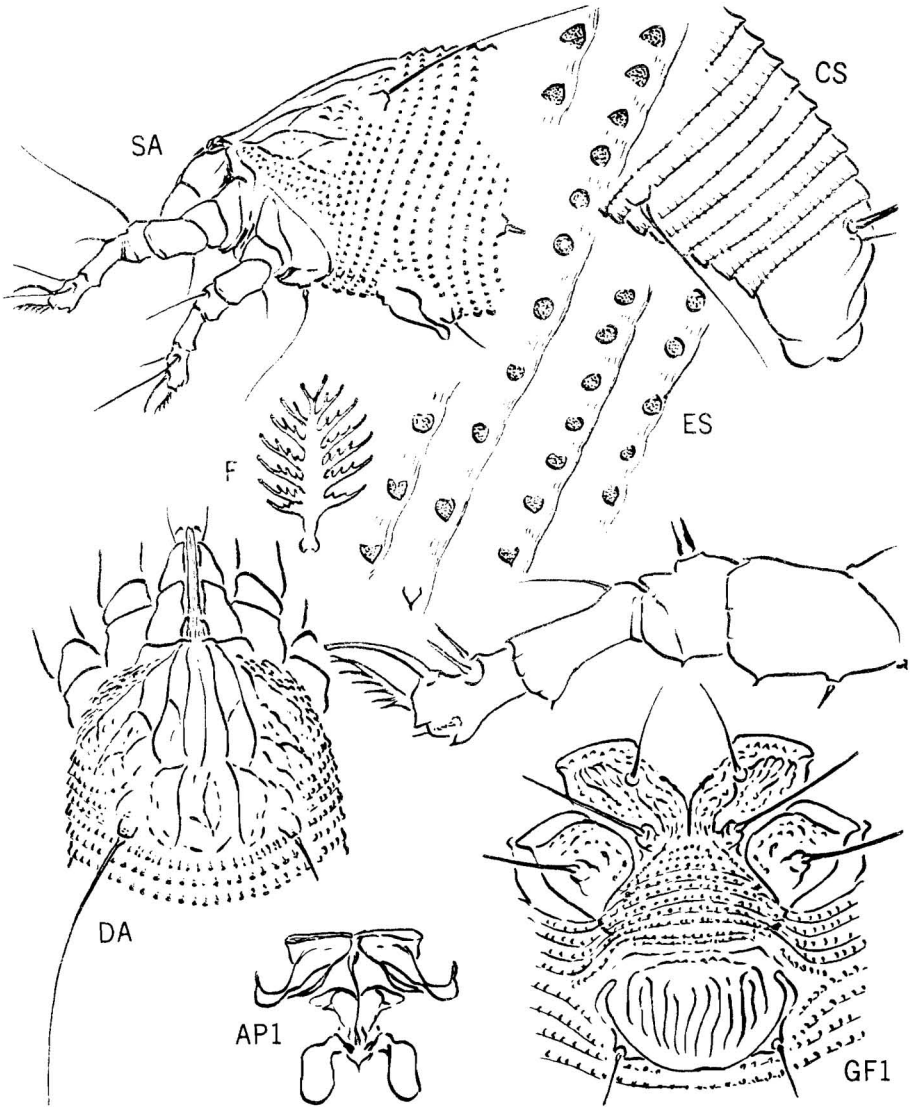


Plate 4 - *Aceria sawatchense*, new species

Paraphytoptus beloperonis, new species

Plate 5

The 14_u claws on the forelegs of this species are distinctly longer than those on any of the eight *Paraphytoptus* species with 5-rayed featherclaws that I have previously studied. There is considerable variability in the development of the broader more peaked rear abdominal tergites, some specimens having them but weakly. The chief characteristic of *Paraphytoptus* species is that they resemble *Aceria* anteriorly, but the rear part of the abdomen carries broader tergites, more like rust mites. This development would seem in response to the habit of protecting the anterior part of the body by inserting it into hair masses or into crevices, but leaving the rear exposed. Perhaps species from the genus *Aceria* develop these rear broader rings independently, but there often seems to be a thread of relationship between some of them as if the character was for the most part more than coincidental.

Female 140_u-175_u long, 38_u-40_u thick; body wormlike, the rear tending to be downcurved; color light yellowish-white. Rostrum 20_u long, projecting diagonally down; antapical rostral seta 6_u long. Shield 30_u long, 31_u wide; median line present on rear 2/3; admedian lines subparallel, close anteriorly and gradually diverging, moderately sinuate; first submedian from side of anterior end of admedian, running back toward dorsal tubercle and ending in a line of granules before a curved granular line across in front of tubercle; second submedian arising lateral to first at about 1/4 and diverging to rear shield margin below tubercle where it ends in a line of granules. A strong lateral line branching from first submedian just ahead of second submedian and running back well above coxa to partial rings on sides of shield; a granular area along side above coxae. Dorsal tubercles 20_u apart; dorsal setae 15_u long, diverging to rear, slightly blunt apically. Forelegs 28_u long; tibia 5_u long, with 5_u setae from 1/4; tarsus 7_u long; claw 14_u long, straight on apical 1/2; feather-claw 5-rayed. Hindlegs 25_u long, tibia 4_u long, tarsus 6_u long, claw 13_u long. Coxae, especially anterior, with lines of dashes and granules; anterior coxae broadly connate centrally, the sternal line fairly strong; first setiferous coxal tubercles about as far apart as second or a little farther, opposite anterior coxal approximation or a little behind; second tubercles somewhat ahead of line across third setiferous coxal tubercles. Anterior half of abdomen with rings about equal dorsoventrally, broader dorsal half rings, or tergites, beginning about the 16-18th ring; considerable variation in width and projection of rear tergites, the ventral doubling not usually strong. About 47 ventral rings. Microtubercles somewhat elongate and apically rounded though projecting across rear margins. Lateral seta 19_u long, on ring 6; first ventral seta 29_u long, on about ring 15; second ventral 12_u long, on ring 25; third ventral 20_u long, on ring 5 from rear. Accessory seta 5_u long. Female genitalia 19_u wide, 11_u long; coverflap with 8-9 longitudinal ribs; seta 15_u long.

Type locality: Palm Canyon, Yuma County, Arizona

Collected: November 18, 1961, by D. M. Tuttle

Host: *Beloperone californica* Benth. (Acanthaceae) Chuparosa

Relation to host: the mites live among branch and leaf hairs.

Type material: a type slide
ten paratype slides
mites in liquid in a vial

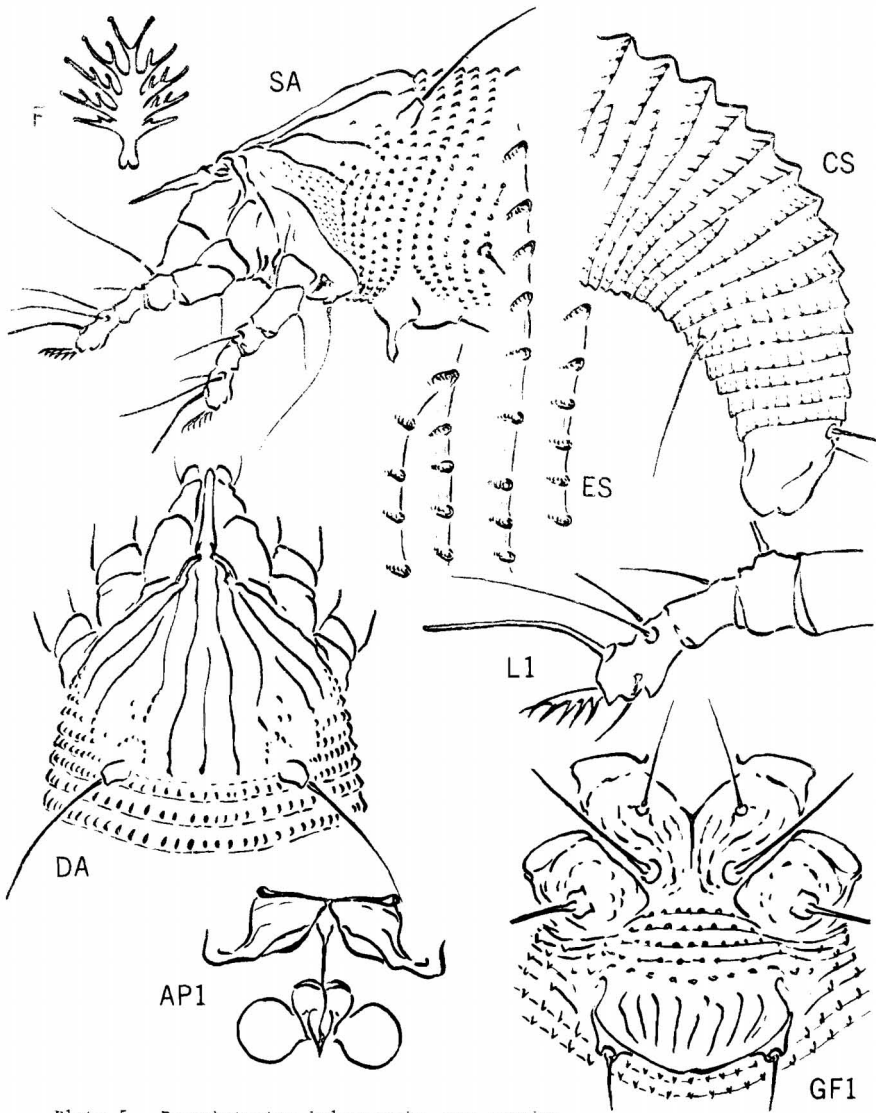


Plate 5 - *Paraphytoptus beloperonis*, new species

Aculus asclepiellus, new species
Plate 6

The strong shield markings characterized by the short median line to rear and the strongly reticulate pattern of cells on the shield, plus the 4-5 rayed featherclaw, define this mite.

Female 200_μ-220_μ long, 55_μ thick; fusiform; color in life probably light yellowish-white. Rostrum 36_μ long, projecting down; antapical seta 7_μ long. Shield 50_μ long by 50_μ wide; anterior lobe curved down over rostrum, rounded apically. Median shield line present on rear 1/4 of shield; admedian lines complete, curving back from sides of anterior lobe, narrowly separated at lobe base, curving back and out to 1/3 and meeting cross line from submedian, extending back to 2/3 and forking, inner arms running together at anterior end of median, outer arms to line coming in from submedian, running posteriorly and centrad to just before rear shield margin, where forking again, the inner arms running together on median just ahead of rear margin, the outer arms ending just ahead of rear margin. Rear margin of shield between dorsal tubercles bounded by an anterior concave line. First submedian line from base of anterior lobe, extending back and forming a series of cells with admedian line and lateral lines. Few lateral granules on shield. Dorsal tubercles 36_μ apart; dorsal setae 23_μ long. Forelegs 40_μ long; tibia 10_μ long, with 6.5_μ seta from 1/4; tarsus 8.5_μ long; claw 8.5_μ long, slender, with small knob; featherclaw 4-5 rayed. Hindlegs 33_μ long, tibia 6.5_μ long, tarsus 7.5_μ long, claw 8.5_μ long. Coxae with few ornamental lines, the anterior coxae broadly connate centrally the sternal line weakly forked at rear; first setiferous coxal tubercles ahead of second but slightly behind anterior coxal approximation; second setiferous tubercles ahead of line across third tubercles. Abdomen with about 33 tergites to ring bearing third ventral seta, and about 63 sternites to same ring; tergites variable in microtuberculation, on some faint, on others strong and a little elongate. Sternites with conical microtubercles. Dorsally the microtubercles fade to rear. Lateral seta 27_μ-30_μ long, on about sternite 9; first ventral seta 50_μ-56_μ long, on sternite 22; second ventral 22_μ long, on sternite 37; third ventral 33_μ long, on ring 6 from rear. Accessory seta 3_μ long. Female genitalia 23_μ wide, 14_μ long; coverflap with about 9 longitudinal ribs; seta 26_μ long.

Type locality: Wellton, Yuma County, Arizona

Collected: October 23, 1962, by D. M. Tuttle

Host: *Asclepias erosa* Torr. (Asclepiadaceae) desert milkweed

Relation to host: the mites are probably leaf vegetants

Type material: a type slide, so designated, with the above data
three paratype slides
mites in liquid with the above data

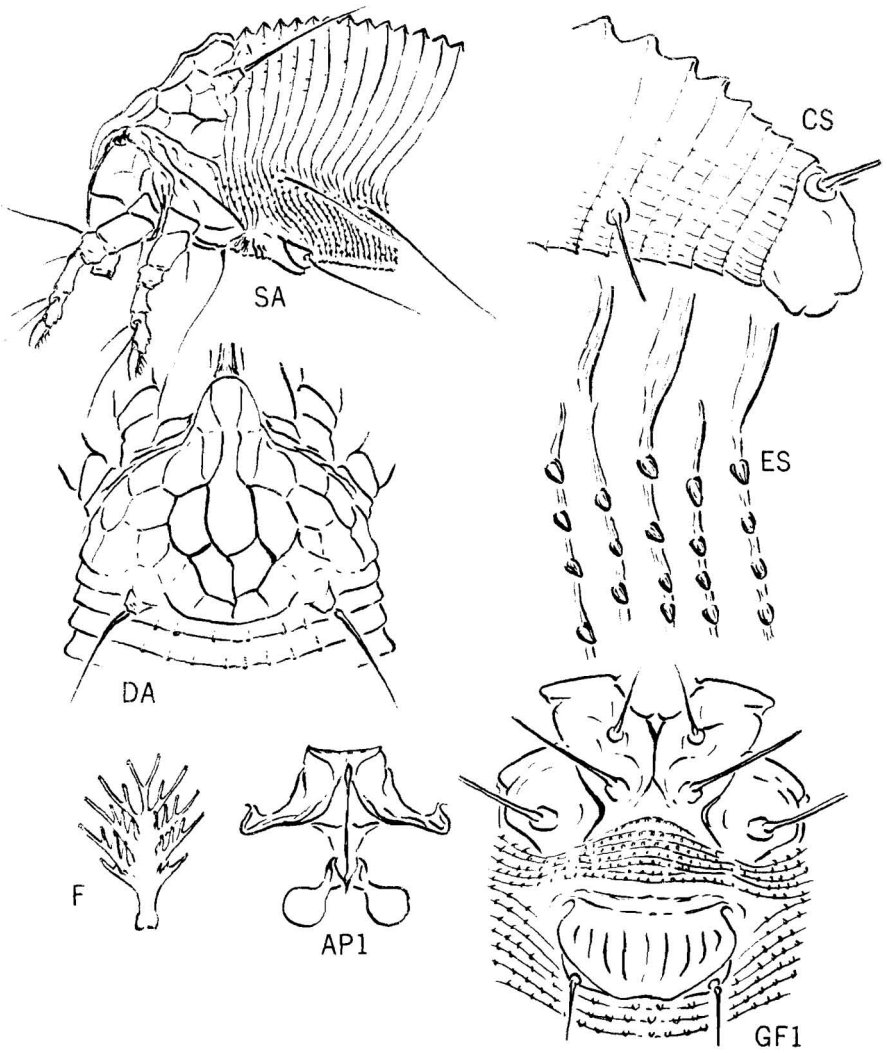


Plate 6 - *Aculus asclepiellus*, new species

Aculus cercidii, new species

Plate 7

Aculus

The most conspicuous feature of this species is the coarse rather irregular microtuberculation of the tergites. *Aculus desmodii* K., another legume infestor, has somewhat the same type of dorsal structures, but the shield design of that species is clearer. It has not been possible with the specimens at hand to determine the nature of the acute projection at the front end of the anterior lobe over the rostrum on *cercidii*.

Female 155_u-160_u long, 50_u-55_u thick; robust-fusiform; color light yellowish-white. Rostrum 23_u long, projecting down; antapical seta 4.5_u long. Shield 36_u long, 42_u wide, subtriangular in anterior outline, the anterior lobe broad in dorsal view. Shield design obscure; an indication of a median line between dorsal tubercles; admedians curving back from sides of anterior lobe, apparently sinuate and ending as faint curved lines inside rear central area, this rear central area enclosed laterally and to rear by a broad U-shaped line, the sides of which are close to dorsal tubercles and the base along rear shield margin. Shield laterally characterless except for a lateral line. Dorsal tubercles 25_u apart, rather large and projecting to rear; dorsal setae 20_u long, diverging. Forelegs 30_u long; tibia 6.5_u long, with 5_u seta at about 1/3; tarsus 6.5_u long; claw 7_u long, slightly knobbed; featherclaw 6-rayed. Hindlegs 26_u long, tibia 5_u long, tarsus 5_u long, claw 7.5_u long. Coxae ornamented with lines and dashes; anterior coxae with moderately long sternal line between, the coxae diverging; first setiferous coxal tubercles slightly farther apart than second and opposite anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen with about 32 tergites to ring bearing third ventral seta, the tergites coarsely microtuberculate, these structures pointed and irregular; sternites about 45 in number to ring bearing third ventral seta, with bead-like microtubercles on ring margins laterally but somewhat ahead ventrally. Lateral seta 13_u long, on about sternite 8; first ventral seta from sternite 18 and 35_u long; second ventral 11_u long, on sternite 31; third ventral 17_u long, on sternite 5 from rear. Accessory seta 2_u long. Female genitalia 21_u wide, 13_u long; coverflap with about 12 longitudinal ribs; seta 23_u long.

Type locality: Highway at base of Kit Peak, Pima County, Arizona

Collected: December 4, 1962, by the writer

Host: *Cercidium microphyllum* (Torr.) (Leguminosae) Palo Verde

Relation to host: the mites are leaf vagrants

Type material: a type slide, so designated, with the above data
four paratype slides

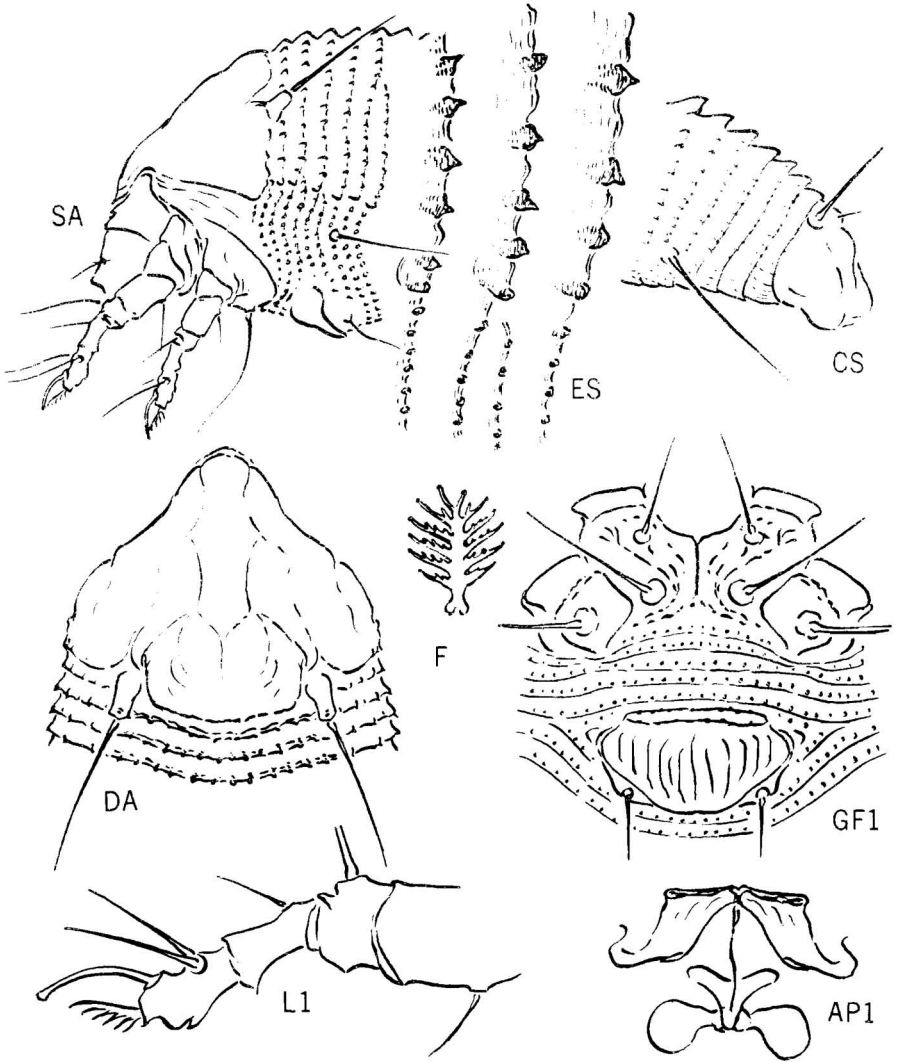


Plate 7 - *Aculus cercidii*, new species

Aculus meliloti, new species

Plate 8

Related to both *protopis* (K.) and *tephrosiae* K., but differing from the former by clearer central shield design and lateral granular lines; from the latter by having the admedian lines closer to the rear and with different arrangement of the submedian lines.

Female about 200 μ long, 60 μ wide; fusiform, somewhat robust; color in life probably light cream-white. Rostrum 29 μ long, projecting diagonally down; antapical seta 9 μ long. Shield 41 μ long, 48 μ wide; subtriangular, anterior lobe over the rostrum acuminate. Median shield line present on rear 1/4; admedians complete: from sides of anterior lobe curving back to and meeting a cross line at 1/3, arching back to a second cross line at about 2/3, curving out to a line from first submedian at about 3/4 and recurring back to rear; a cross line from median meeting admedian at just before rear margin. First submedian line in center of shield, curving out from admedian at just before 1/2 and extending toward dorsal tubercle, but ending at about 3/4. Shield with lateral granular lines forming lateral cells ahead of rear margin and one line running diagonally up across front of dorsal tubercle; a band of granules above coxae. Dorsal tubercles 30 μ apart; dorsal setae 12 μ long, diverging, recurved. Foreleg 36 μ long; tibia 9 μ long, with 3 μ seta from 1/3; tarsus 7 μ long; claw 8 μ long; feather-claw 8-rayed. Hindleg 31 μ long, tibia 7 μ long, tarsus 7 μ long, claw 8 μ long. Coxae with longitudinal lines and some granules; anterior coxae connate narrowly centrally, the sternal line short; first setiferous coxal tubercles farther apart than second and a little ahead of anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen with about 38 tergites to ring with third ventral seta and about 57 sternites to same ring; lateral differentiation of tergites and sternites not strong. Abdomen completely microtuberculate, these structures resting on ring margins, more or less produced, tending to be acuminate, especially toward dorsal rear. Lateral seta 31 μ long, on about sternite 9 behind shield; first ventral seta 36 μ long, on sternite 19; second ventral 25 μ long, on sternite 38; third ventral 25 μ long, on ring 4 from rear. Accessory seta 5 μ long. Female genitalia 23 μ wide, 15 μ long; coverflap with about 13 rather irregular longitudinal ribs; seta 52 μ long.

Type locality: McNary, Arizona

Collected: August 13, 1965, by E. M. Tuttle

Host: *Melilotus indicus* (L.) (Leguminosae) sweet clover

Relation to host: the mites are found on the leaves

Type material: a type slide, so designated, with the above data
six paratype slides, so designated
additional slides and mites in liquid with the above data

The host is an imported plant from Eurasia. This suggests that the mite came over from some native Arizona legume.

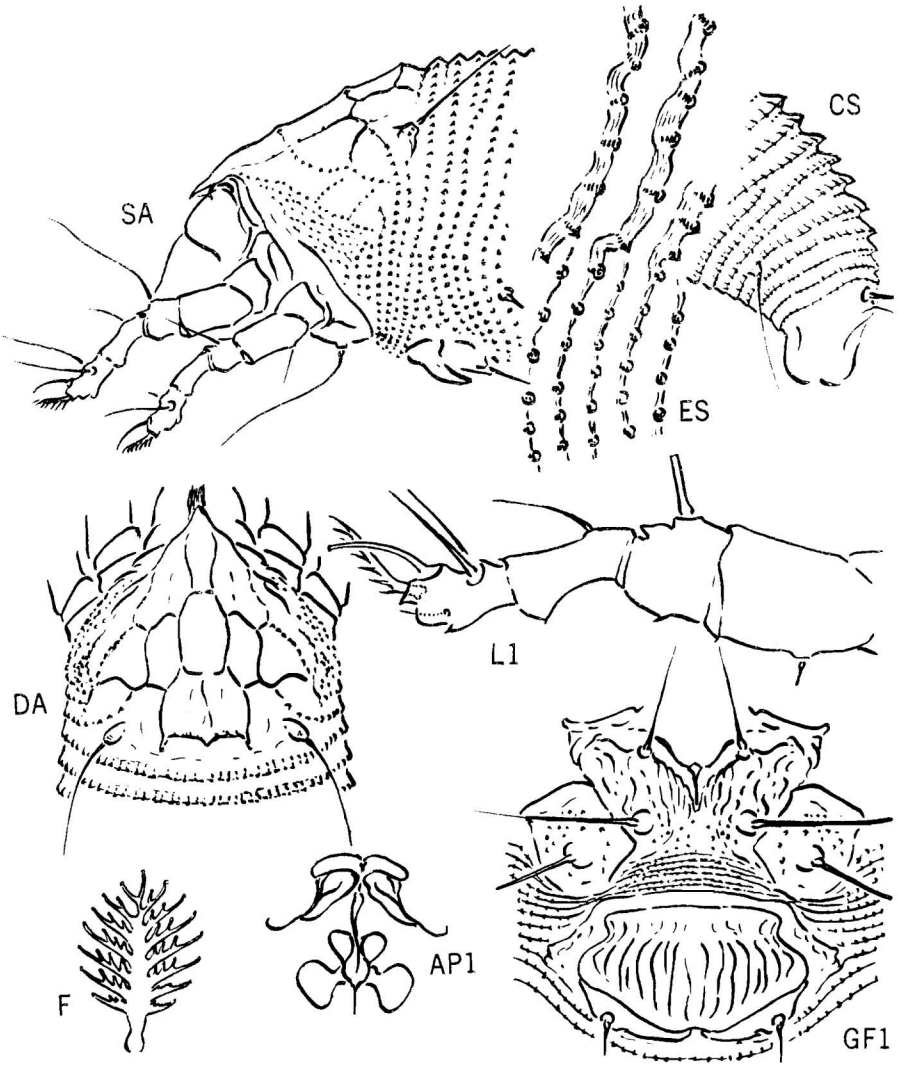


Plate 8 - *Aculus melliloti*, new species

Aculus mentzeliae, new species

Plate 9

The fine microtubercles across the dorsum on the ring margins is an unusual structure and chiefly characterizes this mite. The 5-rayed feather-claw, lateral granules on the shield, and lack of longitudinal ribs on the genital coverflap, are additional characters.

Female 180 μ -225 μ long, 56 μ -60 μ thick; robust worm-like in shape, tapering; color in life probably light cream-white. Rostrum 21 μ long, projecting diagonally down; antapical seta 8 μ -10 μ long. Shield 40 μ long, 45 μ wide. Shield subtriangular, anteriorly acuminate over rostrum. Central shield lines strong: median line from 1/4, ending at rear margin, irregular; admedian lines closely subparalleling median, sinuate, from sides of anterior lobe point, curving out to 1/4 and meeting a lateral granular line, continuing back to rear margin. Shield from side of admedian to coxae, granular, two granular lines extending across this area to rear margin. Dorsal tubercles 27 μ apart; dorsal setae 14 μ long, diverging. Forelegs 37 μ long; tibia 9 μ long, with 10 μ seta from 1/3; tarsus 9 μ long; claw 9 μ long, strongly downcurved; featherclaw 5-rayed. Hindlegs 36 μ long, tibia 6 μ long, tarsus 9 μ long, claw 10 μ long. Coxae with some lines curving around tubercles, the anterior coxae rather narrowly connate; first setiferous coxal tubercles farther apart than second and slightly ahead of anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen not distinctly divided into tergites and sternites; microtubercles small and numerous, somewhat acuminate, on ring margins dorsally but ahead ventrally; about 60 rings from shield to ring bearing third ventral seta. Lateral 26 μ long, arising from about ring 7 behind shield; first ventral seta 50 μ long, from ring 25; second ventral 16 μ long, from ring 41; third ventral 21 μ long, from ring 6 ahead of rear. Accessory seta 4 μ long. Female genitalia 25 μ wide, 15 μ long; coverflap with some basal granulations, but otherwise unmarked; seta 19 μ long.

Type locality: Tucson, Arizona

Collected: July 21, 1964 by D. A. Tuttle

Host: *Mentzelia pumila* (Nutt.) (Loasaceae) blazing-star

Relation to host: the mites are evidently leaf vagrants

Type material: a type slide, so designated, with the above data
six paratype slides

vial with mites in liquid from which the slides were made

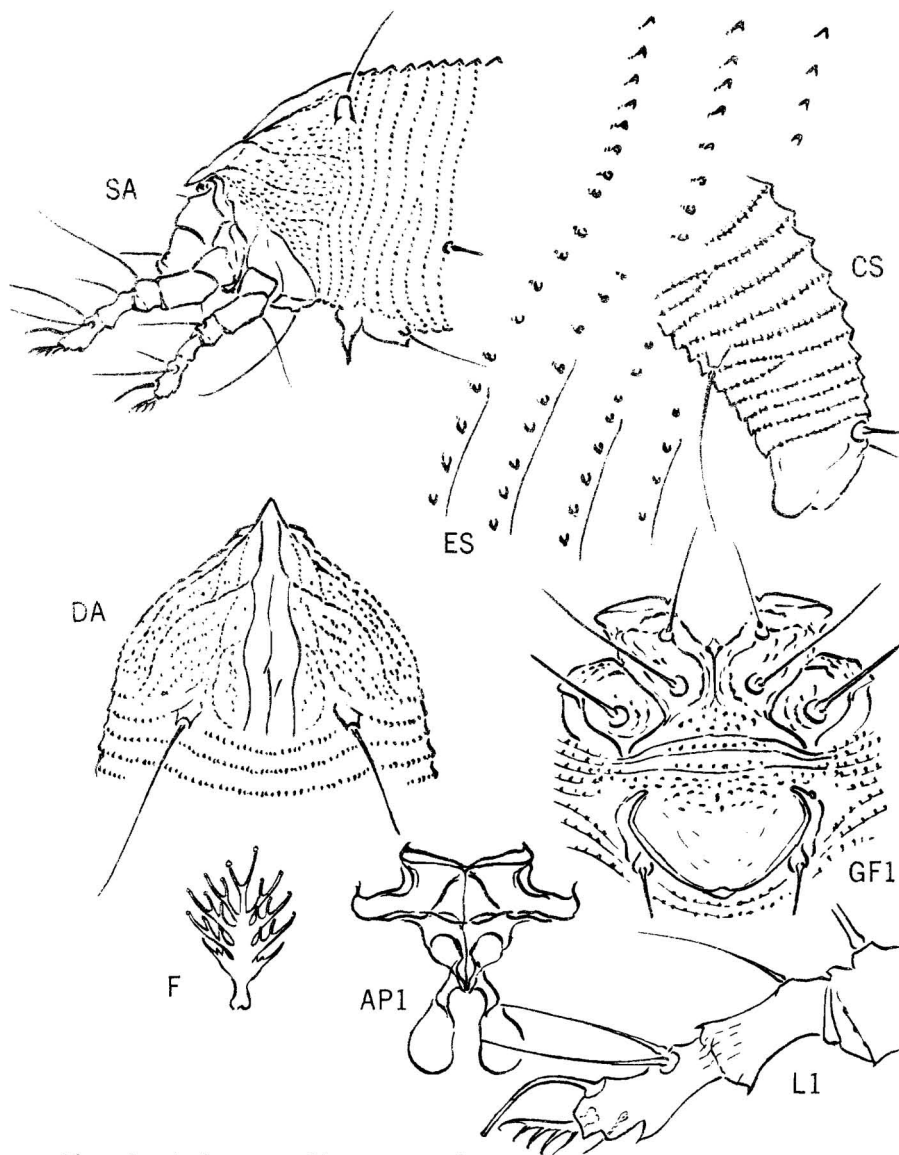


Plate 9 - *Aculus mentzeliae*, new species

Aculus phacelifoliae, new species

Plate 10

Phacelifoliae is characterized by the pointed shield lobe over the rostrum, the broad central shield lines, variable microtuberculation on the tergites, pointed microtubercles on sternites, and 5-rayed featherclaw. In these respects it is not very similar to other 5-rayed featherclaw species about which data is available to the writer.

Female 180_u-230_u long, 65_u-75_u wide, 55_u-70_u thick; robust-fusiform; color probably dull yellowish. Rostrum 30_u long, projecting diagonally down; antapical seta 8_u long. Shield 49_u long, 55_u-65_u wide, with pointed lobe over rostrum. Shield design mostly of strong lines: median line faintly present at cross line at 1/3, starting as broad line from centrally diagonally converging lines at about 2/3 and ending at rear margin after meeting second diagonally converging lines. Admedians complete, curving back and out from sides of anterior lobe to 1/4, running straight back as broad line to about 1/2 and forking, outer arm extending toward dorsal tubercles and giving off a cross line to first submedian at 2/3, then back to central diagonal line and ending thin at rear margin. First submedian line from anterior lateral line outside admedian, running back toward dorsal tubercle, meeting cross line at about 2/3, ending in front of dorsal tubercle. Lateral line from 1/4 on admedian, running back and ending under dorsal tubercle, and appending a series of cells between it and a supra-coxal line. Lateral shield lobes not prominent. Dorsal tubercles 40_u apart; dorsal setae 16_u long. Forelegs 37_u long; tibia 10_u long with 5_u seta at 1/4; tarsus 7_u long; claw 7_u long; featherclaw 5-rayed. Hindlegs 34_u long; tibia 7_u long; tarsus 7_u long; claw 7_u long. Coxae ornamented with some granules, the anterior coxae strongly diverging with a rather short sternal line between, forking posteriorly. First setiferous coxal tubercles farther apart than second, opposite anterior coxal approximation; second tubercles ahead of line across third tubercles. Abdomen with about 22 tergites to ring bearing third ventral seta, the tergites projecting posteriorly; tergal microtuberculation variable, absent on some, on others these structures on ring margins and formed as rounded projections. About 48 sternites to ring bearing third ventral seta, these sternites bearing pointed microtubercles, variably set. Lateral seta 17_u long, on sternite 8 behind shield; first ventral seta 56_u long, on sternite 18; second ventral 14_u long, on sternite 32; third ventral 20_u long, on ring 4-5 from rear. Accessory seta 5_u long. Female genitalia 23_u wide, 17_u long; cover-flap with 8-9 longitudinal ribs; seta 19_u long.

Type locality: Heber, Arizona

Collected: August 18, 1963, by D. M. Tuttle

Host: *Phacelia magellanica* (Lam.) (Hydrophyllaceae)

Relation to host: the mites are probably leaf vagrants

Type material: a type slide with the above data, so designated
nine paratype slides
mites in liquid from which the slides were made.

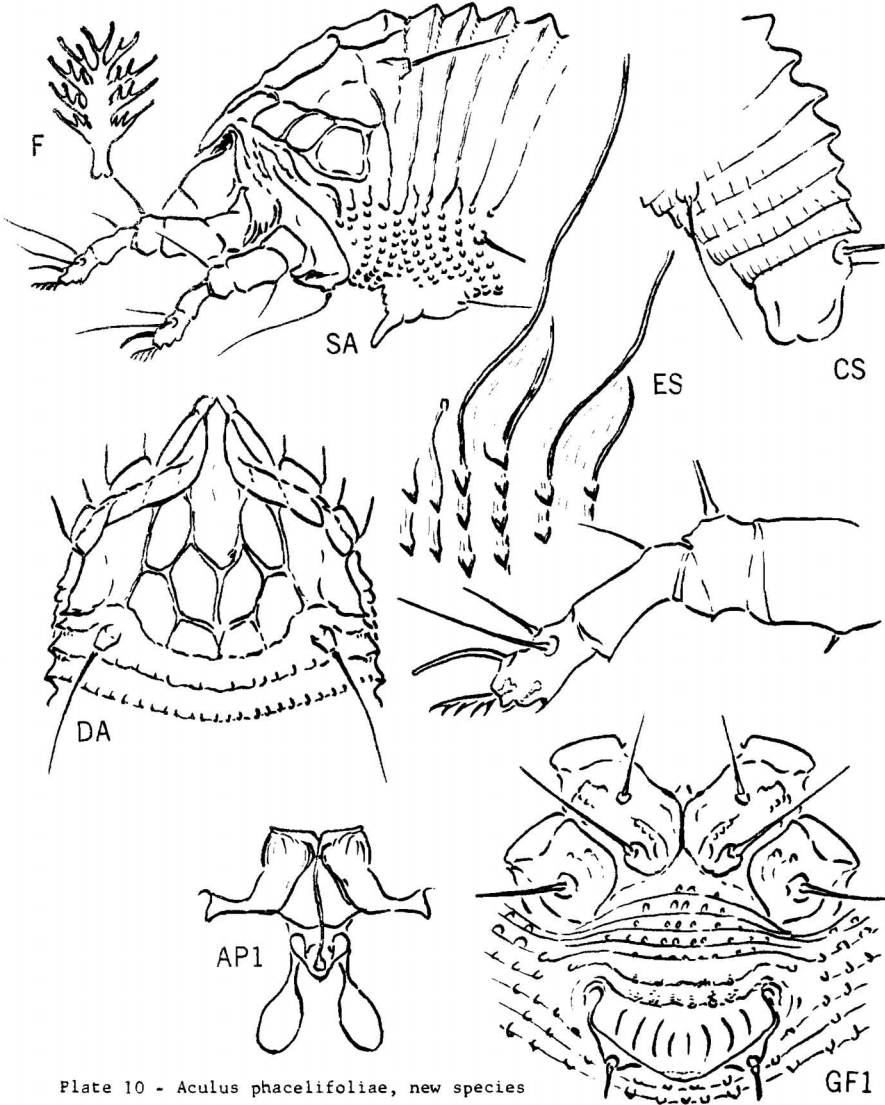


Plate 10 - *Aculus phacelifoliae*, new species

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