

ERIOPHYID STUDIES C - II

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USDA

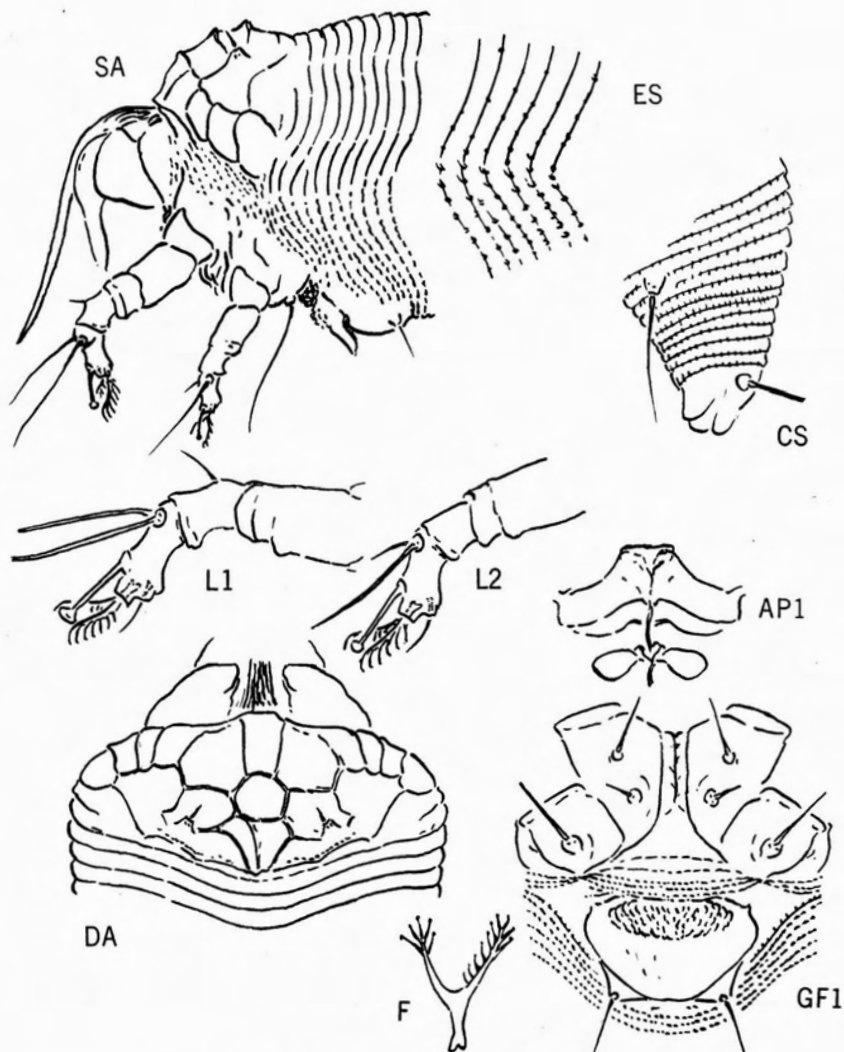


Plate 1 - *Acarhis lepisanthis*, new species

Acarhis, new genus

Acarhis, by its rostral size and long form oral stylet, belongs to the Rhyncaphytoptidae (Diptilomiopidae). It differs from the paleotropical Diptilomiopus - 1. by having dorsal shield setae; 2. by the distinct patella on each leg; 3. presence of foretibial seta; 4. presence of first coxal tubercle and seta. From the new world Rhynacus it is distinct - 1. by possessing dorsal setae; 2. presence of first coxal tubercle and seta. Each of these genera lack the lateral thanosomal seta. The genus name is aca as a contraction of Acarus, and his referring to the rostrum.

Generic description - Body robust-fusiform. Rostrum large with long form oral stylet. Shield broad with very short projection over rostrum base. Dorsal shield tubercles each with a short seta. Legs lacking femoral seta; patella present on each; foretibial seta present. Featherclaw deeply divided, large. First setiferous coxal tubercle and seta present. Thanosome with tergites and sternites approximately equal; tergites with subdorsal longitudinal furrow on each side. Lateral thanosomal seta absent. Female genital coverflap lacking ribs.

Genotype as follows -

Acarhis lepisanthis, new species

Plate 1

Female reddish or pinkish and robust. Length from anterior shield lobe to terminal telosomal lobes 175 μ -185 μ , about 56 μ -60 μ thick. Rostrum 52 μ long, projecting down; antapical seta very small. Shield about 30 μ long, 50 μ wide, convex dorsally. Shield design a network with median line present only on rear 1/4. Admedian lines extending back from anterior shield margin to central heptagonal cell, this cell giving off a line on each side across in front of dorsal tubercles which meets submedian line. Lateral rear of central cell giving off line on each side toward dorsal tubercle which angles back toward center rear of shield with median line running from central rear of cell to rear margin. Shield with lateral row of about 4 cells the first starting at the submedian line and last cell emitting a line diagonally centrad to rear margin. Some granules in a band above coxae. Dorsal tubercles 23 μ apart; dorsal setae 3 μ long, projecting up and anterocentrad. Foreleg from trochanter base 31 μ long; tibia 9 μ long, with seta at about 1/2; tarsus 10 μ long, the setae unusually long and strong; claw straight, knobbed, 9 μ long. Featherclaw with 6-7 rays on outer fork and fewer on inner. Hindleg 26 μ long, tibia 5 μ long, tarsus 7.5 μ long, with outer seta strong, claw 8 μ long. Coxae with few lines; strong ridge between forecoxae; second coxal seta shorter than first. First setiferous coxal tubercle behind level of anterior coxal approximation and farther apart than second. Second tubercles well ahead of level of third. Thanosome with about 50 to 55 rings; tergites distinguished by fading microtubercles. Microtubercles ventrally slightly pointed over sternal margins. First ventral seta on about ring 19-20 and 21 μ long; second ventral seta on about ring 33 and 7 μ long. Telosomal seta with about 9 rings, the microtubercles pointed over margins and small. Telosomal seta 20 μ long. No accessory seta. Female genitalia 14 μ long, 20 μ wide; coverflap basally with transverse enclosed area of short dashes, the coverflap apically lacking ribs. Genital seta 9 μ long.

Male 150 μ -160 μ long.

Type locality: Bangkhen, Thailand

Collected: Aug. 7, 1975, by Dr. L. C. Knorr and sent under #T328a

Host: Lepisanthes rubiginosa (Roxb.) (Sapindaceae - Sapindales)

Relation to host: the mites are apparently innocuous underside vagrants on the leaves.

Type material: dry leaves from which mites were taken
a type slide with above data
three paratype slides

Note: the specimens of Acarhis lepisanthis are mixed on the slides with Hyboderus roseus which is described in this same installment. This second species is also pink and belongs to the Rhyncaphytoptidae.

Hyboderus, new genus

Hyboderus is definitely allied to the South American Catarhinus, especially so by the shape of the external female genitalia. It differs from Catarhinus - 1. broadly rounded shield front as opposed to pointed front on Catarhinus; 2. much more lateral position of dorsal tubercles; 3. lack of hind femoral and patellar setae; 4. more disorganized tergites; 5. no central thanosomal ridge. The name is hybos meaning hump and referring to the elongate lateral microtubercles; derus meaning long. Reference to Catarhinus - Occasional Papers No.1, Cal. Bureau of Entomology, p. 11, May 8, 1959. (A paper by Keifer)

Generic description - A robust pinkish species with rostrum pointing down and having long form oral stylet. Shield semicircular in anterior outline; dorsal tubercles widely separated and directing seta diagonally to side and anteriorly. Legs lacking femoral setae. Foreleg with patellar seta on outer side; foretibial seta present; featherclaw undivided. Hindleg lacking patellar seta. Thanosome sharply divided along lateral line by strong microtubercles on sternites and lack of these structures on tergites. Tergites more or less weak and disorganized on many specimens. Lateral, first and second ventral setae present. Female genitalia with broad external parts, and basal section transversely separated from apical part by curved transverse line from lateral lobe.

Genotype as follows -

Hyboderus roseus, new species

Plate 2

Female length from anterior edge of shield to terminal telosomal lobes 175 μ -185 μ . Robust pinkish mite about 70 μ -75 μ thick, strongly tapering. Rostrum projecting down, 32 μ long; antapical seta 7 μ long. Shield with no particular overhang over rostrum base, broadly curved across front. Length 39 μ , width 50 μ . Shield design variable, often obscure; median line not visible. Admedian lines often indicated as diverging lines from central front to about 1/4, then recurving toward center at 1/2, broken, diverging to rear margin. A lateral shield line in center toward dorsal tubercles. Some lateral lines and granules often present. Dorsal tubercles pushed forward and toward side, 33 μ apart. Dorsal setae 5 μ long, projecting outward and toward front. Foreleg from trochanter base 32 μ long; patellar seta lateral; tibia 8 μ long, with 6 μ seta at 1/3-1/2; tarsus 6 μ long; claw slightly downcurved, knobbed apically, 65 μ long. Featherclaw 6-7 rayed. Hindleg 30 μ long, no femoral or patellar seta, tibia 5 μ long, tarsus 7 μ long, claw 7 μ long. Coxae with few lines; forecoxae curved centrally, approximate centrally, sternal line obscure. First setiferous coxal tubercles behind level of anterior coxal approximation and farther apart than second tubercles; second coxal tubercles but little ahead of level of third tubercles. Thanosome with about 28 disorganized tergites, their separations often obscure. No dorsal microtubercles. Sternites about 55 in number, microtuberculate, the microtubercles laterally elongate and conspicuously separating sternites from tergites; more ventral microtubercles tending to be ahead of ring margins and more bead-like. Lateral seta 6 μ long, on sternite 8 behind shield; first ventral seta 8 μ long, on sternite 23; second ventral 6 μ long, on sternite 38. Telosome with about 5-6 rings, completely microtuberculate or these granules fading dorsally. Telosomal seta 14 μ long. Accessory seta 4 μ long. Female genitalia 26 μ long, 36 μ wide; basal part rather narrow transversely and lobed laterally, distinguished by curved cross line; apically the coverflap lacking ribs or other marks. Genital seta 7 μ long.

Male about 160 μ long.

Type locality: Bangkhen, Thailand

Collected: August 7, 1975 by Dr. L. C. Knorr and sent under #T328a

Host: Lepisanthes rubiginosa (Roxb.) (Sapindaceae - Sapindales)

Relation to host: these pink mites are underside leaf vagrants

Type material: a type slide so designated with above data
four paratype slides
dry leaves from which specimens were taken

Note - these pink mites are mixed on slides with Acarthis lepisanthis which is also named in this installment.

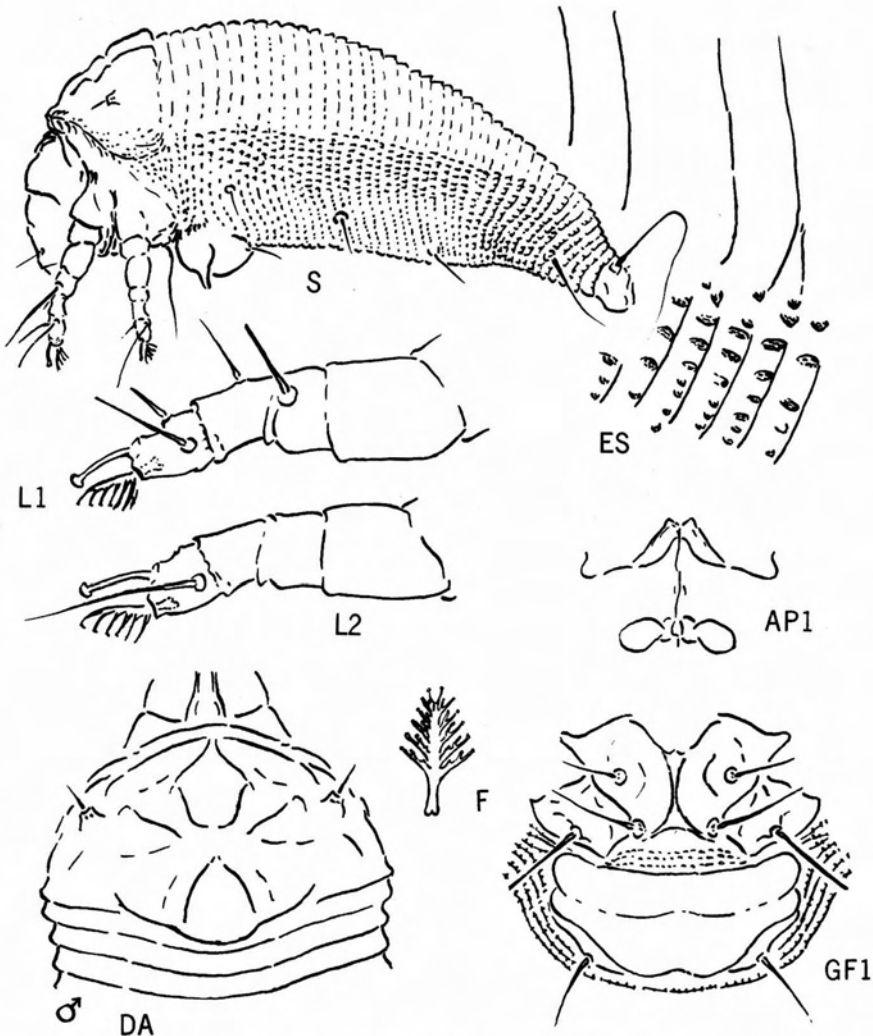


Plate 2 - *Hyboderus roseus*, new species

Errata - Eriophyid Studies C-10

Page 10, plate 5: flacourtiæ is in error, substitute indicae
 see description of indicae on page 9

Page 16, plate 8: Acarellotus is in error, substitute Acaricalus
 see description of styxi on page 15

Rhyncaphytoptus oreius, new species

Plate 3

Oreius is a seven-rayed featherclaw species and lives on dwarf mountain oak in the Sierra Nevada mountains of California. The general elevation at which it lives is about 7000 feet. Of other seven-rayed featherclaw species perhaps the closest is R. spiniferus K. (Bul. Cal. Dept. Agr. XXVIII(3):230, Apr. 21, 1939, Eriophyid Studies IV) which lives on Quercus kelloggii Newb. at somewhat lower elevations. Rhyncaphytoptus oreius differs from spiniferus by having two cross lines from each admedian shield line and by having microtubercles much less produced from the tergal margins.

A rather robust species with female 165 μ -170 μ long, measured from front of anterior shield lobe; body thickness about 60 μ across just behind genitalia. Rostrum 53 μ long, somewhat recurving anteriorly toward apex; antapical seta 9 μ long. Shield about 36 μ long by 48 μ wide; anterior lobe rather blunt and emarginate centrally, thin in side view. Shield pattern a network; median line almost complete, faint anteriorly; admedian lines subparallel to median, gradually diverging, with an irregular cross line meeting median at just beyond 1/2 and another at just ahead of rear margin. First submedian shield line gradually diverging from admedian, forming a cell with admedian just in front of dorsal tubercle. Lateral shield lines from side margin of anterior lobe extending back above coxae, with granules below rear part. Dorsal tubercles produced, 31 μ apart; dorsal setae 20 μ long. Foreleg from trochanter base about 38.5 μ long; tibia 10 μ long, with 10 μ seta from near base; tarsus 8 μ long; claw about 9 μ long, downcurved; featherclaw 7-rayed. Hindleg 38 μ long, tibia 9 μ long, tarsus 8 μ long, claw 8.5 μ long. Forecoxae well separated except for short sternal line between. First coxal tubercles well ahead of forecoxal connation; second coxal tubercles slightly in front of level of third tubercles. Thanosome with about 50 tergites and 70-75 sternites. Thanosomal microtubercles small, on tergites resting on margins and acuminate, the sternal microtubercles bead-like, slightly ahead of margins laterally, or resting on margins, but drawn more ahead of margins ventrally. Lateral seta about 16 μ long, on sternite 18 behind rear shield margin; first ventral seta 60 μ long, on sternite 33; second ventral seta 25 μ long on sternite 49. Telosome with 5 rings; microtubercles on ring margins as small beads, pointed over margins laterally and dorsally, elongate below. Telosomal seta 23 μ long. Accessory seta 4 μ long. Female genitalia 21 μ long by 29 μ wide; a pattern of short dashes at base of coverflap. Genital seta 16 μ long.

Male about 140 μ long.

Type locality: Wrights Lake, El Dorado County, Cal.

Collected: Sept 5, 1975 by the writer

Host: Quercus vaccinifolia Kell. (Fagaceae) huckleberry oak, a low shrub

Relation to host: the mites are undersurface leaf vagrants, leaving their cast skins on the leaf. These mites seem to prefer mature leaves and are not present on younger terminal leaves. R. oreius is found in company with Cecidophyes digeophysus K. but is readily distinguished by possessing dorsal setae, which digeophysus lacks. Digeophysus ref. Eriophyid Studies B-20, p. 17, Sept. 21, 1966, issued by the Cal. Dept. Agr.

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

Designations on Plates -

- | | |
|---|----------------------------------|
| AP1 - Internal female genital structures | GF1 - Female genitalia and coxae |
| CS - Lateral view of caudal section | L1 - Left anterior leg |
| D - Dorsal diagram of mite | L2 - Left second leg |
| DA - Dorsal view of anterior section | S - Side diagram of mite |
| ES - Lateral epidermal structures | SA - Anterior side view of mite |
| F - Empodium or featherclaw | |
| Telosome - caudal abdominal section beginning with third ventral seta | |
| Thanosome - abdomen from rear shield margin to telosome | |

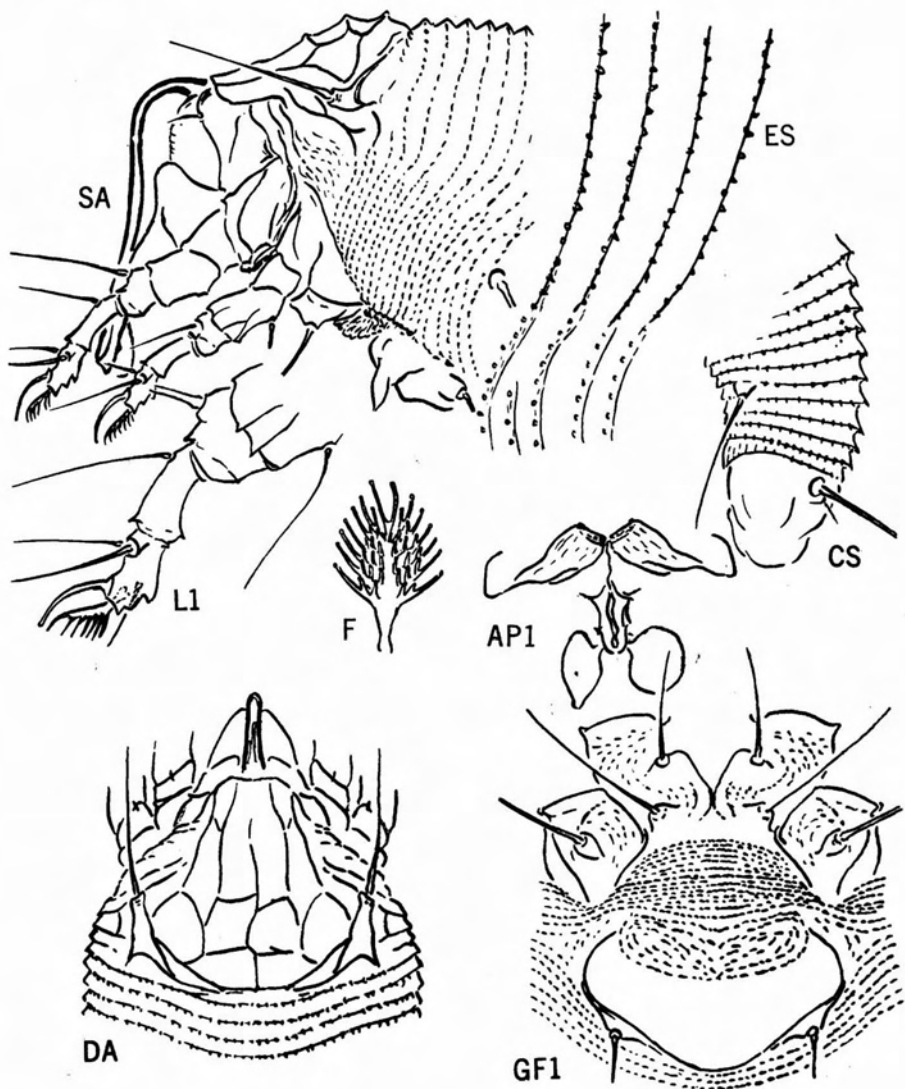


Plate 3 - *Rhyncaphytoptus oreius*, new species

Abacarus euphoriae, nes species

Plate 4

The central thanosomal ridge on this species of Abacarus has a central crease which distinguishes euphoriae from other species in the genus. This is a member of the group on broad leaved plants.

Female from anterior frontal lobe point to and including terminal lobes about 150 μ long; 30 μ thick. Color in life probably light yellow. Rostrum 21 μ long, curved down; antapical seta exceedingly small. Shield 29 μ long, 28 μ wide, subtriangular with sides outcurved. Median line absent. Admedians complete from frontal point, sinuate, slightly flaring out and ending between dorsal tubercles. Some lateral lines on side of frontal shield lobe; sides of shield granular with about two longitudinal lines. Dorsal tubercles 12 μ apart; dorsal setae 15 μ long, directed diagonally toward side. Foreleg from trochanter base 26 μ long; tibia 5.5 μ long, with 3 μ seta at about 1/2; tarsus 5.5 μ long; claw 6 μ long; featherclaw 6 rayed. Hindleg 23 μ long, tibia 4 μ long, tarsus 5 μ long, claw 7.5 μ long. Coxae heavily granular, the granules in curved lines to some extent. First setiferous coxal tubercles ahead of second and behind level of anterior coxal approximation. Second tubercles well ahead of level of third tubercles. Thanosome with about 28 tergites and 52 sternites. Prominent central longitudinal ridge on thanosome extending back to 21st tergite in dorsal trough; ridge broad and with central crease. Last or next to last tergite expanded. Microtubercles on tergites elongate and fading dorsally. Microtubercles on sternites somewhat elongate ahead of margins. Lateral seta 13 μ long, on about sternite 8 behind shield; first ventral seta 28 μ long, on sternite 21; second ventral 8 μ long, on sternite 35. Telosome with about 5 rings; microtubercles laterally minute, on margins, fading dorsally, elongate ventrally; telosomal seta 12 μ long. Accessory seta minute. Female genitalia 11 μ long, 19 μ wide; basally the female coverflap with about 4 transverse broken curved lines; apically with about 12 longitudinal ribs; genital seta 6 μ long.

Male not seen.

Type locality: Chaingmai, Northern Thailand

Collected: May 18, 1975 by Dr. L. C. Knorr and sent under #570518

Host: Euphoria longana (Laur.) (Sapindaceae - Sapindales) longan

Relation to host: the mites were on underside leaf erineum but at most were but inquilins there.

Type material: a type slide

dry leaves with erineum

the description is based on six specimens

In the summer of 1919, while investigating leaf galls of Eriophyes ulmicola (Nal.) on Ulmus campestris L. (procera Salis.), Nalepa found an unusual eriophyoid that he described as having fewer sternites than tergites. While he did not mention the presence absence of microtubercles on the sternites, he states the tergites to be smooth. Nalepa also describes the rostrum of this new mite as being noticeably long and strong, with chelicerae 62 μ long. This rostrum would clearly place the species in the Rhyncaphytoptidae (Dipterocaridae). Nalepa named this mite Phyllocoptes gallicolus new genus, new species, in Marcellia XVIII:190-194, 1919. Along with this new genus he also named Phyllocoptes longirostris new species, found in association with gallicolus. He does not describe the features of the rostrum of longirostris, but the specific name clearly implies it is large. He does mention that longirostris has smooth tergites and finely microtuberculate sternites. This association would seem to indicate a protogyne-deutogyne relationship, with gallicolus the deutogyne. But this discussion is not a final conclusion and the situation needs careful investigation. If this association of the two forms proves to be a deutogyne-protogyne relationship, then the protogyne will be longirostris, and the species will go into the present concept of Rhyncaphytoptus. In that case Rhyncaphytoptus will fall as a synonym of Phyllocoptes. Nalepa also mentions Ulmus montana With. as another host for these mites.

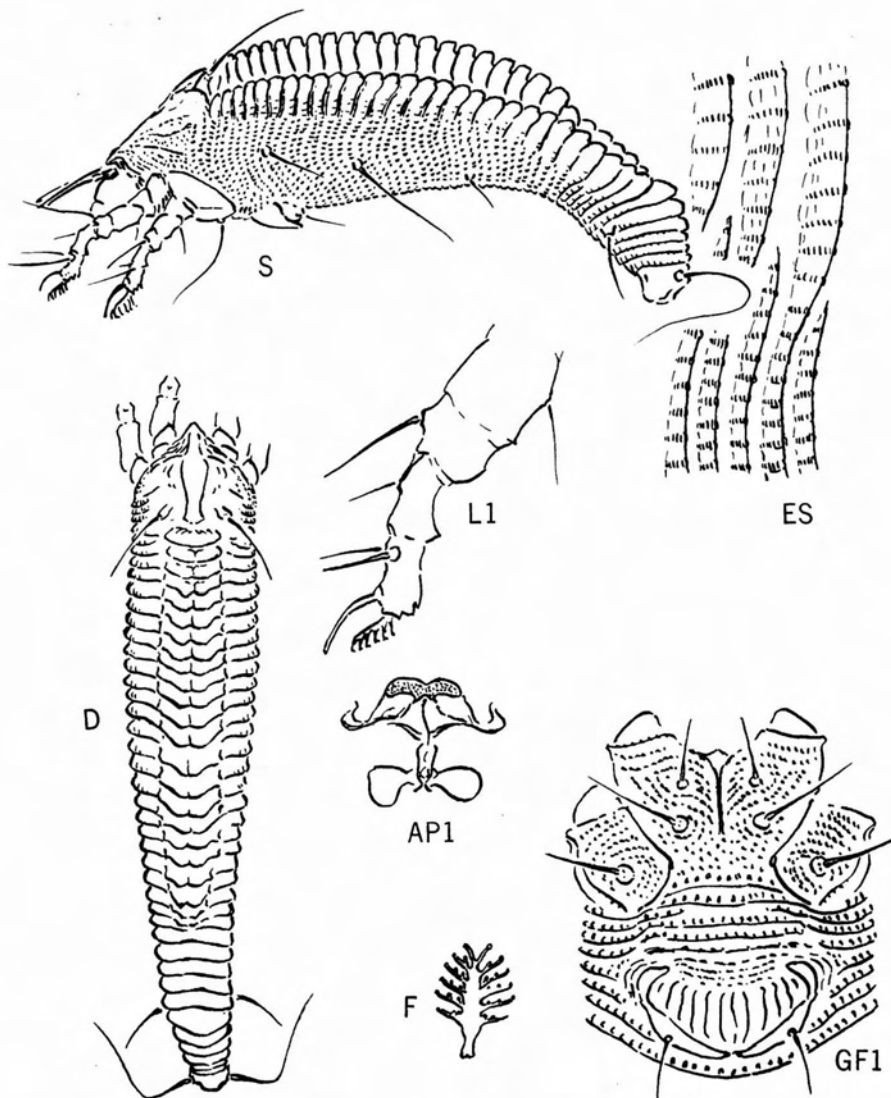


Plate 4 - *Abacarus euphoriae*, new species

Abacarus officinari, new species

Plate 5

Widespread dorsal tubercles on the shield are the distinguishing feature of this species. *Abacarus sacchari* Channabasavanna has dorsal tubercles closer together. See: Univ. of Agr. Sciences, Hebbal, Bangalore, p. 117, 1966.

Female length from anterior projection of pointed shield lobe to end of terminal lobes 145 μ -155 μ long, 50 μ wide, 33 μ thick. Color in life probably light yellowish with wax projections. Rostrum 34 μ long, curved down; antapical rostral seta 5 μ long. Shield 44 μ long, 50 μ wide, subtriangular, bulging laterally. Median shield line weak, only indicated on rear 1/4; admedian lines from anterior shield lobe, subparallel, not diverging, faint to rear, a short cross line at rear of admedians. Some lateral shield lines and granules followed by 3-4 partial rings. Dorsal tubercles on line across rear shield margin, 39 μ apart; dorsal setae 7 μ long, widely diverging. Foreleg from trochanter base 37 μ long; tibia 8 μ long with 6 μ seta from 1/2; tarsus 8 μ long; claw 8 μ long down curved; featherclaw 7 rayed. Hindleg 29 μ long, tibia 5 μ long, tarsus 7 μ long, claw 8 μ long. Anterior coxae widespread, sternal line rather short but reaching past second coxal tubercles; some curved lines on coxae. First setiferous coxal tubercles farther apart than second tubercles and ahead of anterior coxal approximation; second coxal tubercles ahead of level of third tubercles. Dorsum of thanosome with rather wide dorsal trough and with low central ridge ending on about tergite 27. Thanosome with about 36 tergites and 51 sternites. Microtubercles slightly elongate on tergites laterally but fading dorsally. Sternal microtubercles on margins and slightly elongate. Lateral seta 22 μ long, on sternite 5 behind shield; first ventral seta 48 μ long, on sternite 18; second ventral 11 μ long, on sternite 35. Telosome with 5 rings; microtubercles elongate below, as beads on rings laterally, weaker above. Telosomal seta 22 μ long. Accessory seta 3 μ long. Female genitalia 14 μ long, 18 μ wide; female genital coverflap with about two cross lines basally consisting of short dashes; apically the coverflap with 10-12 longitudinal ribs; seta 15 μ long.

Male about 135 μ long.

Type locality: Hattayai, Songhla, Southern Thailand

Collected: June 9, 1975 by Mrs. Sittaporn, and sent by Dr. L. C. Knorr under #75-0609-1

Host: Saccharum officinarum L. (Graminae, Andropogoneae - Glumiflorae) sugarcane

Relation to host: the mites rust the blades, especially the tips

Type material: a type slide with the above data
three paratype slides
the slides have about six to eight specimens

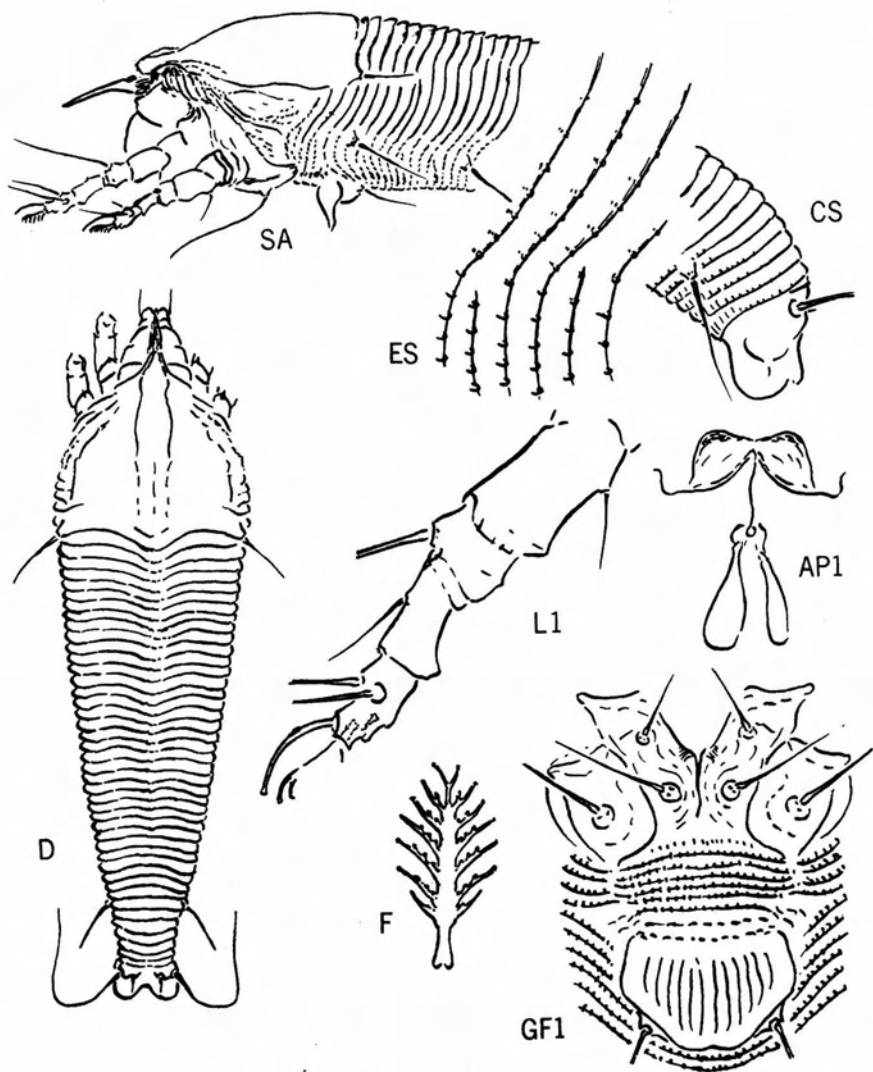


Plate 5 - *Abacarus officinari*, new species

Acalox, new genus

Acalox is similar to *Phyllocoptruta* (type *oleivora* (Ashm.) Bul. Cal. Dept. Agr. XXVII:193, June 22, 1938), but differs in having irregularly placed *Tegonotus*-like lateral projections on tergites. *Ac* is an abbreviation of *Acarus*; *alox* means furrow, referring to the wide longitudinal dorsal trough on the thanosome.

Generic description - a fusiform mite with short form oral stylet in rostrum. Thin emarginate anterior lobe projecting over rostrum base. Dorsal tubercles set ahead of rear shield margin and projecting short setae diagonally ahead and inward. Legs and coxae as usual for the group but with short notch between anterior coxae rather than definite sternal line. Abdominal thanosome with moderately broad tergites which describe wide longitudinal trough on dorsum. Tergites having irregularly placed lateral projections on about sternites 1, 4, 7, 9, 11, 13. Sternites much narrower and more numerous than tergites. Female genitalia typical for group, the coverflap with apical longitudinal ribs.

Genotype as follows -

Acalox *ptychocarpi*, new species

Plate 6

Female from 120 μ to 145 μ long, 45 μ wide, 40 μ thick; color in life possibly light yellowish. Rostrum 25 μ long, downcurved; antapical seta 6 μ long. Shield 36 μ long by 48 μ wide; shield pattern of partially obscure lines of various widths: median line faint anteriorly, clearer on rear 1/2, ending a little before rear margin; admedian lines fainter anteriorly, subparallel to median ahead of level of dorsal tubercles, curving out and recurring between dorsal tubercles, connected to median by cross lines at just before 1/2, at 2/3, and ahead of rear shield margin. Shield laterally with some coarse granulations, the rear lateral angle edged with granulations. Dorsal tubercles 15 μ apart; dorsal setae 5.5 μ long, stiff. Forelegs from base of trochanter 30 μ long; tibia 7.5 μ long, with 4.5 μ seta from about 1/3; tarsus 7 μ long; claw 6 μ long; featherclaw 4-rayed. Hindleg 30 μ long, tibia 7.5 μ long, tarsus 7 μ long, claw 6.5 μ long. Forecoxae only separated anteriorly by short notch. First coxal tubercles ahead of level of anterior coxal approximation; second tubercles about same distance apart as first and ahead of line across third tubercles. Thanosome with about 16 tergites and 36 sternites. Microtubercles on tergites tending to be somewhat elongate, mostly faint, these skin structures strong and elongate on lateral tergal projection. Sternal microtubercles of moderate size, tending to be on sternal margins. Lateral seta 23 μ long, on about sternite 5 behind shield; first ventral seta 53 μ long, on sternite 15; second ventral seta 12 μ long, on sternite 26. Telosome with about 6 rings; microtubercles small and projecting over ring margins, long ventrally; seta 16 μ long. Accessory seta missing. Female genitalia 15 μ long, 19 μ wide, coverflap basally with about 6 broken cross lines; 8-10 longitudinal ribs apically. Genital seta 18 μ long. Internally the spermathecae are quite large.

Male about 100 μ long.

Type locality: Brisbane (Aspley), Queensland, Australia

Collected: Dec. 23, 1974 by D. Hockings and sent by T. Passlow
Department of Primary Industries, under number Q431
Host: Eucalyptus ptychocarpa F. Muell. (Myrtaceae-Myrtiflorae)

Relation to host: the mites are either leaf vagrants or rust mites
swamp bloodwood

Type material: a type slide and three paratype slides with above data
in addition there are two vials with mites and leaves
and a species of Rhombacus on the slides and in vials.

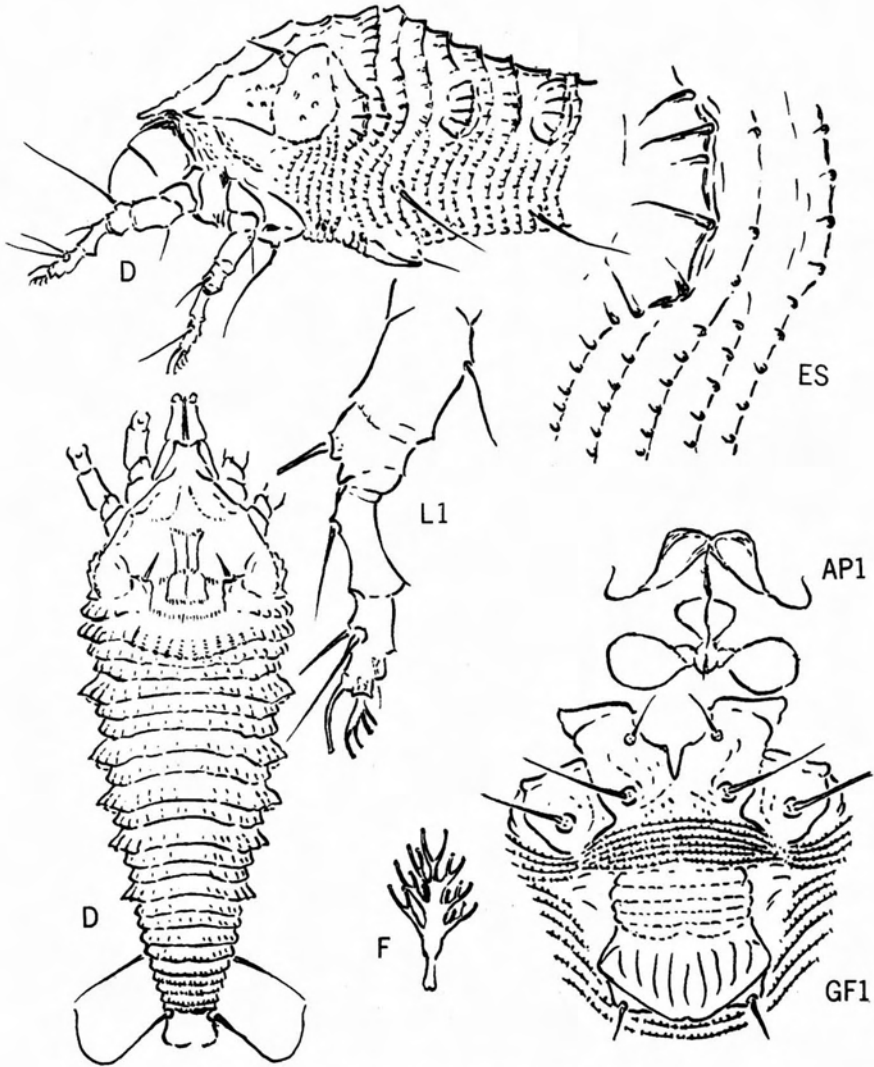


Plate 6 - *Acalox ptychocarpae*, new species

Aculops neokonoeella, new species

Plate 7

For some obscure reason eriophyids living on elms, whether closely related, or not, have developed 2-rayed featherclaws on certain kinds. The species *Aculops calulmi* (K.) has these featherclaws, but is quite distinct from *neokonoeella* in that the tergites are much narrower. For the reference to *calulmi* see Bul. Cal. Dept. Agr. XXIX(2):113, June 21, 1940, Eriophyid Studies IX.

Female from anterior point of shield lobe to end of terminal lobes 150 μ -165 μ long, 50 μ thick. Body fusiform, the tergites strongly serrate in lateral view. Color in life probably yellowish-white. Rostrum 22 μ long, projecting down; antapical seta 3 μ long. Shield broadly subtriangular with anterior lobe acuminate. Shield design mostly of broad bands more or less obscure: median line only indicated between dorsal tubercles; admedian lines complete from anterior lobe, somewhat diverging to rear shield margin, meeting a transverse line from each side at about 1/2 and with transverse line at anterior end of median. Submedian lines also broad, indicated on rear 1/2 of shield, and from transverse line at 1/2 diverging back to outer side of dorsal tubercles. Laterally the shield with two lines and partial rings below tubercles. Dorsal tubercles 18 μ apart; dorsal setae 50 μ long, slightly bulbous apically and diverging somewhat. Foreleg from trochanter base 30 μ long; tibia 7.5 μ long, with 4 μ seta at about 1/3; tarsus 7 μ long; claw 7.5 μ long, apically slightly enlarged; featherclaw 2-rayed. Hindleg 25 μ long, tibia 5 μ long, tarsus 7 μ long, claw 8 μ long. Anterior coxae diverging, all coxae with some curved lines around tubercles. First setiferous coxal tubercles slightly behind level of anterior coxal approximation, farther apart than second tubercles. Second tubercles well ahead of level of third tubercles. Thanosome with 14 tergites and about 42 sternites. Tergites in lateral view strongly serrate. Tergal microtubercles elongate, pointed over tergal apices laterally but less pointed dorsally. Tergal microtubercles more pointed to rear, especially dorsally. Sternal microtubercles bead-like on margins and slightly pointed. Lateral seta 14 μ long, on sternite 7 behind shield; First ventral seta 40 μ long, on sternite 17; second ventral seta 12 μ long, on sternite 27. Telosome with about 4 rings, most microtubercles small and pointed over margins. Telosomal seta 16 μ long. Accessory seta 2 μ long. Female genitalia 13 μ long, 20 μ wide; female coverflap with a basal cross line or two bearing granules; apically the coverflap with about 8 or 10 longitudinal ribs, these ribs mostly broadened apically. Genital seta 15 μ long. Male 120 μ -130 μ long. Male dorsal setae more inclined to rear than on female. Male with about 9 tergites.

Type locality: Alma Ata. Kazakstan, Siberia

Collected: Aug. 29, 1974 by Tokuwo Kono of the California Department of Agriculture.

Host: *Ulmus pumila* L. (Ulmaceae-Urticales) Siberian elm

Relation to host: the mites are leaf vagrants

Type material: described from 8 slides taken from leaves and mites in liquid
 a type slide so designated with above data
 seven paratype slides
 mites and leaves in liquid

I am pleased to name this for my friend and colleague, Tokuwo Kono who found this mite on a world tour.

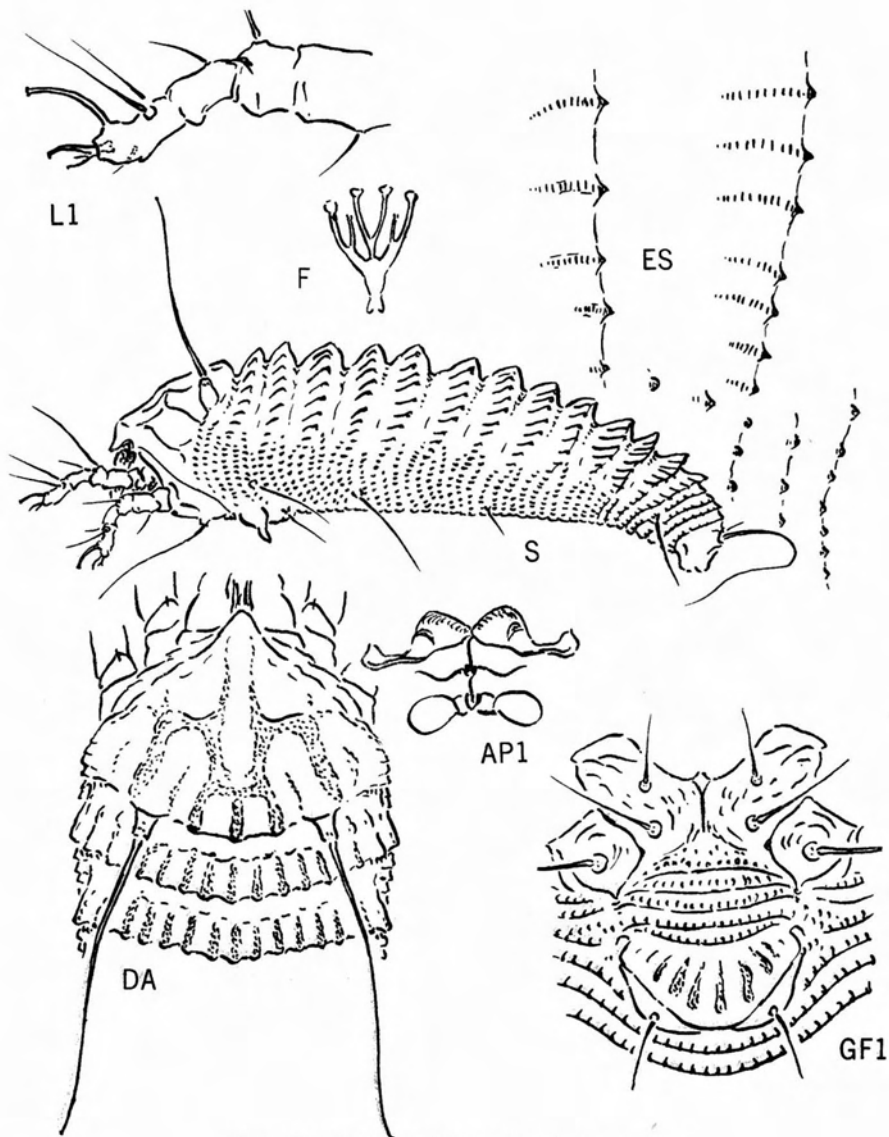


Plate 7 - *Aculops neokonoeella*, new species

Paraphytoptus erythrinae, new species

Plate 8

While erythrinae has six rays on the featherclaws on the forelegs, it has five rays on the hindlegs. This is a distinguishing feature in itself. Otherwise the species differs from regular 6-rayed species by having the median line short and only present on the rear 1/3 of the shield, a strong transverse line across in front of the dorsal tubercles, and weak longitudinal ribs on the female genital coverflap, broken into two uneven ranks.

Female length from anterior margin of shield to end of terminal lobes 145 μ -165 μ long, about 38 μ thick. Body wormlike and curved down in rear, color in life probably light yellowish. Rostrum 28 μ long, downcurved; antapical rostral seta 3 μ long. Shield 26 μ long by 29 μ wide, subtriangular; median line present on rear 1/3 or 1/4; admedian lines complete, gradually diverging to rear margin; first submedian lines from central front of shield, diverging and ending at about 1/2; second submedians lateral to first and diverging, forking at lateral 1/2, the inner fork meeting transverse line from near admedian and extending laterally to outer fork. Laterally the shield with row of granules above coxae, and partial rings below dorsal tubercles. Dorsal tubercles 12 μ apart, on rear shield margin, directing dorsal setae diagonally outward to rear; dorsal setae 13 μ long. Forelegs from trochanter base 27 μ long; tibia 6 μ long, with 5 μ seta from 1/3 to 1/2; tarsus 6 μ long; claw 8 μ long; featherclaw 6-rayed. Hindleg 23 μ long, tibia 4 μ long, tarsus 6 μ long, claw 9 μ long. Coxae with rather sparse granules; sternal line rather short between anterior coxae; first setiferous coxal tubercles slightly ahead of anterior coxal approximation and about as far apart as second; second coxal tubercles ahead of level of third tubercles. Thanosome with about 38-40 rings to third ventral seta where dorsal rear doubling of rings begins; about 49 rings dorsally and 57 ventrally. Microtubercles small and more or less pointed anteriorly, but elongate dorsally on broader rear tergites, fading on tergites. Lateral seta 14 μ long, on ring 6-7 behind shield; first ventral seta 38 μ long, on ring 18-20; third ventral 8 μ long, on ring 38-40. Telosome with 4-5 rings; microtubercles small, on ring margins, stronger and longer ventrally, the microtubercles fading dorsally. Telosomal seta 15 μ long. Accessory seta 2-3 μ long. Female genitalia 15 μ long by 19 μ wide; coverflap basally with sparse granules; apically with 7-8 weak longitudinal ribs part of which separated anteriorly into front rank.

Type locality: Chaingmai, Northern Thailand

Collected: May 15, 1975 by Sittaporn Upayokin and sent by Dr. L. C. Knorr under #750515-3

Host: Erythrina sp. (Leguminosae - Rosales, in the Phasoleae group)

Relation to host: as with other Paraphytoptus spp. this one lives in dense hairs on leaves and buds.

Type material: a type slide so designated with above data
three paratype slides
dry plant parts from which specimens were taken

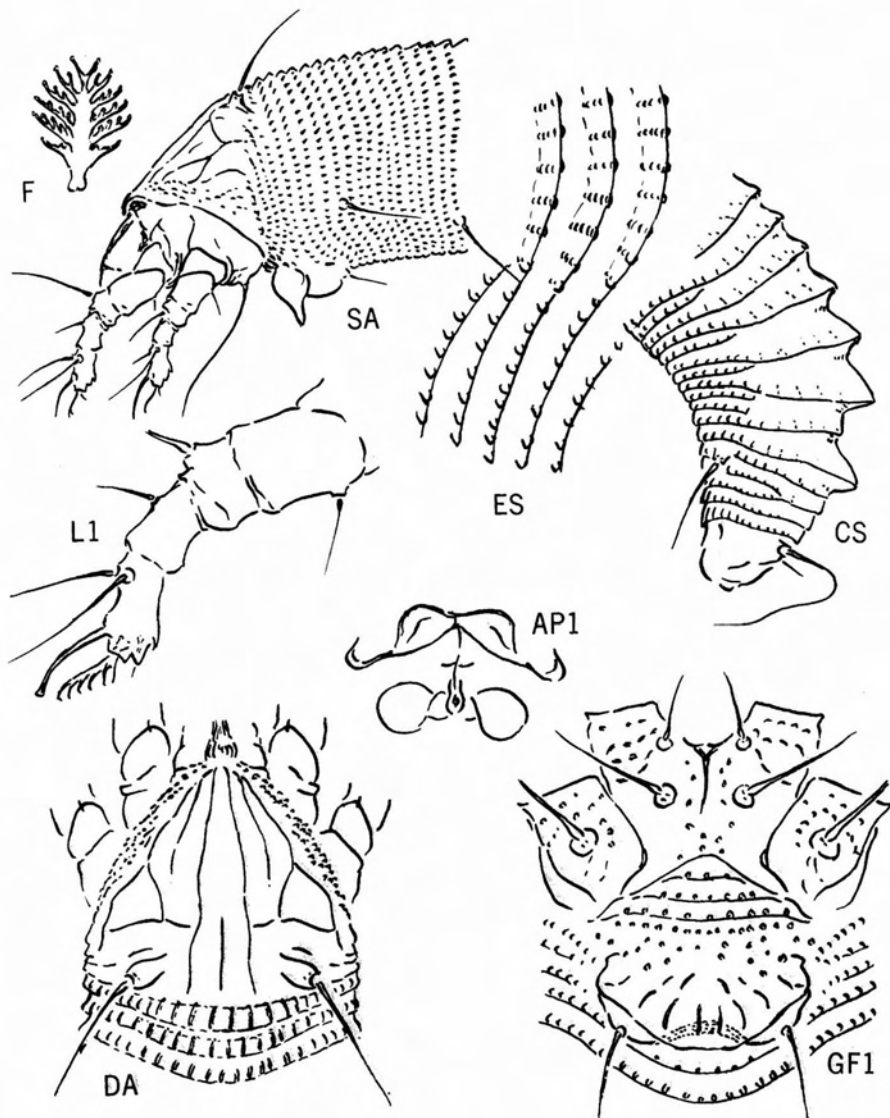


Plate 8 - *Paraphytoptus erythrinae*, new species

Eriophyes wallichianae, new species

Plate 9

The filiformis complex of elm leaf blister mites have peculiar 3-rayed featherclaws. The chief feature of these 3-rayed epodia is that the inner fork of the terminal ray pair is longer than the outer fork. Typical filiformis makes baggy leaf blisters in leaves of Ulmus procera Salis. in Europe and in Asia Minor. In contrast the new species, which belongs to this complex, makes dark pustules on leaves of Ulmus wallichiana in Asia, these small pustules protrude from leaf undersides as blackish beads. The pustules do, however, have leaf tissue in them, which in that respect is more similar to blisters than to ordinary leaf galls. Structurally there is little to separate wallichianae from filiformis. On wallichianae the admedian shield lines are farther apart on the rear half of the shield, the lateral shield granules are smaller, and the thanosomal microtubercles are more elliptical.

Filiformis ref. - Nalepa, Nova Acta Acad. Leop. 55:374, 1891

Female a long thin mite, 230 μ -275 μ long, 33 μ thick; color in life likely yellowish. Rostrum 20 μ long, downcurved; antapical seta 5 μ long. Shield 23 μ long, 26 μ wide, sides convex but shield tending to be acuminate anteriorly, shield design of a series of longitudinal lines: median line present only on rear third, broken. Admedian lines from central front, subparallel anteriorly, diverging somewhat at about 1/2, recurving between dorsal tubercles. First submedian lines from front of shield and ending at about 1/2 after recurving toward admedians; second submedians subparallel to first, sinuate, recurving and ending just before dorsal tubercles; third submedians from anterolateral line, ending in front of dorsal tubercles. Sides of shield with granules; about 3 partial rings below tubercles. Dorsal tubercles on rear shield margin, about 13 μ apart, directing 29 μ long setae divergently to rear. Forelegs from trochanter base 27 μ long; tibia 5 μ long, with 7 μ seta at 1/3 or 1/4; tarsus 6 μ long; claw 6 μ long; featherclaw 3-rayed with inner ray of terminal pair longer. Hindleg 25 μ long, tibia 4 μ long, tarsus 6 μ long, claw 7 μ long. Coxae somewhat elongate, heavily lined with granules and short dashes; sternal line short, ending between second tubercles. First setiferous coxal tubercles a little behind anterior coxal approximation, farther apart than second tubercles. Second tubercles well ahead of level of third tubercles. Thanosome with 80-85 rings, the rings heavily microtuberculate. Thanosomal microtubercles somewhat elliptical dorsally and laterally, touching ring margins. Ventrally the microtubercles smaller but also touching ring margins and slightly pointed to rear. Lateral seta 18 μ long, on ring 9 behind shield; first ventral seta 50 μ -55 μ long, on about ring 22; second ventral 11 μ long, on ring 46. Telosome with 7 rings, the microtubercles weak, pointed over margins, not elongate ventrally; telosomal seta 19 μ long. Accessory seta 5.5 μ long. Female genitalia 15 μ long, 19 μ wide, coverflap heavily set with broken ribs generally longitudinal in direction; about 12 ribs. Spermathecae large. Genital seta 12 μ long.

Male not seen.

Type locality: Himalayas of India

Collected: in 1960 or 1961 by Mr. Heybroek and submitted by Dr. R. H. Richens of Cambridge, England

Host: Ulmus wallichiana Planch. (Ulmaceae - Urticales) Himalaya elm

Relation to host: the mites make bead-like pustules projecting from the underside of the leaves. In heavy infestations these pustules cause considerable leaf damage.

Type material: a type slide with the above data
three paratype slides
dry leaves with pustules from which the mites were taken

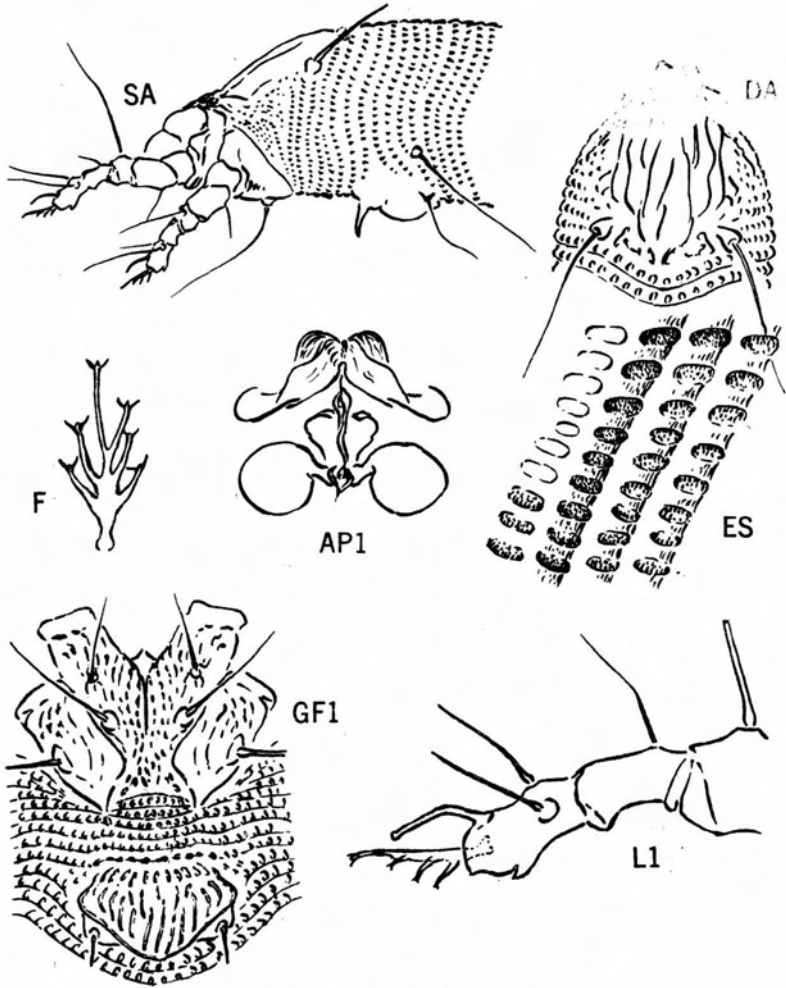


Plate 9 - *Eriophyes wallichianae*, new species

Anchiphytoptus chamaebatia, new species

Plate 10

This new species lives under basal twig bracts on the new growth on the rosaceous plant Chamaebatia foliosa Benth. The common name of the plant is mountain misery due to its viscid foliage. The new mite differs from the genotype lineatus K. Eriophyid Studies XVIII, (Bul. Cal. Dept. Agr. XLI(1):31. Mar. 18, 1952) by having a less conspicuous median shield line which ends in a dart-shaped mark, and by having broken admedian lines. Other differences are more granular coxae and shorter ornamentation on the base of the female coverflap. In the locality where found, the host was common but few individual plants harbored mites.

Female length from anterior end of shield to terminal lobes 215μ - 280μ long, about 52μ thick; wormlike in shape and light yellowish white in coloration. Rostrum 36μ long, bent down; antapical seta 3.5μ long. Shield 31μ long, 41μ wide. Shield design centrally of broken lines; median line discernable only on rear $1/4$ and ending in dart-shaped mark; admedian lines substantially complete but broken in at least two places, each section arching outward; submedian lines consisting mostly of outarched lines on front half. Shield laterally mostly granular, the granule lines extending over anterior tubercles. Anterior shield setae 5μ - 6μ long. Dorsal tubercles 19μ apart; dorsal setae 6μ long. Foreleg from trochanter base 36μ long; tibia 8μ long, with 8μ seta from about $1/2$, and with lateral spur 8.5μ long; tarsus 9μ long; claw 11.5μ long; featherclaw 5-rayed. Hindleg 28μ long, tibia 5μ long, tarsus 6μ long, claw 11.5μ long. Coxae generally ornamented with coarse granules; sternal line moderately strong, followed by granular area. First setiferous coxal tubercles opposite or slightly ahead of anterior coxal approximation and about as far apart as second tubercles. Second tubercles almost back to level of third tubercles. Abdominal thanosome with about 65 rings, the rings showing rather abrupt lateral change from smaller ventral microtubercles to larger more linearly arranged dorsal microtubercles. Subdorsal thanosomal seta 28μ long, on about ring 9 behind shield; lateral seta 22μ long, on ring 7 behind shield; first ventral seta 21μ long, on ring 23; second ventral 6μ long, on ring 40. Telosome with about 6 rings; microtubercles small and pointed over ring margins except anterior rings where microtubercles are more elliptical. Telosomal seta 30μ long. Female genitalia 17.5μ long, 21μ wide; coverflap lacking ribs but with base showing some granule-like projections and curved lines.

Male 190μ - 220μ long.

Type locality: Kyburz, El Dorado County Cal. elevation about 5000 ft.
Collected: June 8, 1974 by writer.

Host: Chamaebatia foliosa Benth. (Rosaceae-Rosales) mountain misery

Relation to host: the mites are uncommon inhabitants under lower bracts on current season's growth.

Type material: five slides with type and four paratypes designated. there are also some dry leaves on file from the collection site.

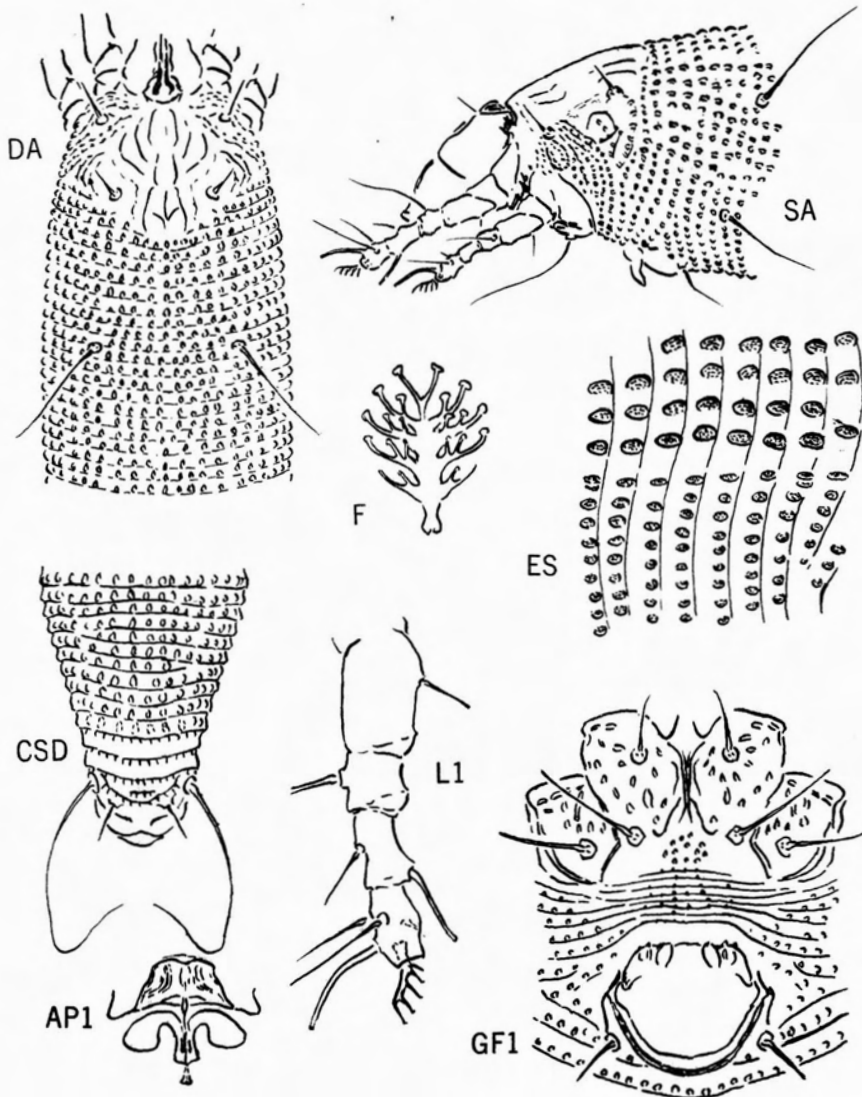


Plate 10 - *Anchiphytoptus chamaebatinae*, new species

Propilus, new genus

The anatomy of this genus places it in the tribe Mackiellini of the Nalepellidae of the Eriophyoidea. The principal features of this new genus are: 1. Presence of anterolateral shield seta pair on anterior shield margin; 2. absence of dorsal shield tubercles; 3. absence of subdorsal abdominal setae; 4. absence of foretibial spur; 5. recurving of spermathecal tubes from attachment ahead of spermathecal pore at genital rear. The other two genera in the Mackiellini are: Mackiella with forward pointing dorsal setae; Retracrus with backward pointing dorsal setae. All of these genera occur on palms.

Generic description: Flattened fusiform mites with rostrum containing short form oral stylet. Shield broad, anterior lobe overhanging rostrum base. Dorsal shield tubercles and setae missing; anterolateral setae present on front margin, well separated. Femoral seta and patellar seta present on both legs; frontal foretibial seta missing; lateral foretibial spur missing. Abdominal tergites moderately broad, projecting laterally either as lobes or as short lobes with spines. All usual thanosomal setae present. Female genital coverflap lacking definite ornamentation; spermathecal tubes recurving from anterior extension of tubes from spermathecal pore, the pore located at central genital rear.

The genus name: pro means forward; pilus is hair or seta.

Reference to mite names mentioned above -

For a key to genera of Eriophyoidea see - "Mites Injurious to Economic Plants", University of California Press, September 1975, pp. 562-597. Authors Jeppson, Baker, Keifer

Genotype of Propilus as follows:

Propilus gentyi, new species

Plate 11

Length of female from anterior edge of shield to terminal telosomal lobes 150 μ -160 μ . Width about 58 μ ; thickness about 30 μ . Color in life light yellowish-white. Rostrum about 15 μ long, projecting down; antapical seta 8 μ long. Shield 51 μ long, 57 μ wide, flattened with few marks and semicircular anterior outline. Dorsal tubercles and setae absent; anterior seta on front margin, on small produced tubercles, 2 μ long. Foreleg from trochanter base 30 μ long; femoral seta present; patellar seta present; tibia 4 μ long, no frontal seta or lateral spur; tarsus 9 μ long; claw 3.5 μ long, downcurved; featherclaw 3-rayed. Hindleg 29 μ long, with femoral and patellar setae; tibia 4 μ long, tarsus 8 μ long, claw 3 μ long. Coxae with few surface marks, anterior coxae divergent with a line running diagonally anteriorly and outward between first and second setiferous tubercles; sternal line 7 μ long, ending in angle made by diagonal line between second tubercles. First setiferous coxal tubercles ahead of anterior coxal approximation; second tubercles on a line with or slightly behind third tubercles. Abdominal thanosome with about 13 tergites, no microtubercles but each tergite projecting laterally as an acute tooth but apically blunt. No subdorsal seta pair. About 30 or 31 sternites from behind shield (anterior sternites obscure); sternites with small microtubercles, becoming longer toward central rear. Lateral seta 10 μ long, probably about 2 sternites behind shield; first ventral seta 12 μ long, on sternite 9; second ventral seta 7 μ long, on sternite 20. Abdominal telosome with all rings fused above beyond first; about 5 rings below, with elongate microtubercles; telosomal seta 11 μ long. No accessory seta. Female genitalia 14 μ long, 18 μ wide, not ornamented on coverflap. Genital seta 9 μ long. Anterior apodeme acuminate anteriorly, the spermathecal tubes recurving from anterior projection closely parallel to central line.

Male 115 μ -130 μ long.

Type locality: San Alberto, Bucaramanga, State of Santander, Colombia

Collected: April 7, 1975, by Dr. Ph. Genty of Indulpalma for whom I am pleased to name the genotype.

Host: Aiphanes sp. (Palmae in the Bactris group) locally known as 'prickle palm'.

Relation to host: the mites rust the underside of the fronds.

Type material: a type slide, so designated, with the above data
four paratype slides
dry pieces of palm fronds with mite mummies

Note: The slides have two species of mites on them, but both belonging to the same genus. These two species are easily separated as this genotype has merely projecting lateral lobes, whereas the next species (spinosus) has both lateral lobes and lateral spines.

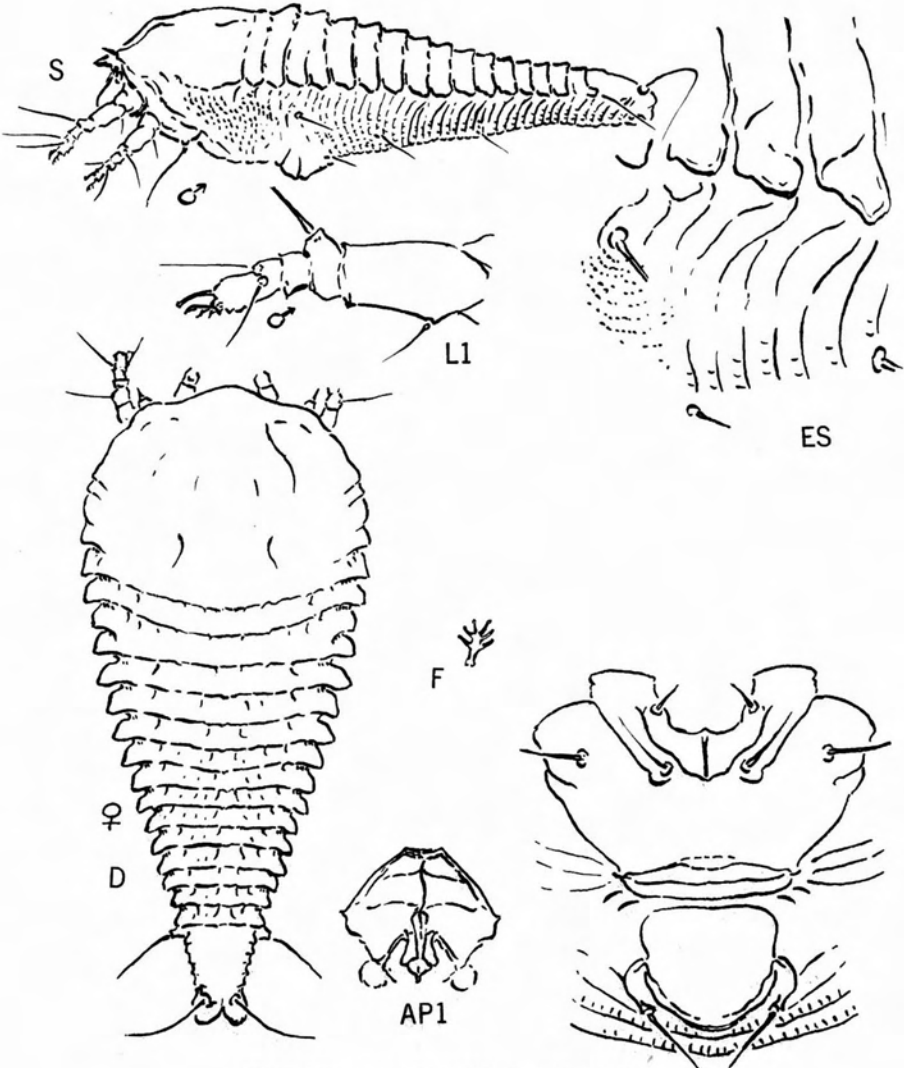


Plate 11 - *Propilus gentyi*, new species

Propilus spinosus, new species

Plate 12

A species very similar to the genotype but differing mainly by having an anteriorly acuminate shield and by having nearly all tergites ending laterally in one or two spines. Both gentyi and spinosus live together on the fronds of 'prickle palm'. They would both seem to be equally implicated in rusting the fronds. The occurrence of such similar species intermingled on the same host might raise the question as to whether or not they actually represent two forms of the same species. The fact that both males and females have the distinctive structures which separate the respective species would seem to preclude the possibility that only one mite species is represented by the two forms.

Female length from anterior end of shield to terminal lobes 135 μ -150 μ . Body 52 μ wide, about 30 μ thick. Color in life probably light yellowish-white. Rostrum probably about 30 μ long, projecting down; ant-apical seta 11 μ long. Shield 44 μ long, 57 μ wide, subtriangular in anterior outline, the sides bulging and the anterior lobe acuminate. Anterior lobe with a diagram of fine longitudinal lines dorsally, rest of shield surface with obscure markings except where median line at rear accurs shortly before the margin; longitudinal lines are lateral to it, joined by transverse line. Anterolateral shield setae well separated, on shortly produced tubercles, the seta 3.5 μ long. Foreleg 33 μ long, with femoral and patellar seta but no foretibial anterior seta or lateral spur. Foretibia 4 μ long, tarsus 8.5 μ long, claw 3 μ long. Feather-claw 4-rayed. Coxae divergent, with few surface marks; forecoxae not meeting centrally and convex on inner margin leaving a longitudinal area between. First setiferous coxal tubercles ahead of anterior coxal approximation and a little further apart than second tubercles; second tubercles about on a line with third tubercles. Abdominal thanosome with about 13 tergites of moderate width and a slight central ridge; laterally each tergite slightly produced and bearing either one or two prominent spines. Thanosome with about 32 sternites, the sternites with fine central microtubercles. Lateral seta above and ahead of genital seta and on about 3rd sternite, 27 μ long; first ventral seta 18 μ long, on sternite 9; second ventral 9 μ long, on sternite 21. Abdominal telosome with first ring bearing seta and distinct dorsally, the remainder of rings fused dorsally; about 5 rings below with elongate microtubercles. Accessory seta absent. Female genitalia 13 μ long, 21 μ wide; coverflap with slight transverse band of longitudinal dashes across base; genital seta 15 μ long.

Male 120 μ -130 μ long.

Type locality: San Alberto, Bucaramange, State of Santander, Colombia

Collected: April 7, 1975 by Dr. Ph. Genty of Indulpalma

Host: Aiphanes sp., 'prickle palm' (Palmae, Bactris group)

Relation to host: the mites rust the underside of the fronds

Type material: a type slide, so designated, with the above data
four paratype slides
dry pieces of fronds with mite mummies

Note: Both gentyi and spinosus are on all of the slides but the latter is easily separable from gentyi by the prominent lateral spines.

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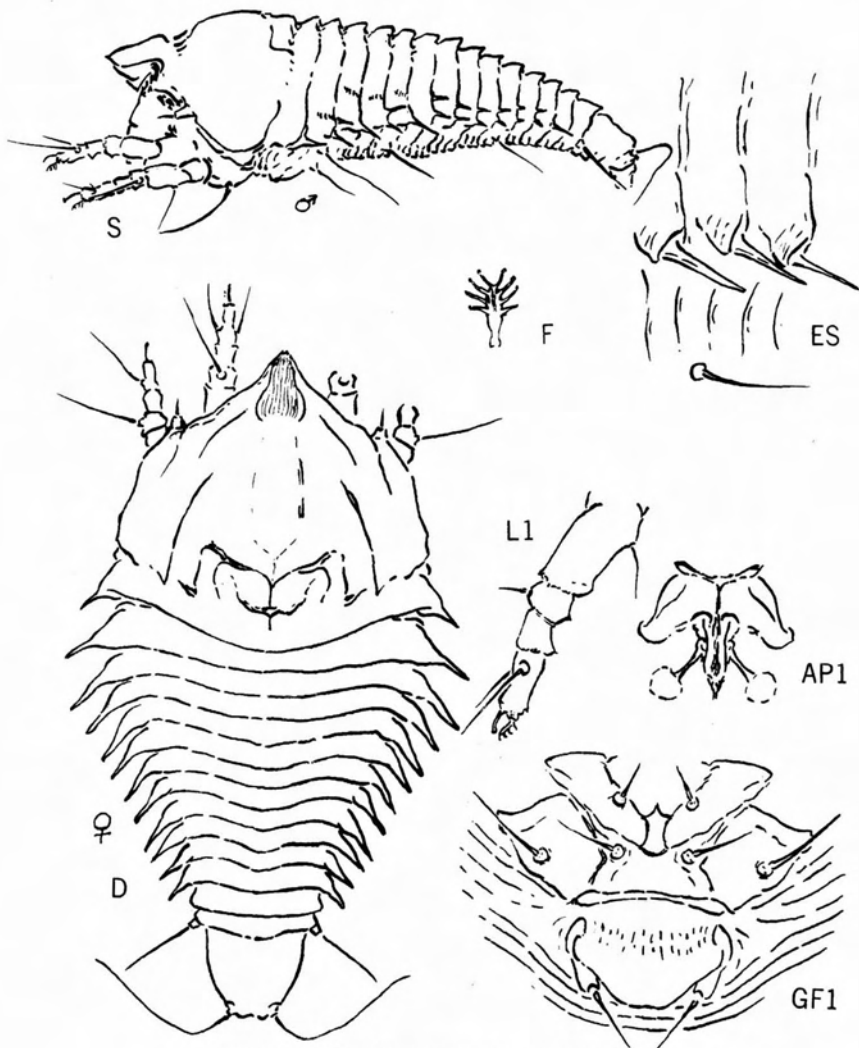


Plate 12 - *Propilus spinosus*, new species