Plate 1 - Cisaberoptus kenya, new species
Aberoptinae, new subfamily

Body somewhat fusiform, tapering caudally, tending to be flattened. Rostrum either normal or apically spatulate and divergent; chelicerae of moderate length, gently curved down; oral stylet short form.shield broad, with at most a slight projection over chelicera base; dorsal tubercles on rear margin. Legs shortened, strengthened: foreleg with all usual setae and the forvetibia spatulate distally, or the tibia shortened, lacking the seta; hindleg with strong thick, shortened segments, partly fused; empodium (featherclaw) enlarged. Many rays. Coxae with all usual setae. Female genitalia transverse, narrow longitudinally, set close to coxae; internal apodeme long form.

This subfamily now contains two species of uncertain relationship except that they belong to the Eriophyidae in the strict sense. One species is Aberoptus samoae K. (Bul. Cal. Dept. Agr. 40(3): 97, 1951). The other is as described here as a species of Cisaberoptus. Both feed on mango leaves. Heretofore I have believed that the principal damage an Eriophyid did to plants was biochemical in nature because the mouthparts are so small as to be unable to cause any appreciable mechanical damage. But the species placed in this subfamily are equipped to cause mechanical damage: Aberoptus samoae, with its spatulate forvetibiae (I am not precisely informed as to just what this mite actually does), and Cisaberoptus kenyae, n. sp., which Dr. F. C. Mathez writes burrows under the upper leaf surface. The rostrum of kenyae certainly indicates its potentialities.

Cisaberoptus, new genus

Body elongate, somewhat fusiform, more or less compressed dorsoventrally. Rostrum projecting forward, curved down a little, about as long as shield, stout, basally with stout hump on each side ahead of anterior shield margin; apically the rostrum segments fused, strengthened, spatulate, divergent. Chelicerae normal, not showing beyond basal approximating of divergent rostral apices. Oral stylet short form. Shield with short bilobed anterior projection over chelicera base; dorsal tubercles lateral, projecting back not far ahead of rear margin, directing dorsal setae divergently backward; a lobe on inner side each dorsal tubercle. Legs short, strongly and stout, joints more or less fused and indistinguishable; all usual setae present except foretibial. Empodia (featherclaws) long and stout, many rays. Coxae with usual three pair of setae, anterior coxae separated. Thanosomal rings similar dorsoventrally, a slight lateral ridge behind lateral shield lobes. All usual abdominal setae present. Female genitalia narrow longitudinally, transverse, laterally, close behind coxae; internal apodeme long type.

The genotypes, which in most respects resembles Aberoptus samoae, differs by having the rostrum developed for mining into the leaf, rather than the rovetibiae, and the forelegs in this case are similar to the second legs.

Genotype: Cisaberoptus kenyae, new species

Cisaberoptus kenyae, new species

Plate 1

Female 190±210 long, including rostrum, 52h wide, 4½ thick; flattened-fusiform; color probably light yellowish-white. Rostrum 36 long, thicker apical portions slightly amber colored; antapical seta 5½ long, Shield 3½ long, 38µ wide; short bilobed projection over chelicera base. No shield design. Lateral lobes somewhat projecting. Dorsal tubercles 36µ apart; dorsal setae 1½ long. Foreleg 25½ long, femoral seta present; femur and patella fused; tibiotarsus 5µ long; claw 10.5µ long; featherclaw about 17-rayed. Hindleg similar to foreleg, 2½ long. Tibiotarsus 4½ long, claw 12½ long. Coxae broad, divergent, un ornamented, the anterior coxae not comminate centrally. First setiferous coaxal tubercles farther apart than second and set ahead near coxal apex; second setiferous tubercles slightly ahead of line across third tubercles. Thanosome with about 52 rings; microtuberules mostly elongate but rounder dorsally in mid section, fading to telosome. Lateral seta 9µ long, on about third ring behind shield; first ventral seta 35½ long, on ring 22; second ventral 24½ long, on ring 33. Telosome of 6 rings, microtuberules faint dorsally. Telosomal seta 1½ long. Accessory seta absent. Female genitalia 1½ long, 28µ wide; cover flap with 1½-16 curved ribs; seta 4½ long.

Type locality: Kilambula, Kenya

Collected: March 10, 1966, by Dr. F. C. Mathez

Host: Mangifera indica L. (Anacardiaceae) mango

Relation to host: the mites mine into the leaf and are found under the upper part of rostrum base.

Type material: a type slide with the above data 10 paratype slides mites in liquid from which the type were taken
Phyllocoptruta sakimurae, new species

Plate 2

This is the third species placed in the genus. It differs from the other two most notably by the heavy dimpling on the cephalothoracic shield. These small pits entirely obscure the shield pattern. Phyllocoptruta oleivora (Ashm.) has a shield pattern and tibiae equal to the patella in length. *P. musae* K. has very long tibiae and a shield pattern. The new species is intermediate in regard to tibial length. I am naming the species after its collector, Dr. K. Sakimura of the Pineapple Institute, who has also sent me other mites.

Female 145μ-160μ long, 56μ wide, 48μ thick; fusiform; color probably light yellowish-white. Rostrum 26μ long, projecting down; antapical seta 7μ long, strong. Shield 40μ long, 56μ wide, with broad anterior lobe over rostrum, with some depth in lateral view and showing transverse grooves across front. Shield design obscured by numerous small pits covering almost entire surface. Shield with moderately produced lobes laterally; some longitudinal lines above coxae. Dorsal tubercles 2μ-30μ apart, not far ahead of rear shield margin; dorsal setae 5μ long, projecting up and somewhat divergent anteriorly. Fore-leg 34μ long; tibia 9μ long, with 5 seta from 2/3; tarsus 6μ long; claw 5μ long, with slight knob; featherlaw irregular, 3 to 5-rayed, the 4-rayed empodia usually on the second legs. Hindleg 32μ long, tibia 8μ long, tarsus 6.5μ long, claw 4.5μ long. Coxae ornamented with curved lines; anterior coxae apparently separate; first setiferous coxal tubercles farther apart than second and slightly ahead of anterior coxal approximation; second tubercles a little ahead of line across third tubercles. Thanosomewith about 26 tergites and 49 sternites; broad dorsal furrow fading to rear, flanked by a ridge on each side extending back from dorsal tubercles; a lateral ridge above meeting of tergites and sternites extending back from lateral lobes of shield. Microtubercles on edge of sternites small and bead-like; on tergites the microtubercles present on lateral ridge but fading dorsally. Lateral seta 12μ long, on sternite 12μ behind shield; first ventral seta 18μ long, on sternite 21; second ventral 16μ long, on sternite 34. Telosome with 5 rings, the seta 22μ long. Accessory seta 2μ long. Female genitalia 22μ wide, 15μ long; cover flap basally with outlined transverse area with numerous short longitudinal dashes; apically with about 4 weak longitudinal ribs; seta 10μ long.

Type locality: Wahiawa, Oahu, Hawaii
Collected: March 7, 1966, by Dr. K. Sakimura
Host: *Ananas sativus* Schult. (Bromeliaceae) pineapple
Relation to host: the mites live in the grooves on the shell
Type material: a type slide with the above data seven paratype slides
Brionesa, new genus

Body curved-fusiform. Rostrum with short oral stylet and simple antapical setae. Shield with short, acute lobe over rostrum; shield centrally raised and projecting keel-like a short distance over first tergite. Dorsal tubercles set well ahead of rear shield margin (nearly at 1/2). Legs with all usual setae; featherclaw divided 1/2 to 3/4. Coxae broad; first setiferous coxal tubercle missing. Abdomen with shallow middorsal furrow running back about 2/3 on thanosome, flanked on each side by a longitudinal row of knobs, one on each tergite, forming a ridge. A slight lateral ridge on thanosome. All usual abdominal setae present. Rear of thanosome and telosome strongly curved down. Female genitalia close to coxae, the internal anterior apodeme of moderate length.

The middorsal thanosomal furrow, plus dorsal tubercles situated well ahead of rear shield margin, are characters in general similar to Phyllocoptruta. But the divided featherclaws, plus lack of first coxal setiferous tubercle, differentiate the genus. This genus belongs to the Eriophyidae in the restricted sense. The genus is named for Magdalena L. Briones, who has a keen interest in Eriophyids and has sent me many Philippine mites.

Genotype - *Brionesa pipturella*, new species

*Brionesa pipturella*, new species

Plate 3

Female 125–150 μm long, 35–45 μm thick. Rostrum 21 μm long, curved down; antapical seta 7 μm long. Shield 39 μm long, 37 μm wide; design obscure, in dorsal view the raised areas outlined showing a line on each side from rostrum base running diagonally back on outer side of dorsal tubercles to rear margin. Side of shield with ocellate spot above forecoxae; bands of granules above coxae and partial rings ahead of rear margin. Foreleg 24 μm long; tibia 5 μm long, with 7 μm seta from about 1/2; tarsus 5 μm long; claw 6 μm long, slender; featherclaw variably divided, 6 rays on a side. Hindleg 20 μm long, tibia 4 μm long, tarsus 4.5 μm long, claw 5.5 μm long. Coxae ornamented with numerous granulations and short dashes; anterior coxae with evident sternal line along broad connation, anteriorly the coxae fusing into suboral plate. Second setiferous coxal tubercles ahead of line across third tubercles. Thanosomal tergites lacking microtubercles, the middorsal furrow running back 19 of the 29 tergites; about 34 sternites lined with elongate microtubercles extending forward from bead-like settings on rear margins. Lateral seta 16–12 μm long, on about sternite 3; first ventral seta 38 μm long, on sternite 12; second ventral seta 9–11 μm long, on sternite 21. Telosome of about 6 rings, dorsally with suppressed microtubercles or these absent, ventrally the structures elongate. Accessory seta absent. Female genitalia close to coxae 20 μm wide, 14 μm long, the cover flap basally with a pair of diverging trapezoidal areas, and having 10–12 longitudinal ribs. Telosomal seta 10–12 μm long.

Type locality: Guinobatan, Albay Province, Philippines.

Collected: April 7, 1963, and sent me by Magdalena L. Briones.

Host: *Pipturus arborescens* (Link.) (Urticaceae) the damos.

Relation to host: the mites live among the undersurface hairs on the leaves, and about the galls formed by *Aceria pipturi* K.

Type material: a type slide with the above data six paratype slides as above dry leaves with mummified mites from which the slide specimens were taken.

For the reference to *Aceria pipturi* K., see this series, B-17, p. 15.

March 1, 1966
Plate 3 - Brionesa pipturella, new species
Dicrothrix, new genus

The distinctness of this genus is indicated by the large bifurcate antapical rostral setae, the long central stem of the featherclaws, dorsal enlargement or fusion of the anterior abdominal tergites, tergites and sternites of the same number and width, missing second abdominal seta. The generic name is dikro for divided, and thrix for the rostral hair.

Body fusiform in shape, broad cephalothorax and anterior part of abdomen. Rostrum small, with short form oral stylet and with large bifurcate antapical setae on each side. Shield broad with large lobe over rostrum; dorsal tubercles well ahead of rear margin with longitudinal axes. Legs and coxae with all usual segments and setae; featherclaw with long central stem. Abdominal tergites and sternites of same number and width; some anterior tergites just behind shield, broadened laterally, enlarged, or fused; second ventral seta missing. Telosome abruptly bent down. Female genitalia with anterior apodeme extended anteriorly as usual.

Genotype - Dicrothrix anacardii, new species

Plate 4

Female 140μ-150μ long, shield and anterior part of abdomen 52μ across, 35μ thick, slender part of abdomen 30μ wide and 22μ thick. Rostrum 20μ long, projecting down; antapical rostral seta 10μ-12μ long. Shield 50μ long, 50μ wide, surface with patterns of shallow grooves. Anterior lobe curved up on top and recurved below, with grooves around front. Shield with furrow on each side running from central anterior lobe base, diagonally out past dorsal tubercles, and angling back toward center of rear shield margin; central part of shield with longitudinal lines slightly arching out around central disc; upper sides of shield with pattern of radial lines, below lateral edge with curved longitudinal lines above coxae. Dorsal tubercles 26μ apart; dorsal setae 7μ long, projecting up. Foreleg 28μ long; tibia 7μ long, with 2μ seta from inner side at 1/5; tarsus 5μ long; claw 5μ long, knobbed; featherclaw 4-rayed. Hindleg 25μ long, tibia 4μ long, tarsus 4.5μ long, claw 4.5μ long. Coxae without ornamentation, the anterior coxae divergent and with thin sternal line between; first setiferous coxal tubercles much farther apart than second and opposite anterior coxal approximation; second coxal tubercles neither close together and ahead of a line across third tubercles. First 5 or 6 tergites forming a pair of large gibbosities extending from rear shield edge, partially separated from each other by longitudinal groove that extends 3/4 along abdomen middorsum. Sternites of same number and width as tergites but with elongate lines representing microtubercles which are absent dorsally. Lateral seta 12μ long on about sternite 2; first ventral seta missing; second ventral seta 12μ long, on sternite 14. Thanosome with about 24 tergites-sternites. Thanosome with about 5 rings, elongate microtubercles below; seta 15μ long. Female genitalia 20μ wide, 13μ long; overlap with no discernable ornamentation seta 10μ long. Accessory seta absent.

Type locality: San Felix, State of Bolivar, Venezuela
Collected: December 14, 1965, by Dr. L. C. Knorr (#8334)
Host: Anacardium occidentale L. (Anacardiaceae) cashew
Relation to host: the mites contribute to leaf rusting
Type material: a type slide with the above data two paratype slides

Type locality: San Felix, State of Bolivar, Venezuela
Collected: December 14, 1965, by Dr. L. C. Knorr (#8334)
Host: Anacardium occidentale L. (Anacardiaceae) cashew
Relation to host: the mites contribute to leaf rusting
Type material: a type slide with the above data two paratype slides
Plate 4 – Dicrothrix anacardii, new species
Dicrothrix secundus, new species

Plate 5

This type of mite occurs in company with Dicrothrix anacardii and has the same unusual features. The principal question is whether or not this is indeed a distinct species, or another form of a complex species. Secundus differs from anacardii by having a less prominent anterior shield lobe, rows of coarse granules around side of shield and other differences in shield pattern, only a moderately enlarged anterior tergal area on the abdomen behind which is a middorsal longitudinal ridge; a curved line across base of genital cover-flap.

Female 17μ long, 52μ wide, 40μ thick; fusiform in shape. Rostrum 30μ long, projecting down; antapical seta 16μ long. Shield 55μ long, 53μ wide; short anterior lobe over rostrum with furrows visible both laterally and from dorsal view; curved lines frame area above base of anterior lobe. Shield with involved patterns of sinuate lines, mostly longitudinal sides of shield with rows of coarse granules above coxae. Dorsal tubercles 23μ apart; dorsal setae 3.5μ long. Foreleg 3μ long; tibia 7μ long with 2μ seta from 1/5; tarsus 5μ long; claw 4.5μ long, knobbed; feathered claw 4-rayed, with long central stem. Hindleg 27μ long. tibia 7μ long, tarsus 4.5μ long. Claw 5μ long. Coxae unornamented, the anterior coxae with long slender sternal line between; first setiferous coxal tubercles farther apart than second and slightly behind anterior coxal approximation; second tubercles ahead of line across third coxal tubercules. Thanosome behind shield with first 3-4 tergites united above into slightly raised portion with radial lines; tergites and sternites equal, about 23, the sternites with fine elongate microtubercles, reaching ring edges as small points. Thanosome behind united area tapering, the tergites forming a middorsal ridge. Lateral seta 12μ long, on about second sternite; first ventral seta missing; second ventral seta 5μ long, on sternite 1. Telosome with 4 rings, abruptly bent down; seta 12μ long. Accessory seta absent. Female genitalia 14μ wide, 12μ long; coverflap unmarked except for curved cross line from lateral base; seta 3.5μ long.

Type locality: San Felix, State of Bolivar, Venezuela
Collected: December 14, 1965, by Dr. L. C. Knorr (#8334)

Host: Anacardium occidentale Lam. (Anacardiaceae) cashew

Relation to host: the mites contribute to the rusting of the leaves

Type material: a type slide with the above data two paratype slides

Type locality: San Felix, State of Bolivar, Venezuela
Collected: December 14, 1965, by Dr. L. C. Knorr (#8334)

Host: Anacardium occidentale Lam. (Anacardiaceae) cashew

Relation to host: the mites contribute to the rusting of the leaves

Type material: a type slide with the above data two paratype slides
Heterotergum yumensis, new species

Plate 6

The new species most closely resembles *olneyae* K. of the four species previously described in this genus. (*H. olneyae*, B-9, Feb. 20, 1963). *Yumensis* differs from *olneyae* by having a shield pattern of lines of granules, and by the 7-rayed featherclaw. *Olneyae* has an 8-rayed featherclaw. Both species live on Leguminaceous trees in the southwestern deserts.

**Female** 145μ-157μ long, 40μ-46μ thick; elongate-spindleform, curved; color in life apparently light yellowish-white. Shield 3μ long, 37μ wide; a short anterior lobe over rostrum, rounded-acuminate apically; shield design of lines of granules. Median shield line indicated on rear 2/3; admedians nearly complete, sinuate, arching out in center, the rear extension running inside the next area, recurving centrad and meeting just ahead of rear margin with slight line toward dorsal tubercles. Submedian shield lines irregular, two distinct, curving back subparallel to admedians. Sides of shield with granular areas and 2-4 partial rings below dorsal tubercle. Dorsal tubercles 2μ apart; dorsal setae 26μ-29μ long. Rostrum 26μ long, somewhat attenuate, projecting down; antapical seta 5μ-8μ long. Foreleg 30μ long; tibia 6μ long, with 7μ seta at 1/2; tarsus 7μ long; claw 9μ long; featherclaw 7-rayed. Hindleg 26μ long, tibia 4μ long, tarsus 7μ long, claw 9μ long. Coxae ornamented with curved lines and some granules; anterior coxae divergent, with slight sternal line between. First and second setiferous coxal tubercles close, the first slightly farther apart and slightly ahead of anterior coxal approximation; second tubercles well ahead of line across third setiferous coxal tubercles. Thanosome with about 18 broad tergites, preceded by 4-5 rings behind shield; tergites describing a shallow longitudinal trough midway on abdomen. Abdominal microtubercles heavy, those on sternites round and bead-like, the tergal ones elongate and fading somewhat to rear. Thanosome with about 53 sternites. Lateral seta 22μ long, on sternite 5; first ventral seta 5μ long, on sternite 19; second ventral 12μ long, on sternite 34. Telosome with 5 rings, the seta 27μ long. Accessory seta minute, 3μ long. Female genitalia 19μ wide, 12μ long; coverflap with about 12 longitudinal ribs; seta 27μ long.

Type locality: Yuma, Arizona

Collected: May 20, 1965, By D. M. Tuttle

Host: *Acacia greggi* Gray (Leguminosae) *acacia*

Relation to host: the mites are leaf and twig vagrants

Type material: a type slide with the above data five paratype slides; mites in liquid in the original bottle
Aculus spinitibius, new species

Plate 7

The definition of this species is based on the presence of a short spine on the front of the foretibia at about 1/4. The foretibial seta arises from the inner side of the tibia by, or slightly before this spine. The mite is elongate-wormlike, unlike typical Aculus species, but there is a short projection from the cephalothoracic shield.

Female 195 μ-205 μ long, 40μ-45μ thick, elongate-wormlike in shape; color in life probably light yellowish-white. Rostrum 16 μ long, projecting down; antapical rostral seta 3 μ long. Shield 30 μ long, 37 μ wide, somewhat acuminate to the short anterior lobe over rostrum. Shield design plain but irregular; median line complete, sinuate, broken, especially at 1/3 and 2/3; admedian lines sinuate, gradually diverging to rear, curving back from anterior lobe and slightly recurved at rear. First submedian shield line from sides of anterior lobe, strongly diverging from admedian, forked in front of, or lateral of dorsal tubercles. Converging lines below dorsal tubercles to the side form an acute point above 2-3 partial rings; some granular bands above coxae. Dorsal tubercles 22 μ apart; dorsal setae 11 μ long, diverging to rear. Foreleg 29 μ long; tibia 7 μ long, with anterior spine at 1/4, the seta 2.5 μ long on inner side at about 1/4; tarsus 5 μ long; claw 7 μ long; feather-claw 4-rayed. Hindleg 28 μ long, tibia 6 μ long, tarsus 6.5 μ long, claw 7.5 μ long. Coxae rather short and thick, ornamented with granules and lines; first setiferous tubercles farther apart than second tubercles and slightly ahead of anterior coxal approximation; second setiferous tubercles somewhat ahead of line across third tubercles. Abdomen completely microtuberculate, the microtubercles elongate dorsally, touching rear ring margins, more bead-like ventrally and behind of margins, the microtubercles rounded off. Thano-some with about 64 rings. Lateral seta 2 μ long, on ring 8 behind shield; first ventral seta 5 μ long, on ring 25; second ventral 1 μ long, on ring 43. Telosome of 4-5 rings, the microtubercles as beads on margins, with elongate streak in front of each; telosomal seta 16 μ long. Accessory seta 3 μ long. Female genitalia 22 μ wide, 17 μ long; cover flap with 6-7 longitudinal ribs which tend to converge; genitalic seta 13 μ long.

Type locality: Ludlow, Vermont

Collected: July 12, 1963, by Dr. G. R. Nielsen

Host: Acer saccharinum L. (Aceraceae) silver maple

Relation to host: the mites are found in the green or reddish undersurface erineum on the leaves. This erineum presumably formed by Aceria aceris (Hodgkiss).

Type material: seven slides bear these mites, and an envelope of dry leaves from which the slides were made. Upon preparing specimens for slides at least three different kinds of Eriophyids appear: Aceria aceris (H.), deutogynes of Vasates quadriceps Shimer, the new species. It is not possible to separate these mites entirely before placing them on a slide, and since there are several specimens on each slide the individual mite must be studied to determine its place. The type slide and six paratypes are designated under these conditions.
Plate 7 - Aculus spinitibius, new species
Aceria blastofagi, new species

Plate 8

The features of this species are the clear shield pattern, short tibiae without a seta on the foretibia, lack of a forefemoral seta, irregular broad ribs on the genital coverflap. From fagerinea K., the new species differs by the clearer shield pattern, the more slender rays on the featherclaw, and the coverflap ribs. Fagerinea lacks ribs on the coverflap and also lacks the forefemoral seta.

Female 150–240 long, 30–50 thick; wormlike in shape; color light yellowish-white to white. Rostrum 17 long, curved down; antapical seta unobservable. Shield 27 long, 27 wide; slightly acute anteriorly in dorsal view; shield design of clear lines; median line complete but irregular and broken; admedian lines sinuate, close to median on anterior 1/3, arching out and back in shield center, more weakly arched at rear, with line on many specimens at 2/3, directed back toward and fading to dorsal tubercle. Two submedian shield lines arising to side of admedian, running together at about 1/2, the single line ending ahead of dorsal tubercle; a pair of sinuate lines high on side of shield extending from above anterior coxae and ending in a subelliptical figure, open at rear, ahead of and below dorsal tubercles. Sides of shield with granular area above coxae, and with partial rings below dorsal tubercle. Dorsal tubercles 15 apart; dorsal setae 20 long, weakly diverging. Foreleg 18 long, lacking femoral setae; tibia 2 long, lacking seta; tarsus 4.5 long; claw 8.5 long; featherclaw with slender rays, 4-rayed. Hindleg 18 long, femora with setae, tibia 2 long, tarsus 4.5 long, claw 9 long. Coxae without definite ornamentation, a slight sternal line between forecoxae; first setiferous coxal tubercles farther apart than second and a little ahead of anterior coxal approximation; second coxal tubercles ahead of line across third setiferous coxal tubercles. Abdomen entirely microtuberculate, the microtubercles somewhat acuminate and ahead of rear ring margins. Thanosome with about 60–65 rings. Telosome with 7 rings; microtubercles on ring margins; seta 14 long. Accessory seta minute. Female genitalia 16 long; 4–6 irregular ribs, sometimes longitudinal, rather broad; genitalia basally with coarse granules. Genital seta 12 long.

Type locality: Saitama, Japan, the specimens intercepted on their host at San Francisco, Cal. April 7, 1966

Collected: April 7 by R. W. L. Potts and Frink

Host: Fagus sp. (Fagaceae) dwarf beech

Relation to host: the mites form galls in the buds

Type material: a type slide as above bears San Francisco number 039729 five paratype slides with this data infested buds with mites in liquid.


This mite was described as having featherclaws with thick rays. This is a characteristic of deutogynes. Additional preparations of mites from Fagus erinsea, taken near Altoona, Pa., disclose both thin and thick rayed feather-clawed specimens. The conjecture is therefore offered that the thick rayed mites are actually deutogynes of fagerinea. None of these mites, however, have the strong lines on the shield characteristic of blastofagi.
Plate 8 - Aceria blastofagi, new species
Eriophyes helicantyx, new species

Plate 9

This species rolls the edges of the subdivisions of the leaves of bracken fronds. It has a 3-rayed featherclaw in combination with no anterior projection over the rostrum and dorsal tubercules situated ahead of the rear shield margin. No other species has come to my attention with this association of characters. Molliard, in Rev. Gen. Bot. 10:87-101, 1898, names a species that he found on the north French coast as Phytoptus pteridis. He states it rolls the edges of bracken fronds. He gives little information as to the actual structures possessed by the mite he saw, but states it was 150μ long, and 40μ thick. The species here named as new goes up to 320μ long, and 55μ thick. It Molliard’s species should be examined again and further described. A second species is associated with helicantyx which has 4-rayed featherclaws but it was present in too small numbers to allow a description with the material on hand.

Female 250μ-320μ long, 55μ thick; body wormlike; color in life probably dull yellowish-white. Rostrum 2μ long, projecting forward and a little bent down; antapical seta 5μ long. Shield 35μ long, 50μ wide; subsemicircular in anterior outline, slightly acuminate. Shield design of broken lines made up of short dashes; median line distinguishable on rear 2/3; admedians complete from chelicera base, sinuate, diverging slightly and recurved at rear. First and second submedian lines in part united, the inner running in past the dorsal tubercles and the second ending in front of the tubercle. Two or three longitudinal lines on side of shield and a band of granules above coxae. Dorsal tubercles 22μ apart not far ahead of rear margin; dorsal setae 25μ long and directed up and at times centrad. Foreleg 30μ long; tibia 7μ long with 5μ setae at 1/3; tarsus 7μ long; claw 7μ long, hardly bent; featherclaw 3-rayed Hindleg 28μ long, tibia 5μ long, tarsus 6.5μ long, claw 8μ long. Coxae with a few apical granules, the anterior coxae somewhat separated centrally; first setiferous coxal tubercles slightly farther apart than second and well ahead of anterior coxal approximation; second tubercles ahead of line across third. Thanosome with about 87 rings; microtubercles completely occupying these rings except dorsally toward rear where at times fainter; microtubercles elongate, dorsally and laterally reaching ring margin at which point they have a slight knob; ventrally the microtubercles tending to be ahead of ring margins and pointed. Lateral seta 30μ long, on ring 10; first ventral seta 55μ long, on ring 24; second ventral 50μ long, on ring 42. Telosome with 6 rings, the microtubercles finer and more elongate, suppressed above anteriorly; telosomal seta 20μ long. Accessory seta minute. Female genitalia 19μ long, 22μ wide; cover flap with 11-12 longitudinal ribs; seta 9μ long.

Type locality: Millbury, Mass.

Collected: July 15, 1965, by D. P. Whittier

Host: Pteridium aquilinum lanuginosum (Bong.) (Pteridaceae) bracken

Relation to host: the mites roll the edges of the frond subdivisions

Type material: a type slide with the above data 6 paratype slides dry fronds with mummified mites from which the slides were made
Plate 9 - Eriophyes helicantyx, new species
Setoptus strobacus, new species

Plate 10

The new species, which attacks pine in the eastern United States, differs from the genotype, *jonesi* (Bul. Cal. Dept. Agr. 27(2): 189, 1938), by having a longer anterior shield seta, a longer tibia with more prominent spines on the rear edge, and by having more prominent and pointed dorsal microtubercles. On *jonesi* the anterior shield seta is 13μ long, the tibia 12μ long.

Female 200μ-225μ long, 5μ thick, elongate, wormlike in shape; color in life light yellowish-white, at times slightly tinged red anteriorly. Rostrum 55μ long, curved down; antapical seta 12μ long. Shield 55μ long, 40μ wide; transverse anteriorly and broadest, with a slight lobe in front of anterior seta; at rear the shield less broad but truncate. Anterior seta 21μ-25μ long; dorsal tubercles 27μ apart; dorsal setae 72μ long. Foreleg 49μ long; tibia 12μ long, with 9μ seta at 2/3; lateral spur 15μ long, a few spines on rear edge behind apex; tarsus 8.5μ long; claw 14μ long; featherclaw 10-rayed. Hindleg 46μ long; tibia 10μ long, the tibia with ventral spine at apex; tarsus 8μ long, claw 15μ long. Coxae ornamented with short dashes, the anterior coxae with spines in central area and spines on suboral plate; slight sternal line between anterior coxae. First setiferous coxal tubercles a little farther apart than second and behind anterior coxal approximation. Second coxal tubercles slightly ahead of line across third tubercles. Thanosome with about 32 rings, completely microtuberculate; microtubercules dorsally somewhat produced and usually acuminate; laterally these structures more beadlike, but becoming pointed ventrally and caudally. Lateral seta 15μ long, on ring 4; first ventral seta 40μ long, on ring 24; second ventral 18μ-20μ long, on ring 42. Telosome of 5 rings, the seta 27μ long. Accessory seta 10μ long. Female genitalia 28μ wide, 24μ long; coverflap unmarked; seta 1μ-20μ long.

Type locality: Flushing, Michigan

Collected: July 30, 1965, by Dr. W. E. Wallner

Host: *Pinus strobus* L. (Pinaceae) eastern white pine

Relation to host: the mites live in the needle sheaths and stunt or deform the young needles

Type material: a type slide with the above data; seven paratype slides

Designations on plates -

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

Thanosome - that part of the abdomen ahead of the third ventral seta

Telosome - the abdomen from the third ventral seta to anal lobes

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Plate 10 - Setoptus strobacous, new species