STUDIES ON ERIOPHYID MITES OF POLAND. II.

BY

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Studies on Eriophyid Mites of Poland. I was published in the *Proceedings of the Institute of Plant Protection*, Poznan, Poland. The paper summes up mostly the results of comparative studies on hibernation and biology of about 20 species. 4 of them are described as new. 65 species living in the country are listed in total.

The present installment presents further descriptions and figures of two new genera and six new species. In the following descriptions the measurements of the holotype are followed the range, mean and standard error of the mean for the remainder of the material examined. These data are given in parenthesis.

Type material has been deposited at the Zoological Institute Museum, Warsaw, Poland, Wilcza 64.

The author wishes to express his appreciation to Mr. H. H. KEIFER, California Department of Agriculture, Sacramento, and to Mr. C. C. HALL, Howard College, Birmingham, Alabama, for confirmation of the identifications.

Aculus sarothamni n. sp. (Fig. 1).

Female 165 μ (161-197, x = 179 ± 0,9) long, 67 μ wide, 64 μ thick, spindleform, light brown in color. Rostrum 17 μ long, chelicerae 14 μ long, evenly curved down. Shield 39 μ long, 58 μ wide, smooth. Anterior lobe 10 μ long, acuminate, with two small spines on the anterior margin. Dorsal tubercles 18 μ apart, on the rear shield margin, pointing dorsal setae backward and laterally. Dorsal setae 21 μ long. Foreleg 32 μ long ; tibia 9 μ long, with seta 7 μ long ; tarsus 6 μ long ; claw 8 μ long, without knob ; featherclaw 7-rayed. Hindleg 30 μ long ; claw 8 μ long. First coxal seta 10 μ long, second 26 μ long, third 43 μ long. Abdomen with 25 tergites and about 57 sternites. Tergites are smooth, sternites are microtuberculate ; microtubercles anteriorly rounded, posteriorly elongated. Lateral seta 30 μ long, on sternite 11 ; first ventral 47 μ long, on sternite 23 ; second ventral 16 μ long, on sternite 38 ; third ventral 25 μ long, on sternite 4 from the rear. Accessory seta 4 μ

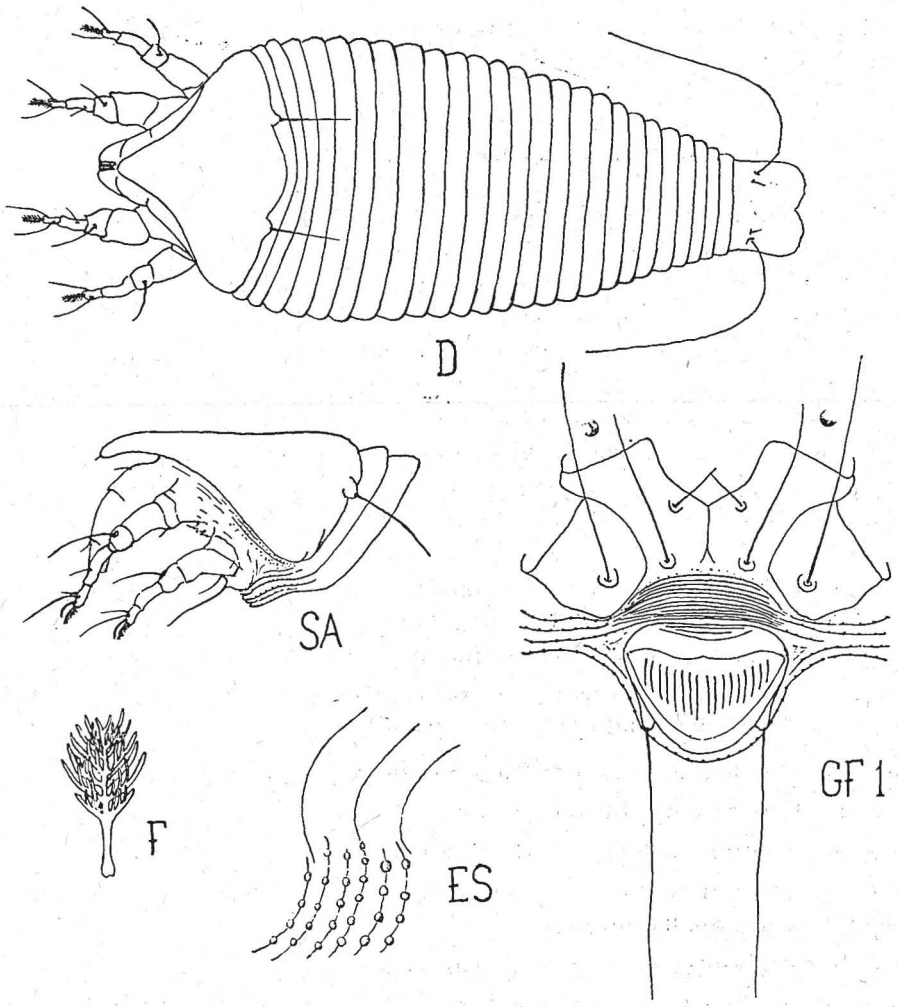


FIG. 1. — *Aculus sarothamni* n. sp.
Magnifications : D — × 800 ; ES — × 1.800 ; F — × 4.000 ; GF 1 — × 1.500 ; SA — × 1.250.

long. Female genitalia 21 μ wide, 18 μ long, situated between 3-rd and 4-th sternite. Genital converflap with 14-18 furrows ; genital setae 43 μ long.

Type locality : Hel, Gdansk, Northern Poland.

Collected : August 26, 1960, by the author.

Host plant : *Sarothamnus scoparius* (L.) (Papilionaceae).

Relation to host : the mites are vagrants on the leaves and stems.

Material : holotype, 5 female paratypes and the dry leaves with mummified mites.

Discussion : this is second eriophyid mite known from *Sarothamnus* (Nalepa, 1892). The mite differs from the genotype of *Aculus* (ligustri (K.) in having 7-rayed featherclaw, smooth shield and tergites.

Epitrimerus umbonis n. sp. (Fig. 2).

Female 248 μ long (240-265, $\bar{x} = 245,2 \pm 3,71$), 75 μ wide, 71 μ thick, spindleform, yellowish in color. Rostrum 35 μ long. Shield 62 μ long, with stout projection over rostrum. Shield pattern is composed of median line and a pair of submedian lines. Lateral angles of shield somewhat bulging with lines and granules. Dorsal tubercles 16 μ apart pointing 4 μ long dorsal setae centrally. Foreleg 36 μ long ; tibia 11 μ long, with 2 μ long seta ; tarsus 6 μ long, claw 5,5 μ long, with big knob on the end, featherclaw 5 μ long, 4-rayed. Hindleg 34 μ long ; tibia 9 μ long, tarsus 7 μ long, claw 6 μ long. Coxae with short, longitudinal or curved lines. First coxal setae 10 μ long, second 17 μ long, third 51 μ long. Abdomen with 54 tergites and 89 sternites. Tergites are smooth and form low, narrow dorsal longitudinal ridge and two subdorsal ridges. Sternites are microtuberculate ; microtubercles are pointed, longer in posterior part of the body. Lateral seta 16 μ long, on sternite 16 ; first ventral 20 μ long, on sternite 36 ; second ventral 11 μ long, on sternite 62 ; third ventral 30 μ long, on sternite 6 from the rear. Accessory seta 5 μ long. Female genitalia 24 μ wide, 21 μ long, situated between 13-th and 14-th sternite. Coverflap with numerous, short, longitudinal stripes. Genital seta 13 μ long.

Type locality : Fasciszowa, Brzesko, Southern Poland.

Collected : July 7, 1957, by the author.

Host plant : *Galium mollugo* L. (Rubiaceae).

Relation to host : the mites are very common, free living on stems and leaves of the plant, causing small white spots.

Type material : holotype and 8 female paratypes.

Discussion : this is the second eriophyid species found on *Galium mollugo* L. The first was described by Nalepa, 1889, as *Cecidophyes galii*.

Tetra forsythiae n. sp. (Fig. 3).

Female 194 μ long (182-199, $\bar{x} = 190 \pm 5,29$), 76 μ wide, 58 μ thick, spindleform, light brown in color. Rostrum 25 μ long, chelicerae 18 μ long. Shield 54 μ long, 71 μ wide with a pair of admedian lines and a transversal line between dorsal tubercles. Anterior lobe 20 μ wide at the base, 12 μ long, stout, without spines on the anterior margin. Dorsal tubercles 29 μ apart, near rear shield margin, pointing dorsal setae caudad and laterally. Dorsal setae 11 μ long. Foreleg 32 μ long ; tibia 8 μ long, with seta 6 μ long ; tarsus 6 μ long, claw 5 μ long, knobbed ; featherclaw 5 μ long, 4 (or 5) rayed. Hindleg 32 μ long ; claw 6 μ long. First coxal setae

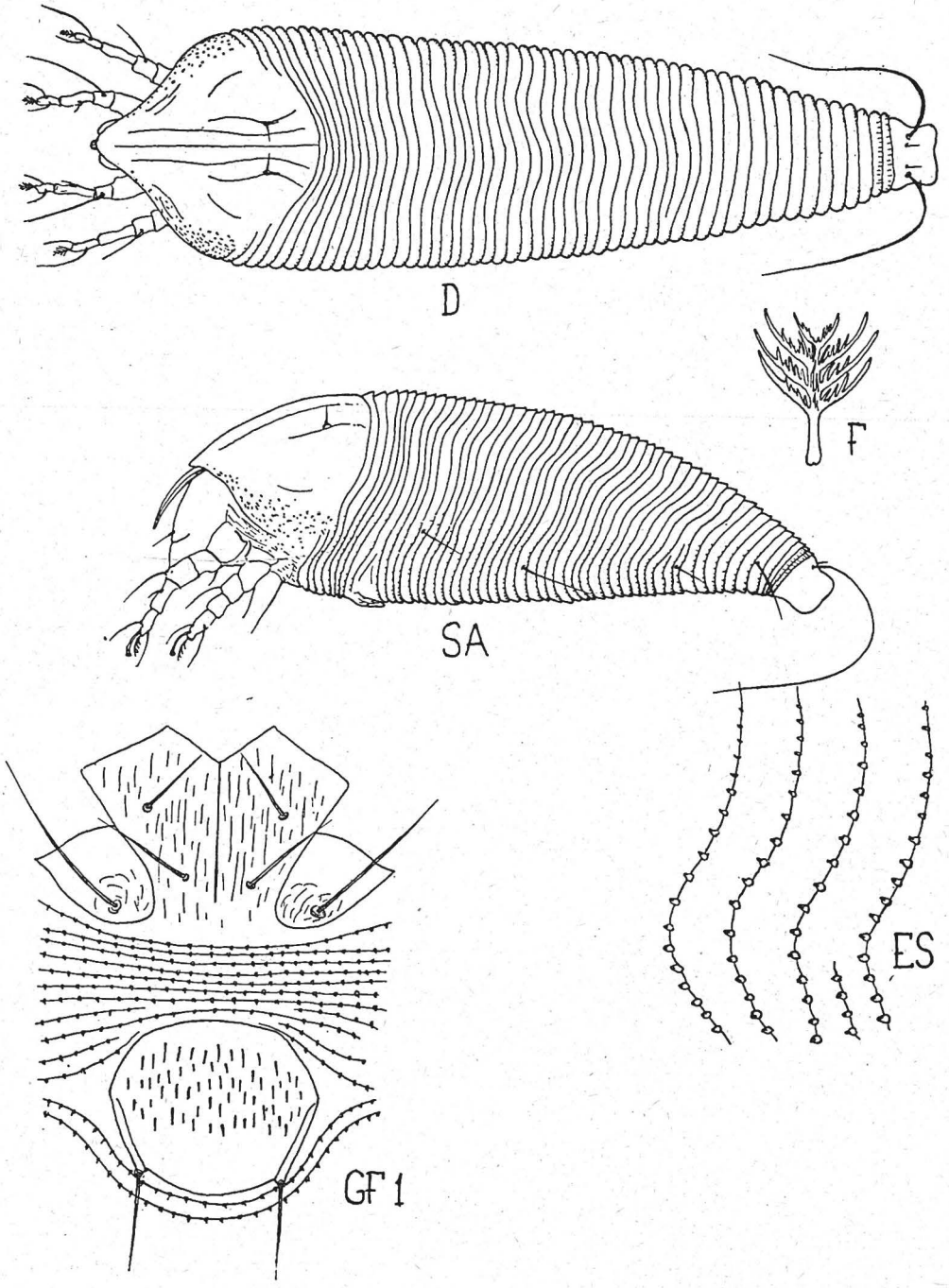


FIG. 2. — *Epitrimerus umbonis* n. sp.
Magnifications : D — × 700 ; ES — × 3.500 ; F — × 5.000 ; GF 1 — × 1.800 ; SA — × 650.

7 μ long, second 20 μ long, third 22 μ long. Abdomen with 26-30 tergites and about 65 sternites. Tergites are smooth, they form broad dorsal furrow gradually tapering to the end. Sternites are microtuberculate ; microtubercles are elongated, slightly pointed. Lateral setae 22 μ long, on sternite 15 ; first ventral 21 μ long,

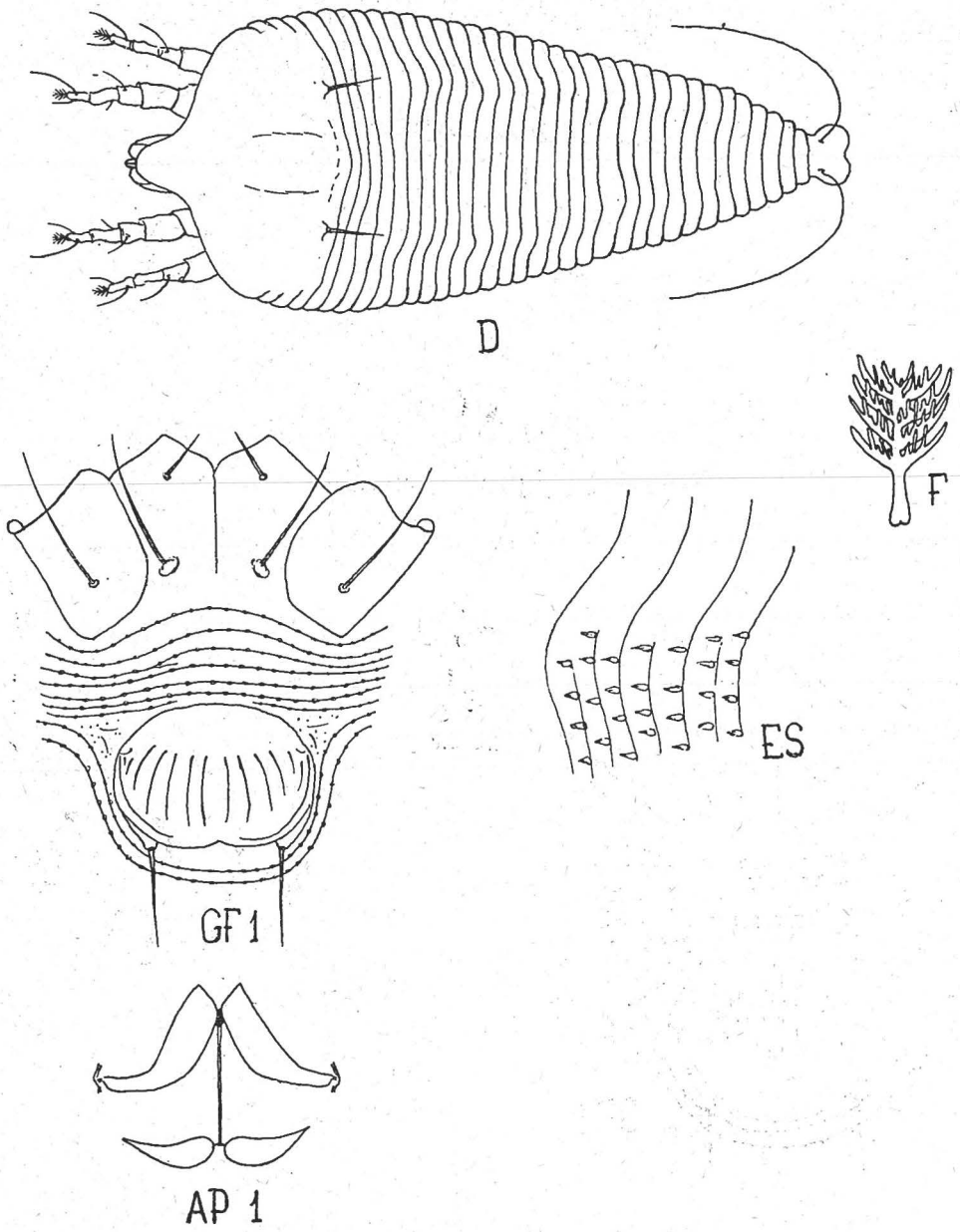


FIG. 3. — *Tetra forsythiae* n. sp.
Magnifications : AP 1 — × 2.000 ; D — × 800 ; ES — × 2.400 ; F — × 6.000 ; GF 1 — × 1.700.

on sternite 28 ; second ventral 16 μ long, on sternite 44 ; third ventral 25 μ long, on sternite 4 from the rear. Accessory seta 4 μ long. Female genitalia 24 μ wide, 18 μ long, situated between 7-th and 8-th sternite. Genital converflap with 12 furrows ; genital setae 13 μ long.

Type locality : Slupia Wielka, Kornik, Western Poland.

Collected : July 19, 1957, by the author.

Host plant : *Forsythia suspensa* Vahl. (Oleaceae).

Relation to host : the mites are vagrants on under and upper surface of leaves.

Discussion : this is the first species known as living on *Forsythia*. The genotype of *Tetra* is *concava* (Keifer, 1939), a mite living on *Arbutus unido* L. in California. From the genotype the new species differs in many features. It differs as well very distinctly from all known species of Tetra.

Tetraspinus n. gen.

The mites belonging to the genus have dorso-ventrally flattened body with broad dorsal abdominal furrow. The shield is semicircular in shape with big projection over rostrum, this projection with a pair of distinct spines.

Generic description. Body spindleform, broadest at the rear end of shield. Shield semicircular with straight rear margin. Projection prominent, stout, with a pair of spines. Dorsal tubercles situated very close to the rear shield margin, well spaced, their longitudinal axes forming an acute angle with the margin ; dorsal setae directed caudad and laterally. The genus differs from Tetra in having big shield projection with a pair of spines.

Genotype : *Tetraspinus lentus* n. sp.

Tetraspinus lentus n. sp. (Fig. 4).

Female 176 μ long /155-188, $\bar{x} = 160{,}5 \pm 2{,}80$/, 69 μ wide, 47 μ thick, spindleform, light yellow in color. Rostrum 24 μ long, projecting diagonally down. Shield 51 μ long, 65 μ wide, with anterior projection 13 μ long, stout, with a pair of spines directed anterio-laterally. Dorsal tubercles 28 μ apart, situated near the rear margin of shield with dorsal setae 8 μ long, diverging to rear. Shield pattern composed only of admedian lines, often tied together by transverse line. Foreleg 30 μ long ; tibia 7 μ long, with 3 μ long seta ; tarsus 5 μ long ; claw 5 μ long, knobbed, featherclaw 4-rayed. Hindlegs 26 μ long ; tibia 6 μ long ; tarsus 5 μ long. Tubercles of coxae II bigger than of coxae I. Abdomen with about 27 tergites and about 62 sternites. Dorsal and ventral sides of the body flat. Tergites smooth, microtubercles on sternites elongated. Lateral setae 12 μ long, on sternite 12 ; first ventral 20 μ long, on sternite 25 ; second ventral 14 μ long, on sternite 41 ; third ventral 23 μ long, on sternite 5 from rear. Accessory seta 3 μ long. Female geni-

talia 24 μ wide, 14 μ long, situated between 6-th and 7-th sternite. Coverflap with 10-12 longitudinal furrows ; genital setae 11 μ long.

Male 158 μ long, 60 μ wide ; male genitalia 12 μ wide.

Type locality : Skierniewice, Central Poland.

Collected : July 19, 1960, by the author.

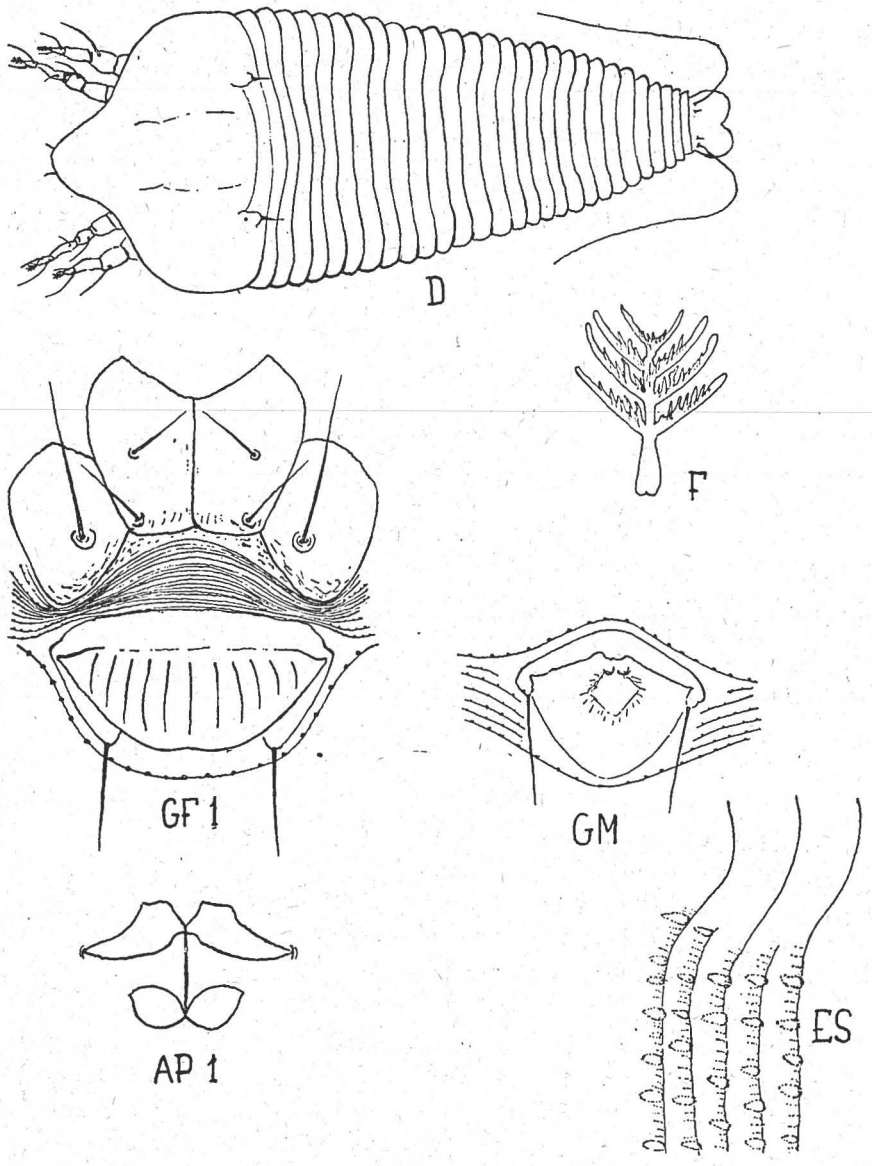


FIG. 4. — *Tetraspinus lentus* n. sp.
Magnifications : AP 1 — × 1.800 ; D — × 800 ; ES — × 2.400 ; F — × 6.000 ; GF 1 — × 2.300 ; GM — × 3.000.

Host plant : *Syringa vulgaris* L. (Oleaceae).

Relation to host : light rusting caused by the mites has been observed.

Type material : holotype, allotype, 10 female and 3 male paratypes.

Discussion : this is the fifth species of eriophyid mites known from lilac, and first of Tetra-group (Boczek, 1961 ; Liro, 1940 ; Nalepa, 1890 & 1925).

Acaricalus halli n. sp. (Fig. 5).

Female 178 μ long (169-194, $\bar{x} = 181{,}4 \pm 2{,}70$), 72 μ wide, 64 μ thick, spindleform, yellowish in color. Chelicerae 17 μ long, evenly curved down. Shield 54 μ long, 58 μ wide, with net-like pattern. Anterior lobe 9,5 μ long, 17 μ wide at the base, stout, without spines on the anterior margin. Dorsal tubercles 16,5 μ apart, 13 μ from the rear shield margin, pointing dorsal setae centrally. Dorsal setae 6,3 μ

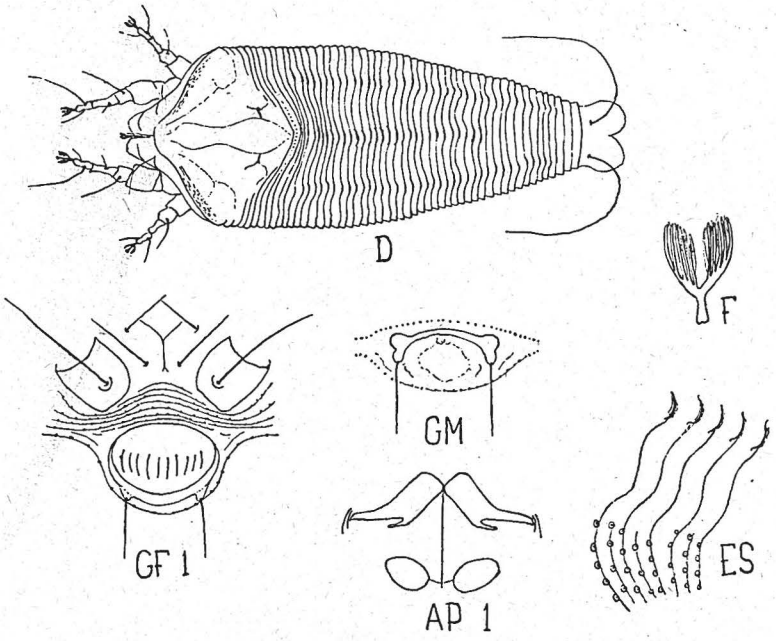


Fig. 5. — *Acaricalus halli* n. sp.
Magnifications : AP 1 — × 2.100 ; D — × 700 ; ES — × 2.700 ; F — × 7.000 ; GF 1 — × 1.300 ; GM — × 1.750.

long. Foreleg 32 μ long ; tibia 7 μ long, with seta 5 μ long ; tarsus 6,5 μ long ; claw 5,5 μ long, knobbed ; featherclaw 4 μ long, divided. Hindleg 27,5 μ long. First coxal seta 8 μ long, second 15 μ long, third 26 μ long. Abdomen with 45 tergites and about 64 sternites. Tergites are smooth forming narrow central ridge ending on 31-st sternite and two subdorsal ridges tapering simultaneously with

dorsal through. Sternites are microtuberculate ; microtubercles rounded. Lateral seta 32 μ long, on sternite 11 ; first ventral 55 μ long, on sternite 23 ; second ventral 15 μ long, on sternite 42 ; third ventral 21 μ long, on sternite 5 from the rear. Accessory seta missing. Female genitalia 23 μ wide, 18 μ long, situated between 6-th and 7-th sternite. Genital coverflap with 10 furrows ; genital setae 19 μ long.

Male 159 μ long, 67 μ wide ; genitalia 16 μ wide.

Type locality : Skierniewice, Park, Central Poland.

Collected : July 23, 1960, by the author.

Host plant : *Quercus robur* L. (Fagaceae).

Relation to host : the mites live as vagrants on the undersurface of the leaves. Found commonly with *Bucculacus kaweckii* n. sp.

Type material : as well as the dry leaves, there is holotype, allotype and 7 paratypes (3 males and 4 females).

Discussion : this mite is widespread on red oaks in Poland. This is sixth species of eriophyid mite found on the host. (KEIFER, 1959 ; NALEPA, 1893, 1919, 1920). The species is named for C. C. HALL, Howard College, Alabama, U.S.A.

Bucculacus n. gen.

The genotype of the new genus is very similar to species referred to *Apodiptacus* (Keifer, 1960), but it differs in the possession of very long shield projection. This projection is as long as shield or longer and it covers straight part and proximal part of bent portion of chelicerae. It looks like gutter. The name means " *buccula* " (morion) with " cus " as ending of *Apodiptacus*.

Generic description. Body spindleform. The large chelicerae abruptly bent down. Shield with long projection over rostrum, bent down, covering proximal part of bent portion of chelicerae. Dorsal tubercles set ahead of the rear margin and directing the setae ahead. Featherclaw divided. Abdomen with at least slight dorsal central ridge and subdorsal ridges. Sternites more numerous than the tergites.

Genotype : *Bucculacus kaweckii* n. sp.

Bucculacus haweckii n. sp. (Fig. 6).

Female 215 μ long (198-220, $\bar{x} = 209{,}0 \pm 3{,}2$), 76 μ wide, 72 μ thick. Body spindleform, yellow. Rostrum 27 μ long, with 11 μ long seta. Chelicerae composed of 10 μ long straight part and 34 μ long bent portion. Shield 26 μ long, with narrow, 28 μ long projection, stout at the end. Shield with distinct net-like design. Dorsal tubercles 25 μ apart, pointing setae ahead. Foreleg 39 μ long ; tibia 11 μ long, with 9 μ long seta ; tarsus 8 μ long ; claw 9 μ long, knobbed ; featherclaw divided. Hindleg 35 μ long ; tibia 10 μ long ; tarsus 8 μ long. Abdomen with 47

tergites and about 72 sternites. Tergites are smooth, sternites microtuberculate. Microtubercles are rounded in the anterior part of the body and elongated or slightty pointed in the posterior region. Lateral seta 31 μ long, on sternite 15 ; first ventral 56 μ long, on sternite 29 ; second ventral 30 μ long, on sternite 44 ; third ventral 39 μ

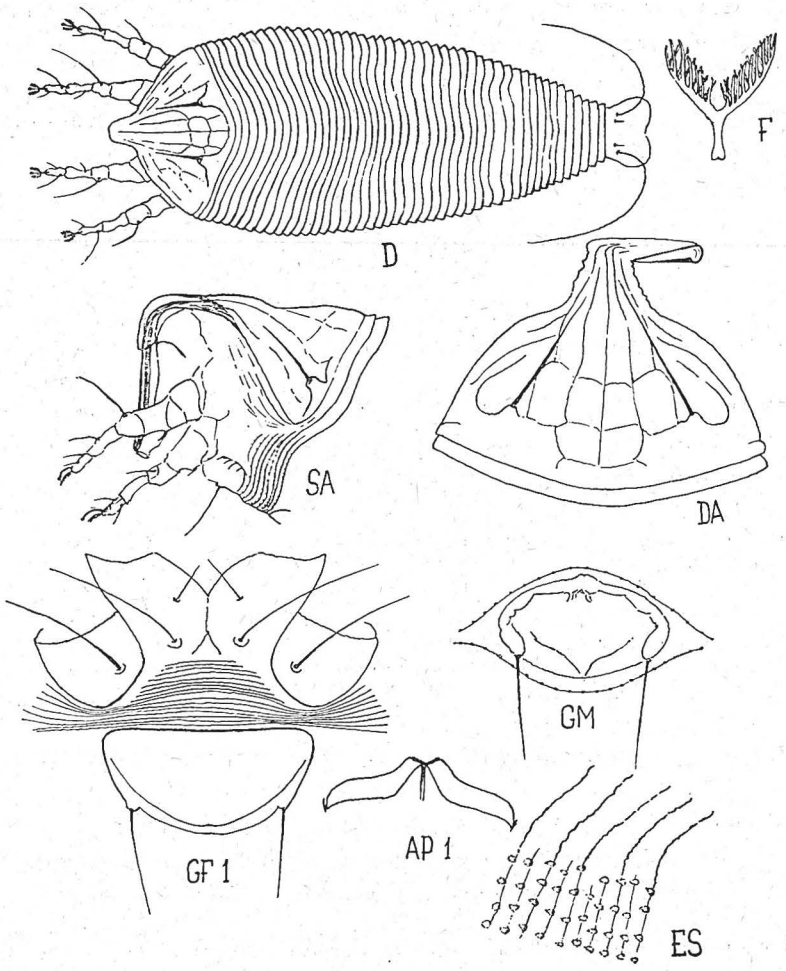


FIG. 6. — *Bucculacus kaweckii* n. sp.
Magnifications : AP 1 — × 1.600 ; D — × 700 ; DA — × 1.400 ; ES — × 2.800 ; F — × 4.000 ; GF 1 — × 1.700 ; GM — × 1.900 ; SA — × 1.300.

long, on sternite 6 from rear. Accessory seta 5 μ long. Female genitalia 33 μ wide, 16 μ long, situated between 8-th and 9-th sternite. Coverflap smooth ; genital setae 42 μ long.

Male 162 μ long, 64 μ wide. Shield with very distinct design, with 29 μ long projection, having lobosed sides. Genitalia 24 μ wide.

Type locality : Skierniewice, Park, Central Poland.

Collected : July 23, 1960, by the author.

Host plant : *Quercus robur* L. (Fagaceae).

Relation to host : the mites are common vagrants on undersurface of leaves.

Type material : holotype, allotype, 10 paratypes (3 males and 7 females) as well as dry leaves with mummified mites.

Discussion : this is seventh species of eriophyid mites found on red oak. The name is in honor of my tutor, Dr. Z. KAWECKI, Professor at Central College of Agriculture, Warsaw, Poland.

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Designations on plates : AP 1 — internal female genitalia ; D — dorsum of mite ; DA — dorsal view of anterior section ; ES — lateral surface ; F — featherclaw ; GF 1 — female genitalia and coxae ; GM — male genitalia ; SA — left side of anterior section.