

THREE NEW SPECIES OF *VEIGAIA* (ACARINA) FROM WEST VIRGINIA

BY

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During a five year period, veigaiid mites were collected in various types of leaf litter from northern West Virginia. Ten species including *Veigaia partitus* (Banks), *V. bakeri* Farrier, *V. pusilla* Berlese, *V. nemorensis* Koch, *V. planicola* Berlese, *V. cerva* Kramer, *V. mitis* Berlese, *V. gigantea* n. sp., *V. hurlbutti* n. sp., *V. virginiana* n. sp. were collected during studies of seasonal distribution. The three new species are described in the present paper.

METHODS.

The setae are named according to the system of HIRSCHMANN (1957, 1962). All measurements are in microns. Distances between setae are measured from the center of one seta to the center of the adjacent seta.

Holotypes will be deposited in the collection at the United States National Museum.

DESCRIPTION OF SPECIES.

Veigaia gigantea n. sp.

Holotype female (fig. 1). Both dorsal scutae together measure 1 000 μ from between anterior portion of peritreme to indentation in posterior dorsal scuta. Anterior dorsal shield (ADS) 625 μ from between peritremes to medial tip of lateral incision, and posterior dorsal shield (PDS) 375 μ from medial tip of lateral incision to indentation in PDS. ADS at level of s7 665 μ in width, with twenty-one pairs of simple setae. Seta il 115, sl 25, i2 30, i4 100, z2 125, r5 170, z3 30, s7 35 μ . Transverse sutures do not completely divide anterior and posterior shields. Incisions curve slightly posteriad and widen laterad. PDS 375 μ wide, with eighteen pairs of simple setae. There is a noticeable indentation in the PDS.

Sternal shield 300 μ , long anterior edge 20 μ from tritosternum. Distance from v2 to v2 145 μ . Posterior part of ventral shield 165 μ long. Seta V3 85, V5 35, V6 40, V7 50 μ . Punctiform organ with seven pits. Anal shield with five simple setae, two adanal and three perianal.

Medial projection of the tectum y-shaped.

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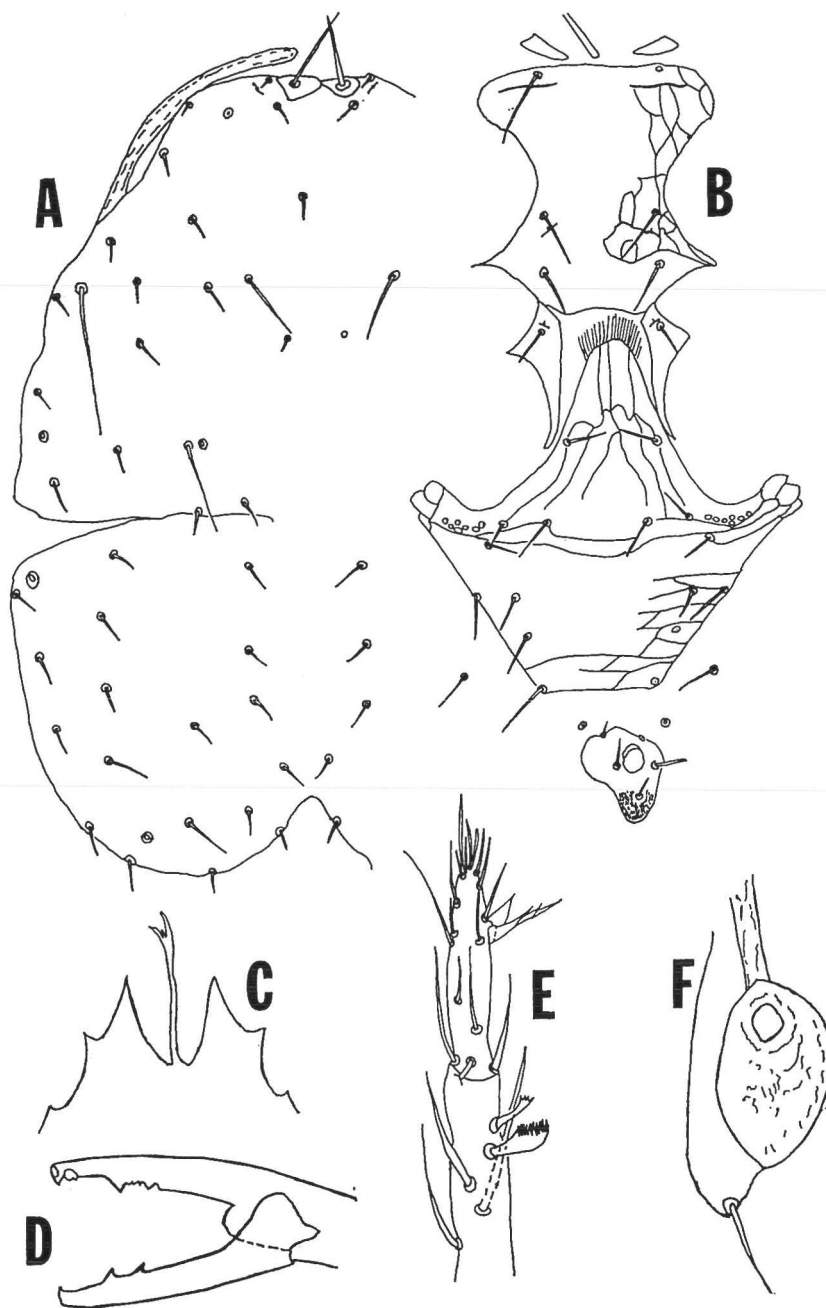


FIG. 1. — *V. gigantea*, holotype ♀.
A) dorsal; B) ventral; C) tectum; D) chelicera; E) palp genu and femur; F) peritreme.

Chelicerae 900 μ in length from tip of fixed chela to base of chelicera. The fixed chela 200 μ from tip to posteriormost portion and bears five teeth beginning 30 μ posteriad of notch. The movable chela 195 μ from the tip to its posteriormost projection, and bears two teeth. Anteriormost tooth 30 μ from tip of movable chela to base of tooth, posteriormost tooth 55 μ from tip of chela.

Anteromedial seta of palp genu with four prongs, posteromedial seta with ten prongs perpendicular to axis. The medial seta on palp femur has twelve small prongs located approximately perpendicular to axis.

The type female was collected July 27, 1970 from oak litter at the Terra Alta Biological Station, Preston Co., West Virginia. *V. gigantea* was also found at the West Virginia University Arboretum.

Allotype male (fig. 2). Idiosoma 1050 μ . Seta i1 115, i4 85, r5 200, z2 115, J1 30 μ .

Sternal shield 400 μ long, anterior edge 85 μ from tritosternum. Distance from v2 to v2 125 μ . Ventrianal shield 425 μ long, V1 35 μ long. V1 to V1 145 μ . Punctiform organ with seven pits. Movable chela 310 μ from most proximal end to end of spermatophorentrager, fixed chela 150 μ .

The tectum is deeply notched in the center.

Leg II as in fig. 2F.

Deutonymph (fig. 2). Both dorsal scuta together measure 802 μ . ADS 688 μ , with nineteen pairs of simple setae, and PDS 114 μ . Seta il 89, s1 15, i2 25, i3 12, i4 68, z3 20, r5 132, z2 107, s7 25 μ . PDS has a noticeably scalloped posterior margin.

Sternal shield 331 μ , tritosternum 38 μ from anterior border of sternal shield. In the illustrated specimen, an apparent anomaly exists in the setal arrangement of the left punctiform organ since other deutonymphs examined had only one seta in this position.

Distinguishing characteristics. *Veigaia gigantea* will not follow the key by FARRIER (1957) since this key does not include veigaiids with four pronged anteromedial seta of palp genu. The mite is larger than any previously described veigaiid, and has an idiosomal length of 1000 to 1080 μ . There is a noticeable indentation in the PDS of the female, and the PDS of the deutonymph has a scalloped posterior margin.

Veigaia hurlbutti n. sp.

Holotype female (fig. 3). ADS to midline from anterior margin to level of lateral incision 318 μ long. Distance from s7 to s7 405 μ . Anterior shield with twenty-one pairs of simple setae. Seta i1 56, i3 56, i4 27, z2 68, r5 98 μ . PDS 249 μ , with twenty pairs of simple setae. Dorsal shield slightly ornamented over entire surface. Setae on posterolateral margin of idiosoma simple, approximately one-half the length of setae on PDS.

Center region of sternal shield with practically no ornamentation. Length along midline 126 μ . All setae on sternal shield about 46 μ long. Distance from v2 to v2 88 μ . Anterior margin between v1 and v1 slightly concave.

Genital shield 105 μ long, genital setae 24 μ long. Punctiform organ with ten pits. Posterior portion of ventral shield 134 μ along midline, with six pairs of setae, v1 45, v2 44, v3 40 μ . Anal shield with five simple setae.

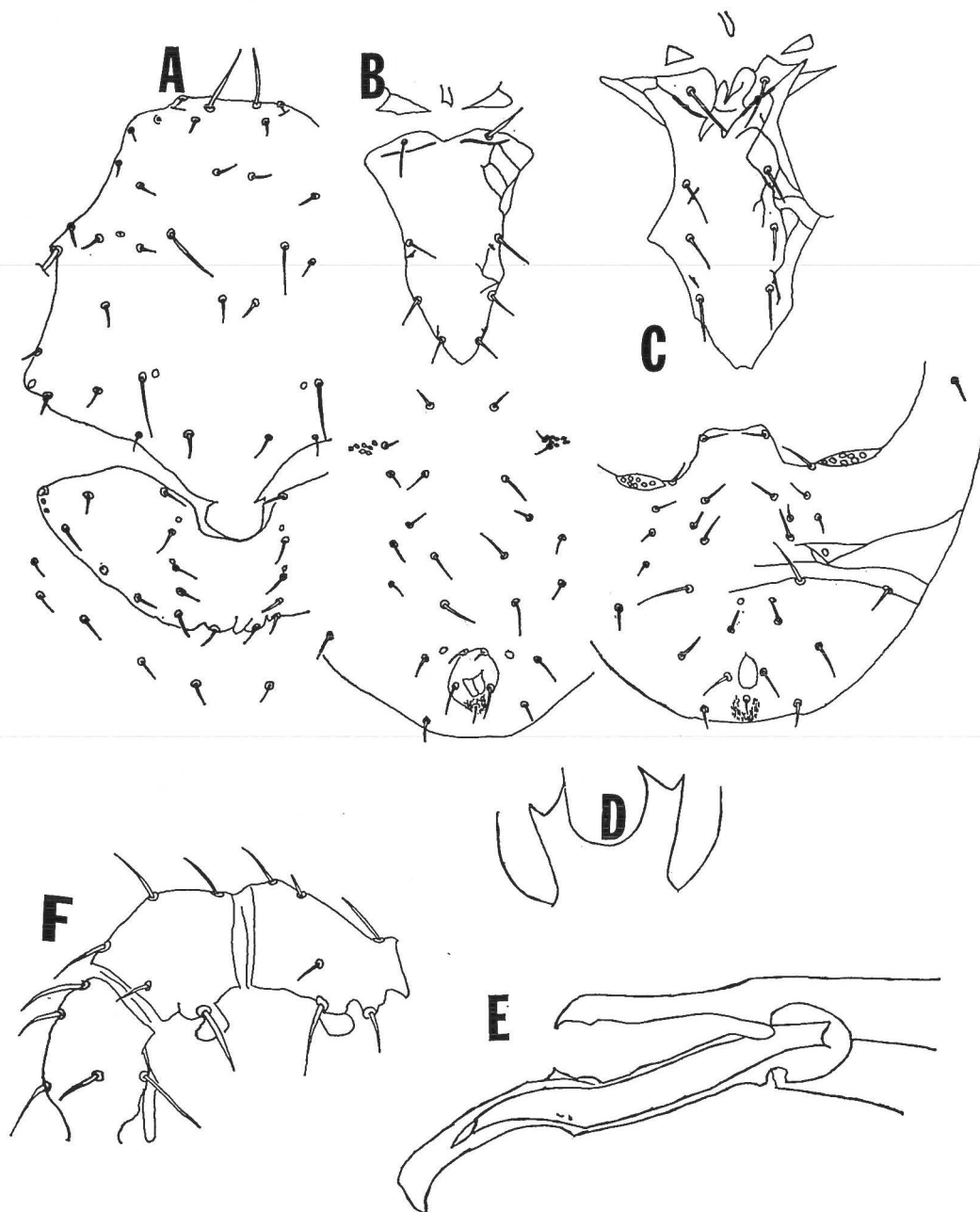


FIG. 2. — *V. gigantea*, deutonymph.

A) dorsal; B) ventral; allotype ♂; C) ventral; D) tectum; E) chelicera; F) leg II.

Chelicerae short, movable chela 85 μ long from tip to posteriormost part. Fixed chela with two short teeth just posterior to tip. Movable chela with one prominent tooth and a notch just posterior to tip.

Anteromedial seta on palp genu with three prongs, posteromedial seta with five prongs directed perpendicular to axis of seta. Medially directed seta on palp femur simple, approximately 15 μ long.

Leg IV 784 μ in length, tarsus IV 235 μ . Longest seta on tibia IV 142 μ long and slightly pilose distally.

The type female was collected from litter March 20, 1972 at the West Virginia University Biology Department Arboretum, Morgantown, West Virginia. *V. hurlbutti* appeared to be a very common species in the Morgantown area.

Allotype male (fig. 4). Idiosoma 578 μ . Sternal shield 200 μ long. Distance from v2 to v2 88 μ . Seta i1 56, s1 12 μ . Punctiform organ with ten pits. Movable chela 110 μ long. Spermatophorentrager short and broad, distance from end of digit to tip of spermatophorentrager 32 μ . Leg II as in fig. 4B.

Deutonymph (fig. 4). ADS 284 μ long with twenty-one pairs of setae. Length of PDS 117 μ , with eleven pairs of setae. Punctiform organ with eight pores. Sternal shield 178 μ long.

Distinguishing characteristics. *Veigaia hurlbutti* keys out to *V. bakeri* in the key by FARRIER (1957). *V. hurlbutti* is smaller than *V. bakeri* and the chela is about one-third the length of those of *V. bakeri*. Chelicera of *V. hurlbutti* ranged from 80-88 μ , those of *V. bakeri* ranged from 221-237 μ . The posterior margin of the sternal shield of *V. hurlbutti* is variable, ranging from slightly concave to having a deep U-shaped notch. In all specimens of *V. bakeri* examined, the posterior edge of the sternal shield was slightly convex and showed little variability. Females of *V. bakeri* have heavily sclerotized regions posterior to coxa IV; this is not present in *V. hurlbutti*. The males of *V. hurlbutti* are smaller than those of *V. bakeri* and have a shorter, thicker spermatophorentrager. The apophysis on femur II of *V. bakeri* males is saddle-shaped (HURLBUTT, 1965). That of *V. hurlbutti* males is only slightly notched (fig. 4 B).

Veigaia virginiana n. sp.

Holotype female (fig. 5). ADS 402 μ long at midline from most anterior margin to level of lateral incision. Twenty pairs of simple setae on ADS. Distance from v7 to v7 307 μ . Seta i1 49, s1 54, i2 49, i3 43, z2 41, r5 63 μ . PDS 245 μ long, with eighteen pairs of simple setae, nineteenth and twentieth pairs of the shield on membranous area posterior to this shield. Whole surface of dorsal shields lightly ornamented.

Sternal shield 142 μ long, distance from v2 to v2 95 μ , all setae about 46 μ in length. Entire sternal shield ornamented. Anterior margin of shield between v1 to v1 concave. Punctiform organ with fifteen pores. Genital setae 48 μ in length. Posterior portion of ventral shield 110 μ long with six pairs of setae, seta v1 47, v2 34, v3 32 μ . Anal shield with five setae, two preanal setae very short and thick. Posterior lateral margins of idiosoma with six pairs of strap setae, a11 49 μ in length.

Movable chela 122 μ from tip to most posterior edge, with two short teeth just posterior to tip. Fixed chela with two small teeth just posterior to the tip and a third larger tooth approximately 66 μ from tip.

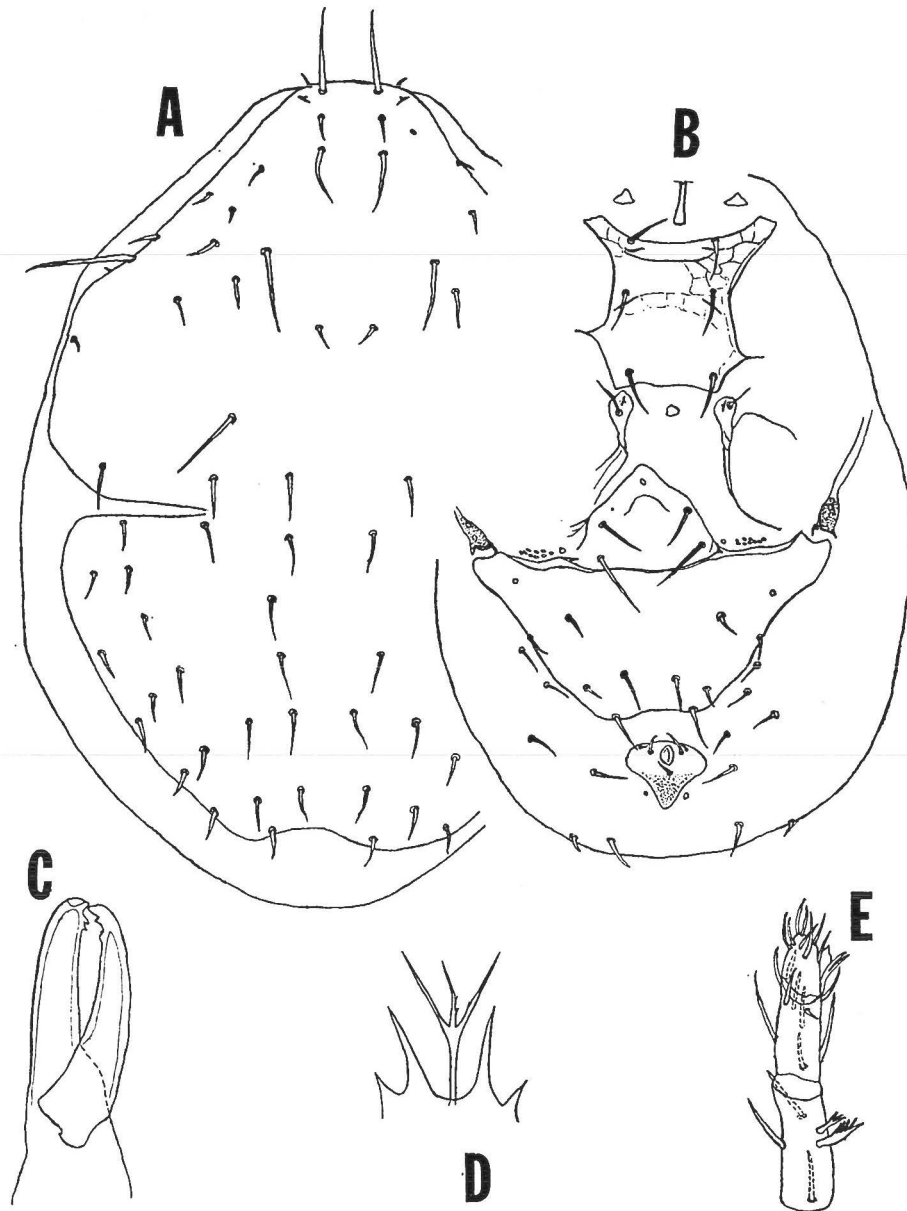


FIG. 3. — *V. hurlbutti*, holotype ♀.
A) dorsal; B) ventral; C) chelicera; D) tectum; E) palp genu and femur.

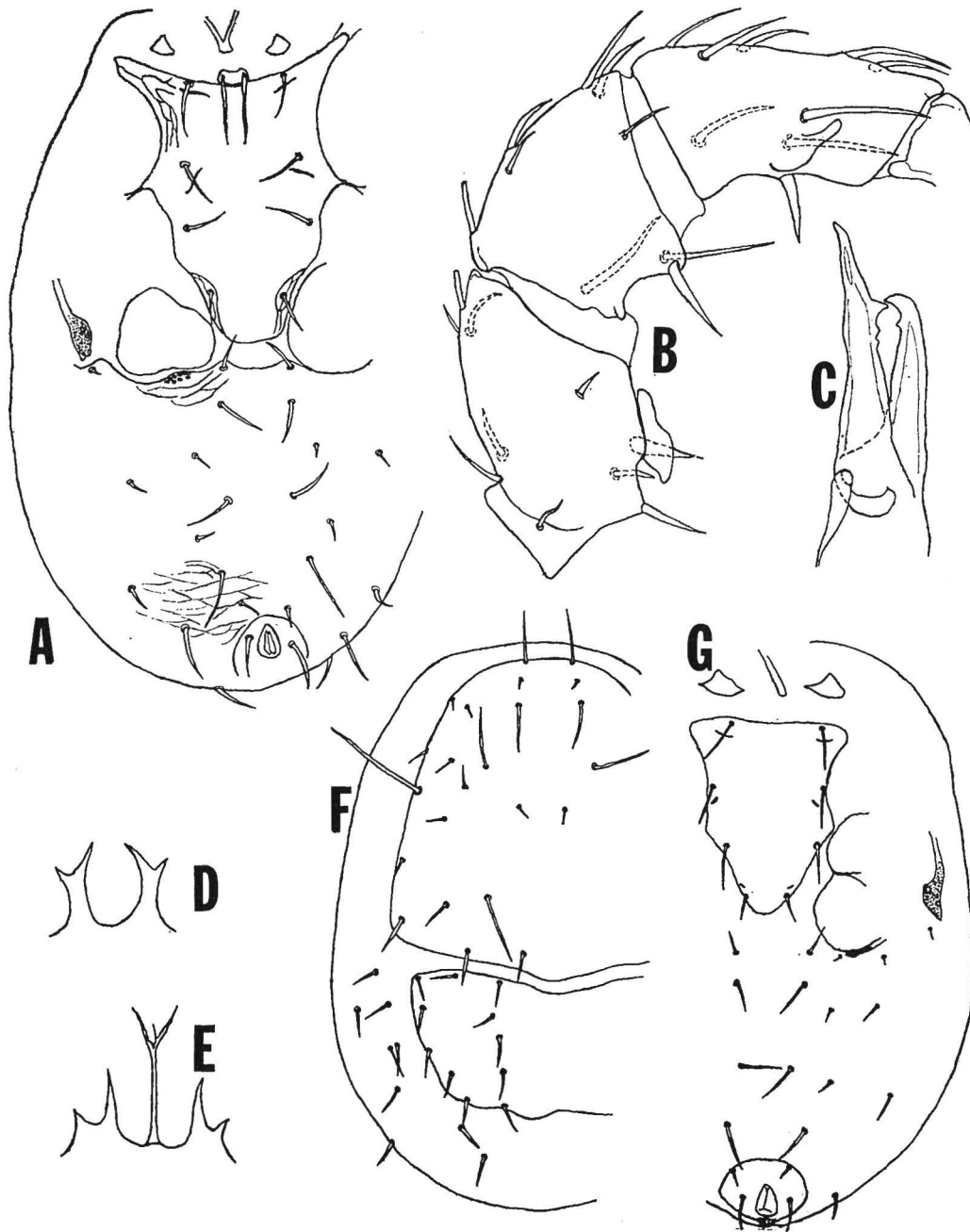


FIG. 4. — *V. hurlbutti*, allotype ♂.

A) ventral; B) Leg II; C) chelicera; D) tectum; deutonymph. E) tectum; F) dorsal; G) ventral.

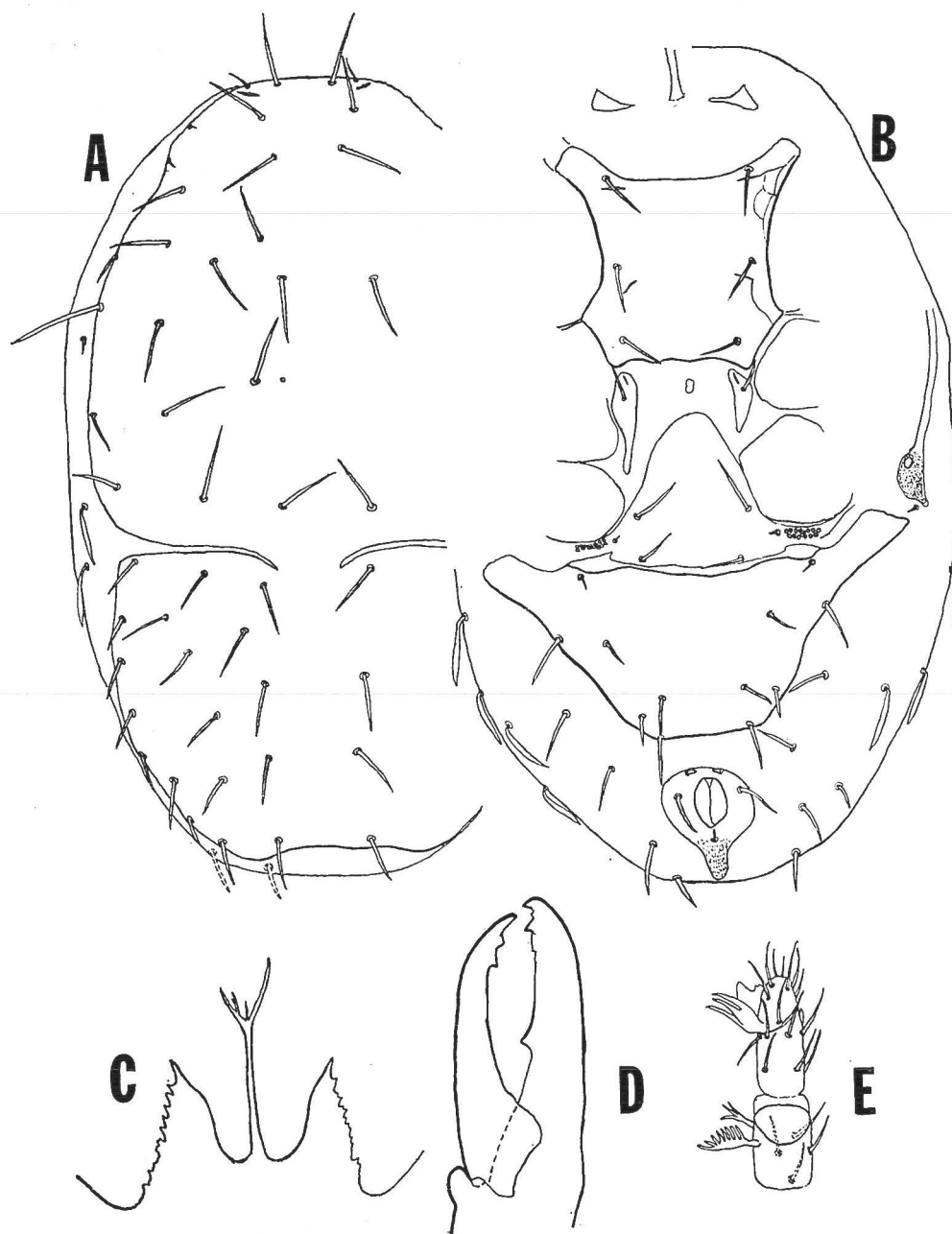


FIG. 5. — *V. virginiana*, holotype ♀.
A) dorsal ; B) ventral ; C) tectum ; D) chelicera ; E) palp genu and femur.

Anteromedial seta of palp genu with three prongs, posteromedial seta with seven prongs directed perpendicular to axis of seta. Medially directed seta of palp femur with slight serrations distally.

Length of leg IV 794 μ , tarsus IV 245 μ in length. Longest seta on tibia IV 120 μ long and pilose distally.

Type female was collected March 14, 1973 from oak litter at the Back sampling site on West Run Road, north of Morgantown, West Virginia. *V. virginiana* was also taken from oak litter at the West Virginia University Arboretum and from litter in a hawthorn thicket near Morgantown.

Allotype male (fig. 6). Idiosoma 696 μ long. Seta i1 56, s1 56 μ . Sternal shield 261 μ , distance from v2 to v2 89 μ . Punctiform organ with fifteen pits. Length of movable chela from most posterior portion to tooth at tip 73 μ , spermatophorentrager narrow, curving down and back up, about 85 μ long.

Deutonymph (fig. 6). ADS 392 μ long, with twenty-one pairs of setae. PDS at midline 83 μ , with eleven pairs of setae. Punctiform organ with thirteen pits. Sternal shield 195 μ in length.

Distinguishing characteristics. This is the only veigaiid known from West Virginia to possess strap setae. These setae are present and unmistakable in all sexes and all stages examined. The short, thick preanal setae are not found on other local species. This species will key out to *V. bakeri* in Farrier's key; however, *V. bakeri* lacks strap setae and has heavy sclerotization behind coxa IV.

SUMMARY.

Three new species of the genus *Veigaia* from northern West Virginia are described. These are *Veigaia giganta*, *V. hurlbutti*, and *V. virginiana*.

RÉSUMÉ.

Description de trois espèces nouvelles du genre *Veigaia* du nord de l'État de *West Virginia*; à savoir : *Veigaia giganta*, *V. hurlbutti* et *V. virginiana*.

ACKNOWLEDGEMENTS.

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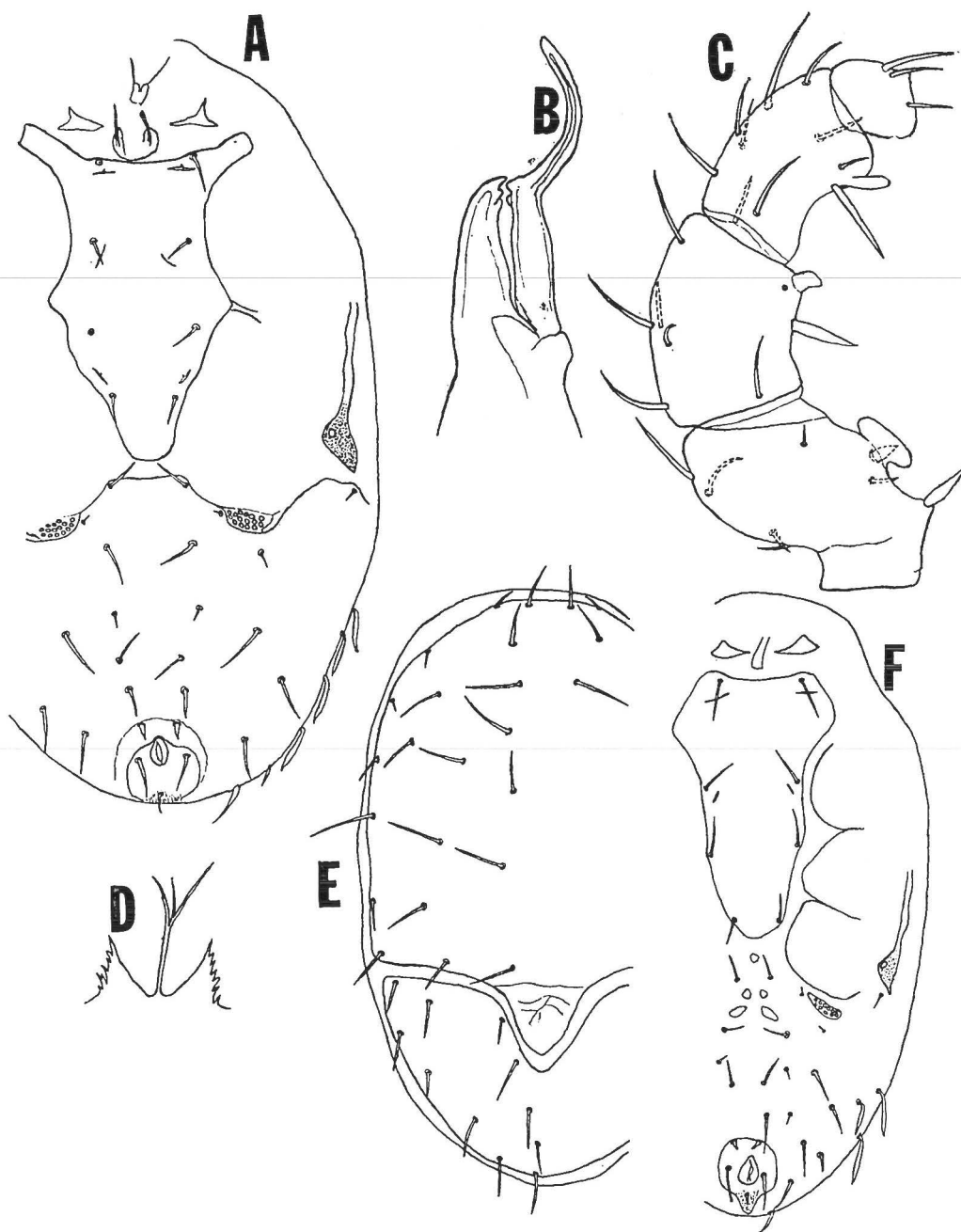


FIG. 6. — *V. virginiana*, allotype ♂.
A) ventral; B) chelicera; C) leg II deutonymph; D) tectum; E) dorsal; F) ventral.

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