

FOUR NEW PHYTOSEIIDAE (ACARI: MESOSTIGMATA) FROM FLORIDA¹

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Two of the phytoseiids described in this paper belong to the genus *Cydnodromus* Muma, 1961. This genus has 6 pairs of dorsal setae, 3 pairs of median setae, 8 pairs of lateral setae, most of them short and simple, 2 pairs of sublateral setae on the interscutal membrane, 3 pairs of sternal setae and 3 pairs of preanal setae. Leg IV may have 1 or no macrosetae (Muma 1961). Most of the species that belong to this genus are found in litter or on low growing plants but are found occasionally on plants several feet above ground level. Living mites are off-white to very light tan and small in size. Most phytoseiids are thought to be predaceous, but the food habits of these 2 species are unknown.

Two of the species belong to the genus *Amblyseius* Berlese, 1914. This genus has 6 pairs of dorsal setae, 3 pairs of median setae, 8 pairs of lateral setae, some elongate and weakly plumose, 2 pairs of sublateral setae on the interscutal membrane, 3 pairs of sternal setae, and 2 or 3 pairs of preanal setae. Leg IV has 3 macrosetae (Muma 1961). The species in this genus may be found in litter, on low growing plants, and on plants several feet above ground level. The food of these species is unknown, but they are probably predaceous on small arthropods. The live mite is medium size and off-white in color.

The modified Garman system of setal designation, except in the case of the median setae, is used in this paper. If a pair of setae on the middle third of the dorsal scutum, L_5 of authors, lies distinctly mesad to a pair of marginal lateral setae, it is considered median; if only 1 pair of setae is present or it is not distinctly mesad, it is considered lateral. The above characters refer to females; data on males are incomplete for many species.

All drawings and measurements were made with a phase contrast compound microscope at 1200 magnifications for leg IV and 800 magnifications for all other illustrations.

Cydnodromus vagus new species

(Fig. 1)

Cydnodromus vagus is similar to *C. gracilis* (Muma) but differs in the shape of the spermatheca and spermatodactyl.

FEMALE HOLOTYPE: Dorsal scutum smooth, 322.4 μ long and 139 μ wide at L_4 , with 8 laterals, 3 medians, and 6 dorsal pairs of setae. All setae smooth. Peritreme extends forward nearly to D_1 . Sternal shield longer than wide, smooth, and with 3 pairs of setae and 2 pairs of small pores. Metapodal scuta elongate, narrow, and slightly curved. Ventrianal shield slightly reticulated with 3 pairs of setae. Basitarsus of leg IV bears a distinct macroseta. Spermatheca with cervix bell-shaped and atrium long and slightly knobbed.

MALE: Unknown.

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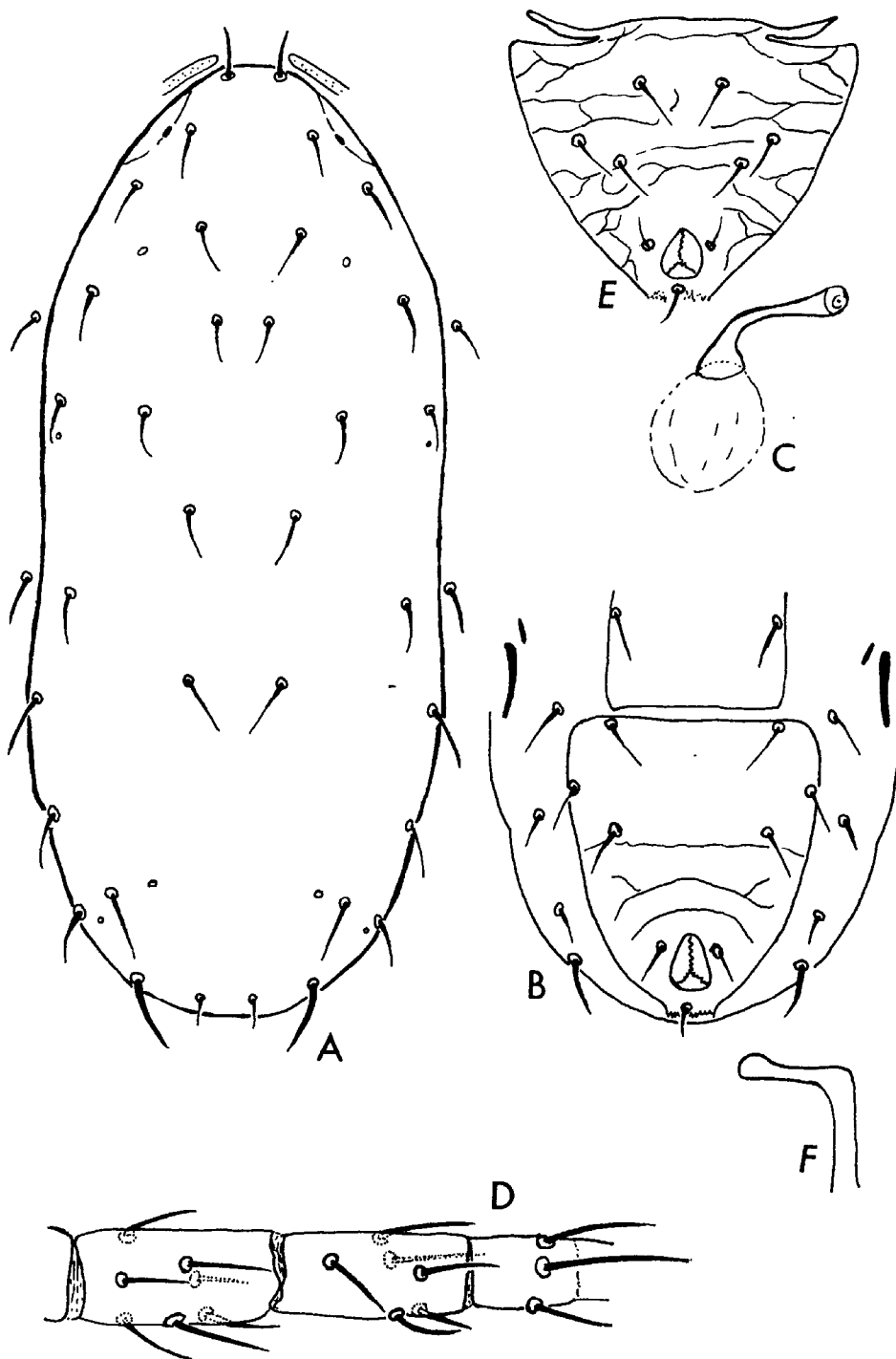


Fig. 1. Female *Cydnodromus vagus*, n. sp. A. Dorsal scutum. B. Ventrianal scutum with metapodal scuta. C. Spermatheca. D. Leg IV. E. Male ventrianal scutum. F. Spermatodactyl.

Holotype: Welaka, Fla., 8 April 1964 (H. A. Denmark), on *Lyonia ferruginea*; type no. 3114 in the U. S. National Museum.

Paratypes: Welaka, Fla., 8 April 1964 (H. A. Denmark), one female on stagger bush, *Lyonia ferruginea*, and one female in litter of *Pinus* sp. and *Gordonia lasianthus*. Twenty-four females, 27 males (one designated as the allotype), and nine nymphs at Quincy, Fla., 12-13 April 1964 (H. A. Denmark), from Bermuda grass sod. All paratypes in the Florida State Collection of Arthropods, Gainesville.

Cydnodromus mumai new species

(Fig. 2)

This species is closely related to *C. paspalivorus* De Leon from which it may be distinguished by the proportionately longer L_1 , L_2 , L_3 , L_7 , L_8 , M_3 and the macroseta on basitarsus IV.

FEMALE HOLOTYPE: Dorsal scutum distinctly reticulated, 337.5 μ long and 150.0 μ wide at L_4 , with 8 lateral, 3 median, and 6 dorsal pairs of setae and at least 7 small pores. All setae shorter than the distance between them and simple except L_8 which is longer and serrate. Scapular setae 1 and 2 short, simple, and on the membrane; S_1 longer than S_2 . Longitudinal reticulations extend from D_3 to a point halfway between D_5 and M_3 . Peritreme extends forward nearly to D_1 . Fixed digit chelicerae with 7 teeth and *pilis dentilis*. Sternal shield much longer than wide, reticulated, and areolae formed by the reticulations much longer than wide, and 3 pairs of setae; ventrianal shield reticulated with 3 pairs of setae and a pair of small pores. Metasternal scutum and metapodal scuta as shown. Basitarsus of leg IV bears a distinct macroseta. Spermatheca with cervix bowl-shaped and atrium short and knobbed.

MALE: Dorsal scutum 269.9 μ long, 130.8 μ wide at D_4 ; reticulated and with pores as in female. Ventrianal shield with 3 pairs of preanal setae and 6 small pores. Spermatodactyl as illustrated.

Holotype: Female, St. Petersburg, Fla., 17 Nov. 1958 (C. E. Bingham), on *Arecastrum romanzoffianum* fronds; type no. 3115 in the U. S. National Museum.

Paratypes: One female, St. Petersburg, Fla., 17 Nov. 1958 (C. E. Bingham), on *Arecastrum romanzoffianum* fronds, and one male, Arcadia, Fla., 29 Oct. 1958 (G. P. Lamb), on *Arecastrum romanzoffianum* fronds, both in the Florida State Collection of Arthropods, Gainesville.

This mite is named in honor of Dr. Martin H. Muma.

Amblyseius digitulus new species

(Fig. 3)

This species resembles *A. dillus* (De Leon), but differs in that L_8 and M_3 are longer and only slightly serrate, and the spermatheca is distinct in having a cleft atrium. Both spermatheca are illustrated in Fig. 3.

FEMALE HOLOTYPE: Dorsal scutum reticulated, 330 μ long, 203 μ wide at L_4 , with 8 laterals, 3 medians, and 6 dorsal pairs of setae. All setae smooth except L_8 and M_3 are slightly serrated. Peritreme extends forward to D_1 . Sternal slightly wider than long, smooth, with a pair of pores, and 3 pairs of setae. Metapodal scutum as illustrated. Ventrianal scutum

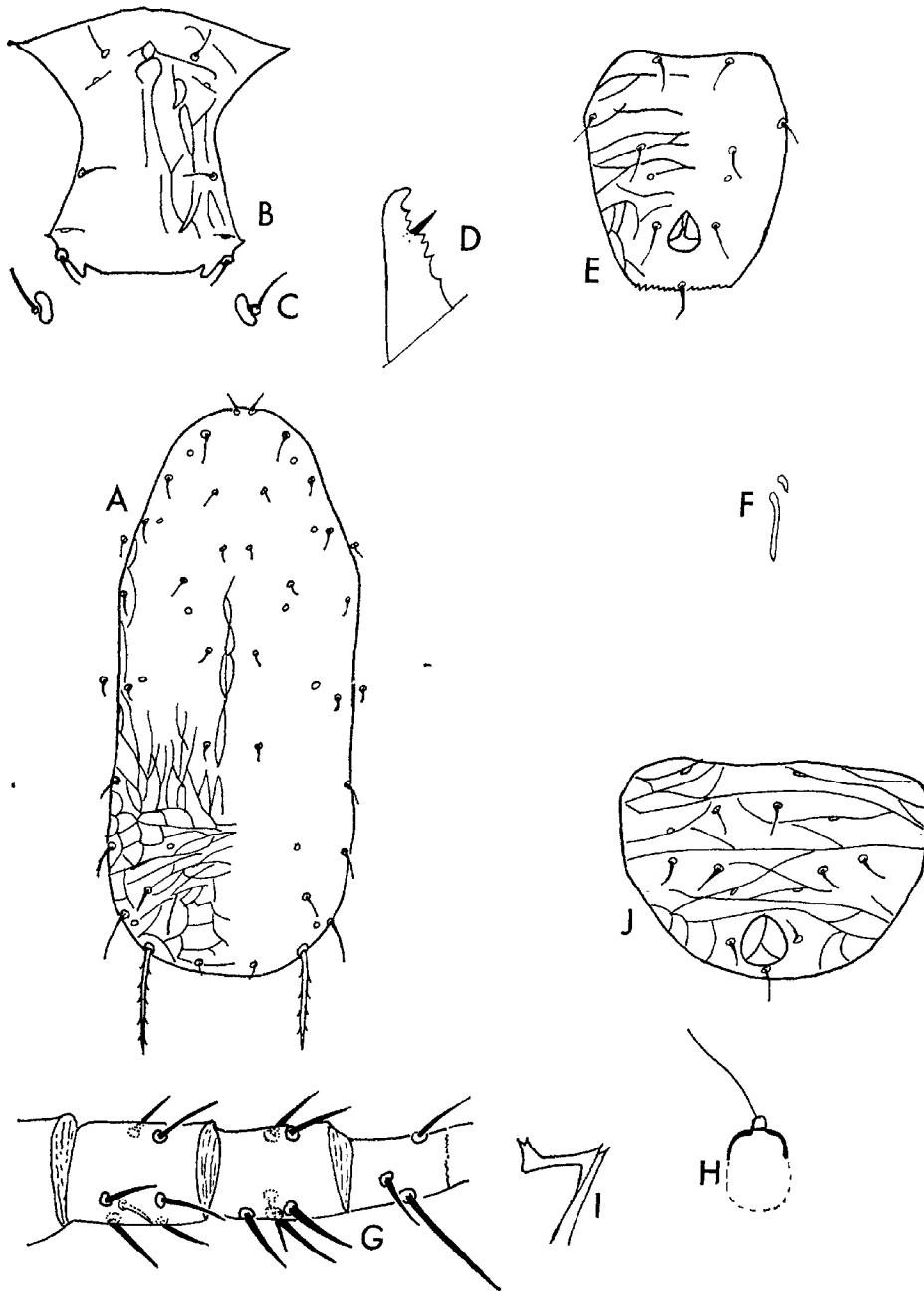


Fig. 2. Female *Cydnodromus mumai*, n. sp. A. Dorsal scutum. B. Sternal scutum. C. Metapodal scuta. D. Fixed digit chelicerae. E. Ventrianal scutum. F. Metasternal scuta. G. Leg IV. H. Spermatheca. I. Spermatodactyl. J. Male ventrianal scutum.

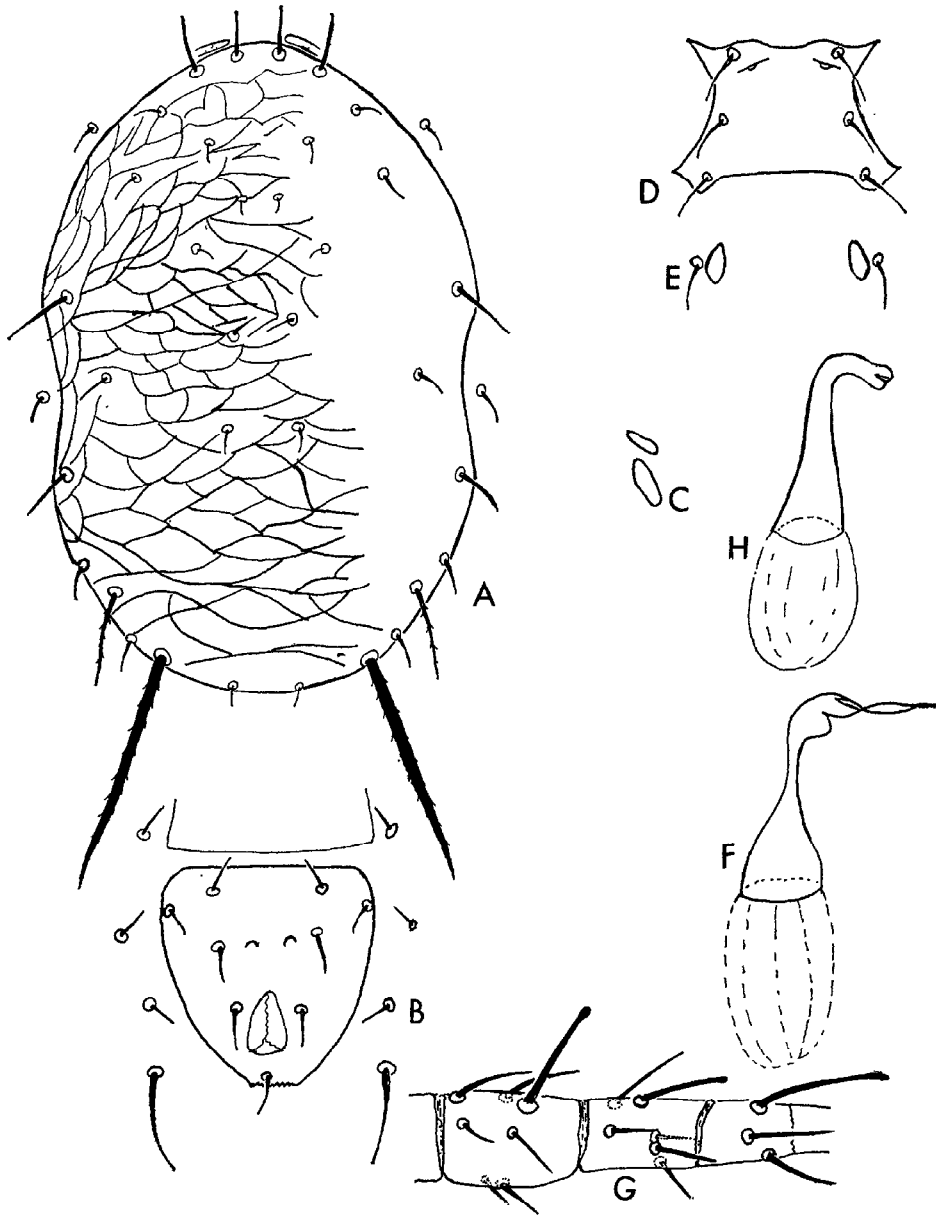


Fig. 3. Female *Amblyseius digitulus*, n. sp. A. Dorsal scutum. B. Ventrianal scutum. C. Metapodal scuta. D. Sternal scutum. E. Metasternal scuta. F. Spermatheca. G. Leg IV. H. Spermatheca of *Amblyseius dillus* (De Leon).

smooth with a pair of pores and 3 pairs of setae. Leg IV has macrosetae on the genu, tibia, and basitarsus. Spermatheca bell-shaped with elongated atrium enlarged and cleft at distal end.

MALE: Unknown.

Holotype: Female, 2 miles south of Winter Garden, Orange County, Fla., 2 April 1963 (H. A. Denmark), on Bermuda grass, *Cynodon dactylon*; type no. 3116 in the U. S. National Museum.

Paratypes: Two females, 2 miles south of Winter Garden, Orange County, Fla., 2 April 1963 (H. A. Denmark), on Bermuda grass; one female, 6 miles north of Polk City, Polk County, Fla., 7 May 1963 (H. A. Denmark), in *Paspalum notatum* sod; in the Florida State Collection of Arthropods, Gainesville.

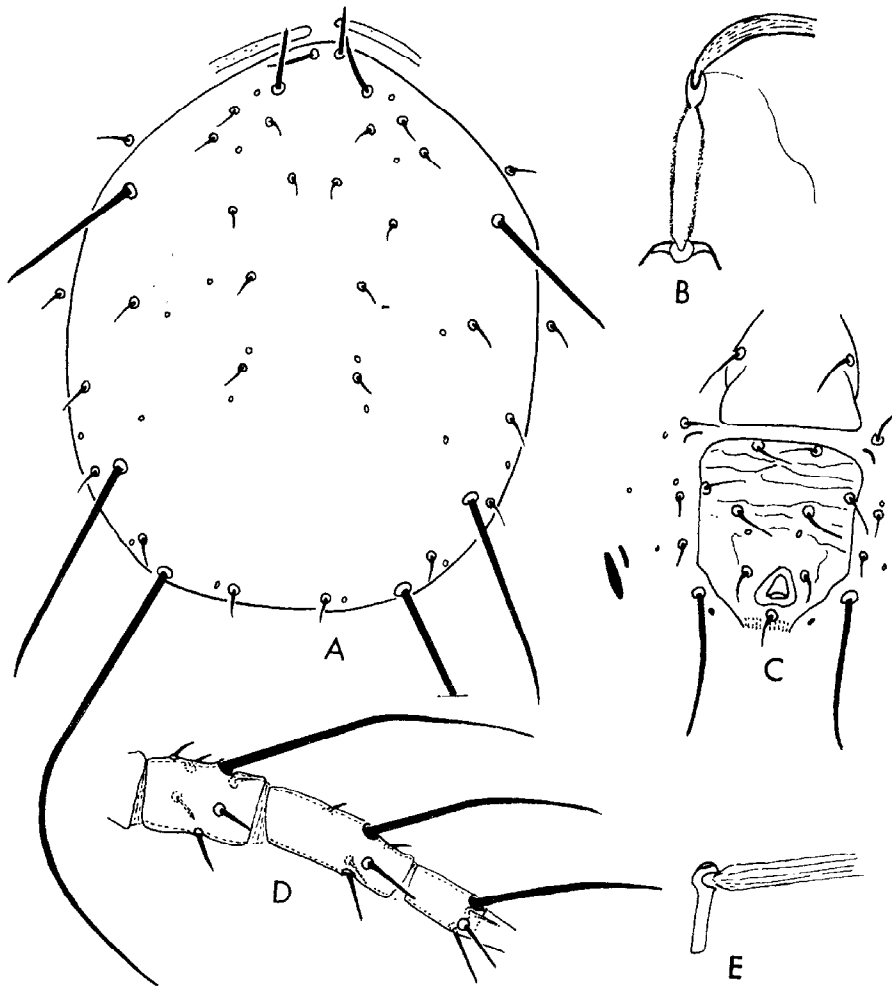


Fig. 4. Female *Amblyseius rhabdus*, n. sp. A. Dorsal scutum. B. Spermatheca. C. Ventrianal scutum. D. Leg. IV. E. Spermatheca of *Amblyseius aerialis* Muma.

Amblyseius rhabdus new species
(Fig. 4)

This species is similar to *Amblyseius aerialis* (Muma) but differs by having L_2 and L_3 approximately the same length. L_2 is longer than L_3 in *aerialis*. D_2 , D_3 , D_4 , and M_1 minute in *aerialis*, but longer in *rhabdus*. The spermathecae are quite distinct for these two species.

FEMALE HOLOTYPE: Dorsal scutum smooth, 365 μ long and 266 μ wide at L_4 , with 8 laterals, 3 medians, 6 dorsals, 2 sublaterals, and 9 pores. All setae smooth except M_3 and L_8 are slightly serrate. L_1 longer than D_1 , all other setae approximately the same size except L_4 , L_8 , and M_3 are long and thick. Peritreme extends anteriorly to D_1 . Chelicerae with movable digit without teeth, fixed digit with 10 or eleven teeth and *pilis dentilis*. Sternal scutum approximately as wide as long slightly creased with 3 pairs of setae and 2 pairs of pores. Metasternal plate elongate, each with a seta. Two pairs of metapodal plates. Ventrianal shield slightly longer than wide, creased with 3 pairs of preanal setae and one pair of pores. Leg IV with macrosetae on the genu, tibia, and basitarsus. Spermatheca with rod shaped cervix and flared base; major duct broad and minor duct appearing as a thin black thread attached at atrium.

Holotype: Female, Gainesville, Fla., 1 Oct. 1964 (H. A. Denmark), in sod of St. Augustine grass, *Stenotaphrum secundatum*; type no. 3113 in the U. S. National Museum.

Paratypes: One female and 5 nymphs, Gainesville, Fla., 1 Oct. 1964 (H. A. Denmark), in sod of St. Augustine grass, *Stenotaphrum secundatum*; one female 4 miles north of Polk City, Polk County, Fla., 9 Jan. 1962 (M. H. Muma), in cup of *Sarracenia* sp.; in the Florida State Collection of Arthropods, Gainesville.

LITERATURE CITED

- Berlese, A. 1914. Acari nuovi. Redia 10:113-150.
Muma, Martin H. 1961. Subfamilies, genera, and species of Phytoseiidae (Acarina: Mesostigmata). Bull. Fla. State Mus. 5(7):267-302.