

# Notes on the Genus *Picturaphis* and Related Genera with a New Species of *Picturaphis* from Puerto Rico (Aphididae: Homoptera)<sup>1</sup>

Clyde F. Smith<sup>2</sup>

## INTRODUCTION

Blanchard (1)<sup>3</sup> erected the genus *Picturaphis* for the new species *vignaphila*. He noted that *Picturaphis* showed close relationship with *Idiopterus* Davis (3) and *Pentalonia* Coquerel (2). *Picturaphis* is also closely related to *Microparsus* Patch (5) and *Megouroparsus* Smith and Heie (6) in that the hind wings show a reduction in size and usually the loss of the cubitus. Also, some or all of the veins of the fore wings of all five genera are broadly bordered with fuscous and the media may have one or two branches.

The following abbreviations are used in the keys and descriptions:

- a.s.—antennal segments
- R IV + V—rostral segments IV + V
- p.t.—processus terminalis
- t.ch.—tarsomere I chaetotaxy

## KEY TO APTERA OF ABOVE GENERA

- 1 Head denticulate.....2
- Head smooth.....4
- 2(1) Distal  $\frac{2}{5}$  or more of siphunculi dark, base pale or dark.....3
- Distal  $\frac{1}{2}$  of siphunculi pale, base dark. Abdominal setae on small tubercles (figs. 1B, 3A).....*Idiopterus*
- 3(2) A.s. III without sensoria (figs. 1A, 2C).....*Pentalonia*
- A.s. III with 1 or 2 sensoria (figs. 1C, 4).....*Picturaphis*
- 4(1) Siphunculi subcylindrical (figs. 1D, 2B).....*Microparsus*
- Siphunculi swollen (figs. 1E, 2A).....*Megouroparsus*

## KEY TO APTERA OF *Picturaphis*

- 1 Siphunculi 1.7–2.0 times length of cauda.....2
- Siphunculi 1.1–1.5 times length of cauda (figs. 1C, 4A).....*Picturaphis brasiliensis* (Moreira)

<sup>1</sup> Joint paper of the North Carolina State University, Agricultural Experiment Station, Journal Paper No. 3123, Raleigh, N.C. and the Agricultural Experiment Station, Mayagüez Campus, University of Puerto Rico, Río Piedras, P.R.

<sup>2</sup> Research Professor of Entomology, North Carolina State University at Raleigh, N.C.

<sup>3</sup> Italic numbers in parentheses refer to Literature Cited, p. 688.

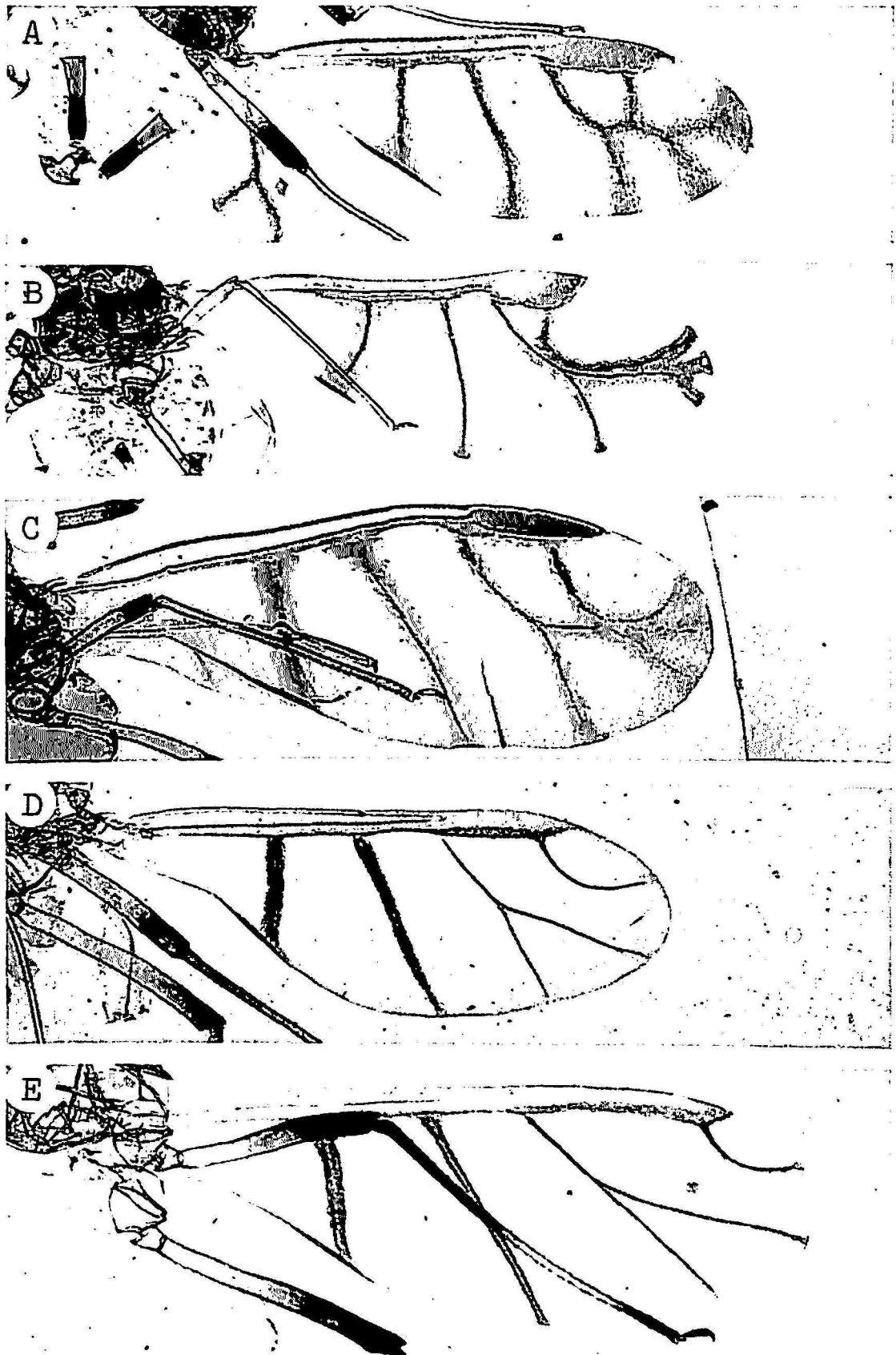


FIG. 1.—A, *Pentalonia nigronervosa* Coquerel 30 X Coll. 60-146(H) on *Musa sapientum*, Villalba—Doña Juána Rd., P.R., April 26, 1960. B, *Idiopterus nephrolepidis* Davis 30 X Coll. 62-2-(W) on *Saxifraga michauxii*, in greenhouse, Raleigh, N.C., 1-30-62. C, *Picturaphis brasiliensis* 30 X Coll. 67-190 on *Phaseolus lunatus*, Florida, P.R. 4-11-67. D, *Microparsus olivei* Smith and Tuatay 30 X Coll. 69-59. on *Meibomia supina*, Río Piedras, P.R., March 23, 1959. E, *Megouroparsus tephrosiae* (Smith) 30 X Coll. 59-169(2) on *Tephrosia*, Norman, N.C., May 22, 1959.

- 2(1) Aptera dark brown to blackish; basal  $\frac{1}{3}$ - $\frac{2}{3}$  of siphunculi pale; meta-tarsomere I with middle seta  $\frac{2}{5}$ - $\frac{3}{5}$  length of other two setae; body 1.9-2.4<sup>4</sup> (South American species, not collected in Puerto Rico) (fig. 4C).....*P. vignaphila* Blanchard  
 Aptera reddish-brown, shiny; basal  $\frac{1}{5}$ - $\frac{2}{5}$  of siphunculi pale; metatarsomere I with middle seta 0.6-1.0 length of other two setae; body 1.3-1.9 (fig. 4B).....*P. puertoricensis* n. sp.

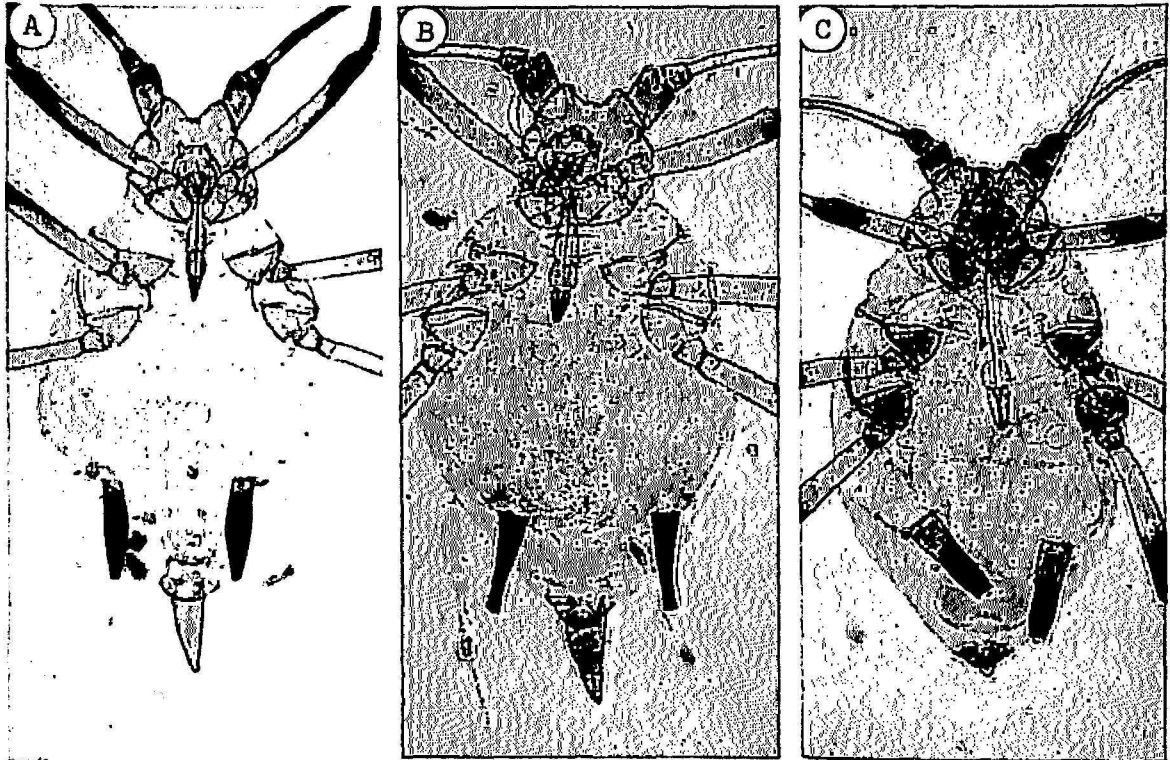


FIG. 2.—A, *Megouroparsus tephrosiae* (Smith) 43 X Coll. 59-169 on *Tephrosiae*, Norman, N.C., May 22, 1959. B, *Microparsus variabilis* Patch 43 X Coll. 59-933(2) on *Desmodium canadensis*, Veazie, Maine, Aug. 15, 1959. C, *Pentalonia nigronervosa* Coquerel 43 X Coll. 60-146(H) on *Musa sapientum*, Villalba—Doña Juána Rd., P.R., April 26, 1960.

*Picturaphis brasiliensis* (Moreira 1925:26)

Moreira (4) described *brasiliensis* in the genus *Idiopterus*. Smith, Martorell, and Pérez (7) placed *brasiliensis* in the genus *Picturaphis* and gave a description of the aptera and alate vivipara.

The principal distinguishing characters of *P. brasiliensis* aptera are: Color of living specimens dark brown to nearly black; siphunculi 1.1-1.5 times length of cauda; basal  $\frac{1}{3}$ - $\frac{1}{2}$  of siphunculi pale; meta-tarsomere I with middle seta  $\frac{1}{2}$ - $\frac{3}{4}$  length of other two setae.

*P. brasiliensis* has been collected in Puerto Rico on *Dolichos lablab* and *Phaseolus lunatus*.

<sup>4</sup> All measurements are in millimeters.

*Picturaphis puertoricensis* n. sp.

I have been unable to locate type slides of *Picturaphis brasiliensis* (Moreira) and *Picturaphis vignaphila* Blanchard. However, *P. puertoricensis* n. sp. differs from specimens in the U. S. National Museum and the British

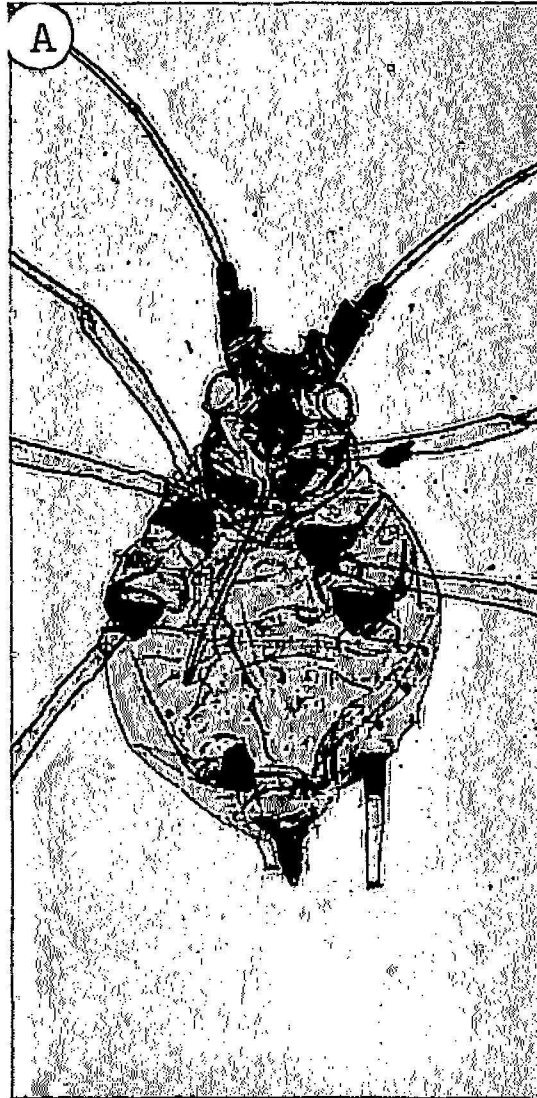


FIG. 3.—A, *Idiopterus nephrolepidis* Davis 43 X Coll. 61-234 on Fern, Blue Ridge Parkway, N. C., Sept. 10, 1961.

Museum which are believed to be representative of *P. brasiliensis* and *P. vignaphila*, as indicated in the key to the aptera.

## Apterous vivipara.

Living specimens reddish-brown, shiny. The nymphs show the same color characteristics as the adults. Head, all antennal segments, joint between femur and tibia, distal  $\frac{1}{10}$  of tibia, all tarsi, distal 0.6–0.8 of siphunculi, cauda, genital plate, and post siphuncular sclerites of cleared specimens dark. Remaining portions of body and appendages pale to slightly dusky.

Head denticulate. Antennal segment III with one sensorium. Rostrum attaining 1st abdominal segment. R IV + V with two accessory setae. T. ch. 3-3-3, middle seta stouter and 0.6-1 times length of other two setae. Bases of small tubercles on sides of abdomen dark. Siphunculi reticulate.

Length of body 1.30 (1.30-1.85).<sup>5</sup> Width of head, (0.42-0.48). Setae on vertex of head and on antennae short and blunt 0.006. A.s. III, 0.43 (0.43-0.58) IV, 0.37 (0.37-0.46) V, 0.33 (0.32-0.40) VI, 0.12, (0.12-0.13) + 0.67

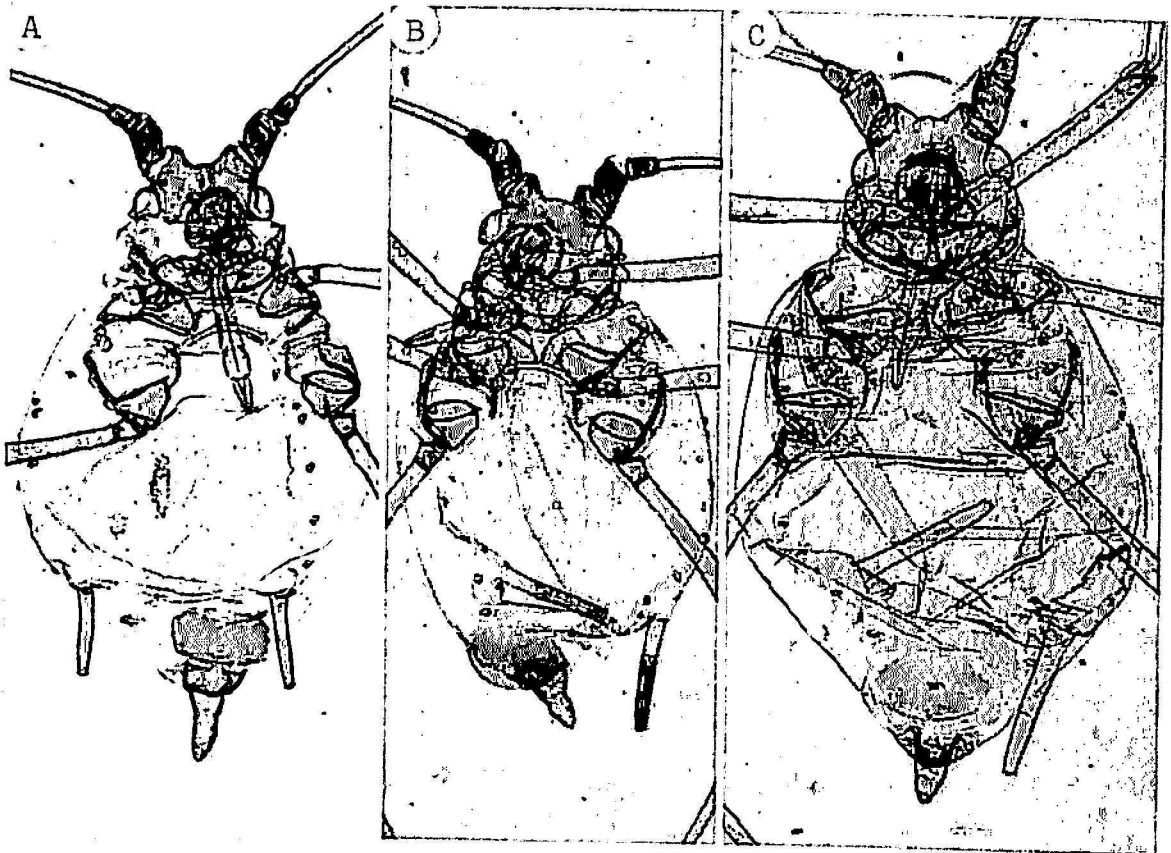


FIG. 4. -A, *Picturaphis brasiliensis* (Moreira) 43 X Coll. 69-32(3) on *Phaseolus trichocarpus*, Florida, P.R., March 10, 1969. B, *Picturaphis puertoricensis* n. sp. 43 X Coll. 69-65(18) on *Phaseolus adenanthus*, El Yunque, P.R., March 13, 1969. C, *Picturaphis vignaphila* Blanchard 43 X USNM No. 59 18589 on *Phaseolus vulgaris*, Medellin, Colombia, August 10, 1959.

(0.61-0.74). R IV + V, 0.10 (0.10-0.11). Hind tibia 1.17 (1.17-1.37). Hind tarsomere II, 0.10 (0.09-0.11). Siphunculi 0.32 (0.32-0.39). Cauda 0.17 (0.16-0.21) and bearing seven setae, one on the dorsum and three on each side.

Principal diagnostic characters: Living specimens shiny, reddish-brown; siphunculi 1.7-2.0 times length of cauda, basal  $\frac{1}{5}$ - $\frac{2}{5}$  of siphunculi pale; hind tarsomere I with middle seta  $\frac{2}{5}$ -1.0 times length of other two setae.

Types: Holotype in the U. S. National Museum. Data on the slide

<sup>5</sup> The first measurement is that of the holotype; measurements in parentheses indicate range in specimens studied. All measurements are in millimeters.

"69-65, *Phaseolus adenanthus*, *Picturaphis puertoricensis* Smith n. sp. El Yunque, Puerto Rico, East Peak Road, at gate, March 13, 1969 S-M-W." There are three nymphs and one mature aptera on this slide. The mature aptera, No. 1, is the holotype. Paratypes in the following collections: Agricultural Experiment Station of the University of Puerto Rico; North Carolina State University at Raleigh; British Museum, London, England; H. L. G. Stroyan, Harpenden, England; D. Hille Ris Lambers, Netherlands; and mine.

Type locality: El Yunque, Puerto Rico, at the gate leading to the East Peak Road.

Collections: On *Phaseolus adenanthus*, El Yunque, Puerto Rico. 69-65 (Type series), March 13, 1969. C. F. Smith, L. F. Martorell, and R. Woodbury. Twelve slides bearing 1 or more mature aptera and 5 slides with only nymphs. 69-12 same location as 69-65, March 7, 1969. C. F. Smith, C. K. Smith, L. F. Martorell, and R. Woodbury collectors.

#### SUMMARY

*Picturaphis puertoricensis* n. sp. is described and keys are given to separate the species in the genus *Picturaphis* and closely related genera.

#### RESUMEN

Se describe una nueva especie de áfido, *Picturaphis puertoricensis* n. sp., y se dan claves para separar las especies del género *Picturaphis* y los géneros más relacionados.

#### LITERATURE CITED

1. Blanchard, E. E., Aphid notes. Part III. Argentine species of the subtribes *Pentalonia* and *Aphidina*, *Physis* 6: 43-58, figs. 15-20, 1922.
2. Coquerel, C., Note sur quelques insectes de Madagascar et de Bourbon, *Ann. Soc. Entomol. France* 7(3): 239-60, Pl. 6, 1859.
3. Davis, J. J., Two new genera and species of Aphididae, *Ann. Entomol. Soc. Amer.* 2: 196-200, Pl. XXVII, 1909.
4. Moriera, C., Pulgoes do Brasil, *Min. Agr., Ind. Com. Inst. Biol. Def. Agr.* 2: 1-34, illus., 1925.
5. Patch, E. M., The Desmodium aphid, *Microparsus variabilis* n. sp., *Entomol. News* 20: 337-41, Pls. XVIII-XIX, 1909.
6. Smith, C. F. and Heie, O. E., *Megouroparsus*, new genus, related to *Microparsus* Patch and *Megoura* Buckton (Homoptera: Aphidae), *Ann. Entomol. Soc. Amer.* 56: 401-06; figs. 1-3, 1963.
7. Smith, C. F., Martorell, L. F., and Pérez-Escobar M. E., Aphididae of Puerto Rico, Univ. P. R. Agr. Exp. Sta. Tech. Pap. 37, 1-121, figs. 1-48, 1963.