A NEW SPECIES OF CINARA FROM PENNSYLVANIA (HOMOPTERA: APHIDAE)

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**Cinara banksiana** n. sp.

**Alate Viviparous Female**

**Size and General Color.**—All notes made from cleared and mounted specimens. Measurements given are based on ten or more individuals. The first figure is the average and the figures in parentheses show the range. Length from vertex to tip of anal plate 3.45 mm. (3.33-3.60). Thorax, head and antennal segments I and II dark brown. Basal half of segment III pale with apical half and segments I\(_V\), V and VI brown. The coxae, trochanters and femora of all legs dark brown, except sometimes the femora are lighter at the base. The prothoracic and metathoracic tibiae rather uniform dark brown. Meiothoracic tibia with dark brown basal area, followed by a short yellowish area which in turn shades into brown apically. All tarsi dark brown. Cornicles, cauda and anal plate dark brown. A transverse brown pigmented area anterior to the cauda is almost or wholly divided in many specimens. Another irregular, diffused, and sometimes divided pigmented area just anterior to the first mentioned one. Dorsum of abdomen with four longitudinal rows of small brown wax plates.

**Head and Thorax.**—Width across the eyes .67 mm. (.66-.70). Median suture of head very dark. Setae on the vertex and dorsum of thorax spinelike, tapering and about .07 mm. long. Ocular tubercles prominent. Antennal segments uneven in profile, diameter of III varying from .03 to .05 mm. in some individuals. Lengths of segments: III .50 mm. (.52-.62), IV .24 mm. (.21-.26), V .26 mm. (.24-.30), VI .16 mm. (.15-.18) including unguis which is .04 mm. long. Setae on antennal III spinelike and about .056 mm. long. Antennal setae inclined at an angle of about forty-five degrees. Segment III with four to nine (usually six) circular tuberculate sensoria, varying greatly in size and arranged in a single, somewhat irregular row, extending along the apical two-thirds of the segment. Segment IV with one or two sensoria, V with two. Third segment of rostrum .22 mm. in length, fourth segment .18 mm., fifth segment .09 mm. Fourth segment bearing four pairs of setae in addition to those at its apex. Media twice branched, the second branch closer to margin of wing than to first branch. Hind tibia 2.69 mm. (2.45-2.80) in length. First segment of hind tarsus .115 mm. long, second segment .28 mm., total length of tarsus .336 mm. Setae on hind tibia spinelike, tapering and sharp pointed, those on the outer margin in the middle portion of the segment about as long as the width of the tibia, those

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at the base somewhat shorter. All setae on hind tibia reclining, those on the apical portion forming more acute angles.

_Abdomen._—Cornicle base somewhat irregular, with projections and indentations around the outer margin, average width .50 mm. Setae sparse and widely separated over most of the cornicle cone, much more numerous toward its apex. Setae sparse on dorsum of abdomen, more numerous on ventral surface. Length of setae on cornicle base and dorsum of abdomen about .06 mm. Transverse pigmented area anterior to cauda with sharp pointed setae arranged in a single interrupted row along the posterior margin of the area with about six setae on either side of the median break. Length of these setae about .10 mm. In the pigmented area anterior to the above, six setae about .07 mm. in length form a rather continuous row along the posterior margin of the area. Surface of the abdomen with fine reticulations and striations which generally are more evident in the region of the cornicles.

_Apterous Viviparous Female_

_Size and General Color._—All notes made from cleared and mounted specimens. Length from vertex to tip of anal plate 3.20 mm. (2.80-3.50). Thorax, head and first two antennal segments dark brown. Third antennal segment yellowish with short apical portion brown. Fourth segment dusky-brown with apical portion dark brown. Fifth and sixth segments dark brown, the fifth sometimes lighter basally. Median suture of head very dark. Segments three to five of the rostrum dark brown, the apical portion of segment two, light brown. Femora with a small basal area yellowish, shading quickly to dark brown. All coxae and trochanters dark brown. Prothoracic and metathoracic tibiae with a short area at the base blackish-brown, followed by a short yellowish-brown area which shades into dark brown apically. Mesothoracic tibia with a short blackish-brown base, followed abruptly by a light yellow area which shades gradually into the dark brown apical portion. All tarsi blackish-brown. Cornicles, cauda and anal plate dark brown. Dorsum of abdomen with large paired irregular, brown areas on anterior segments. Small irregular pigmented spots scattered elsewhere over the abdomen each bear a single seta. Two longitudinal rows of small brown wax pore plates on each side of the abdomen. Anterior to the cauda is a usually divided pigmented band with several large setae on each side. Anterior to this band is another greatly diffused pigmented area with several shorter setae.

_Head and Thorax._—Average width of head .71 mm. Antennal segments III to VI somewhat uneven in profile with the following lengths: III .55 mm. (.48-.60), IV .22 mm. (.18-.24), V .26 mm. (.22-.29), VI .15 mm. including the unguis which is .042 mm. long. Third antennal segment with one or sometimes two sensoria, fourth with one and fifth with two sensoria. Setae on antennal III spinelike, strongly tapering and about as long as the width of the segment, inclined at an angle of about forty-five degrees. Ocular tubercles present. Setae on head and thorax spinelike, .05 to .06 mm. in length. Rostral segments with lengths as follows: III .20 mm., IV .17 mm., V .08 mm. Length of hind tibia 2.70 mm. (2.32-2.80). Setae on hind tibia numerous, spinelike, length equal to about one-half the width of tibia. Setae recline throughout the length of tibia but more so toward its apex.
Abdomen.—Cornicles large, volcano shaped, with somewhat irregular margins. Setae short and sparse over much of cornicle cone, much more numerous toward the apex. Setae on dorsum of abdomen spinelike, about .042 mm. long, many of them arising from small pigmented spots. Ventral surface of abdomen with more numerous setae which are a little longer and sharper pointed than those on the dorsum. Cauda and anal plate rounded, with many long setae. Surface of the abdomen reticulated as in the alate.

Types: All type specimens were collected in Pennsylvania on Pinus Banksiana. Holotype alate viviparous female and Morphotype apterous viviparous female (mounted on the same slide with one paratype alate viviparous female), Philipsburg (Black Moshannon Dam), June 13, 1948. Paratypes: 13 slides same locality and date as holotype and 14 slides same locality, June 20, 1954. The holotype, morphotype and four paratype specimens deposited in the United States National Museum, No. 62796; remaining paratype material in the collections of the writers and of F. C. Hottes. Type locality: Philipsburg (Black Moshannon Dam), Pennsylvania.

This species will not key out in Palmer's key to the genus Cinara in Aphids of the Rocky Mountain Region (1962) or in Hottes and Frison's (1931) key in The Plant Lice, or Aphididae, of Illinois. With minor concessions it keys to atlantica (Wilson) in Wilson's (1923) key to the genus Dilachnus, Family Aphidiidae, in Hemiptera of Connecticut. We have not had authentic material of atlantica for comparison but Dr. Palmer (1945) gives measurements and figures based on her studies of a cotype slide of that species. The measurements agree fairly well with those of this species but the figures show clearly that the two insects are distinct. The setae on the appendages and cornicle of atlantica are shown to be fine while in this species they are heavy, spinelike and strongly tapering. The cornicle cone in atlantica has an even, regular margin and the setae are distributed evenly over its surface; in this species the margin of the cornicle cone is quite uneven with marked indentations and the setae are sparse on most of the cone but numerous around the apex. In atlantica the fourth segment of the rostrum bears a single pair of setae in addition to those at its apex, while in this species the fourth segment bears four pairs of setae in addition to the apical ones.

Specimens taken on Pinus Banksiana at Philipsburg (Black Moshannon Dam), July 7, 1946 and July 4, 1947 may prove to be the same as the species described here but there is some question as to their identity so they are not considered in the description.
or included in the type material. The apterous viviparous females agree fairly well but the alates in the two July collections are distinctly smaller and there appear to be constant differences in the sensoria on antennal segments III and IV, and possibly in other features also.

REFERENCES


