

anteriorly on segment 6 with a lateral line on either side which appears on segments 3 to 5 as a detached antero-lateral spot. Segment 7 with the dorsum black except for a narrow space across the anterior end and the anterior two-thirds of the mid-dorsal line which are pale.

This female is distinguished at once by the two enormous pits or depressions on the anterior ends of the mesepisterna. There is one under each mesostigmal lamina. See figs. 4 and 5.

In the figure (3) of the colour-pattern the abdomen is slightly rotated.

This description should have appeared in the paper on new *Argias*, recently published in the Canadian Entomologist, but was overlooked.

SOME NEW LACHNIDS OF THE GENUS LACHNIELLA.

(HOMOPTERA-HEMIPTERA.)

BY H. F. WILSON, MADISON, WIS.

The genus *Lachniella* is now understood to be the correct genus for most of the Lachnids formerly placed in the genus *Lachnus*. The type of the true genus *Lachnus* is *Lachnus fasciatus* Burmeister, a species definitely determined upon by European aphidologists. This species has but one branch to the median vein, while *Lachniella* has two forks. The writer has under preparation a *Monograph of the Lachninae of North America*, but it now seems impossible to have the illustrations printed until after the war, and so the following new species are presented at this time.

Lachniella inoptis, n. sp.

From material collected by Mr. Theo. Pergande at Washington on *Pinus inops*? Two slides containing one alate and four apterous specimens both labeled *Lachnus inoptis*, n. sp. Types in collection of U. S. Bureau of Entomology.

Apterous viviparous female.—Antennæ light at the base and dusky at the tip. Femora of all legs dark, front tibiæ entirely black. Tibiæ on middle and hind pair of legs light coloured at the base and black over the distal two-thirds. Antennæ long and slender, the sixth segment finger-like and slightly shorter than the fourth. Third segment approximately equal to the fourth and fifth together; fifth considerably larger than the fourth. Third and fourth segments without sensoria, fifth with one large sensoria at the distal end. Cornicles with a large, acutely sloping base. Cauda acute, anal plate slightly disked. Hairs on antennæ, legs and body distinctly spine-like and long.

Measurements.—Length of body 3.25 mm. Length of antennal segments, III, 0.64 mm.; IV, 0.31 mm.; V, 0.37 mm.; VI, 0.22 mm. Total length 1.76 mm. Beak, III, 0.25 mm.; IV, 0.25 mm.; V, 0.12 mm. Total length 2.08 mm. Length of hind tibiæ 2.39 mm.; hind tarsus, 0.25 and 0.37 mm.

Alate viviparous female.—Antennæ light coloured throughout the third segment except a small part at the distal end, fourth and fifth segments light dusky at the base, darker at the tip, sixth segment entirely dusky. Femora dark except at the base, tibiæ dark at the knees and along the distal one-third, the basal two-thirds light-coloured. Third antennal segment with a single sensoria near the distal end, fourth segment with none, fifth segment of one antenna with one large sensorium at the distal end, the other one with an

additional smaller one at the centre. The beak extends slightly beyond the hind pair of coxæ. Nectaries large and volcano-shaped. Wing venation typical for the genus. Hairs upstanding, long and thick, distinctly spine-like.

Measurements.—Length of body 3.25 mm. Length of antennal segments: III, 0.64 mm.; IV, 0.31 mm.; V, 0.35 mm.; VI, 0.23 mm. Total length 1.7 mm.? Beak: III, 0.27 mm.; IV, 0.23 mm.; V, 0.1 mm. Total length 2 mm. Length of hind tibia 2.4 mm.; hind tarsus 0.25 and 0.37 mm.

***Lachniella thunbergii*, n. sp.**

Described from five slides containing a number of oviparous females and one alate male. Three of the slides also contain apterous specimens of another species. No description of the latter has been attempted. The following notes from Mr. Theo. Pergande's records were furnished me by Mr. Baker. Types in collection of U. S. Bureau of Entomology.

Apterous oviparous female.—Specimens in balsam, colour cannot be determined. Antennæ in balsam clear except at tip, distal end of third and fourth, and all of fifth and sixth antennal segments, deep brown, nearing black. Legs with knees dark brown, first and second pair with tibiæ light in the middle and dark at the ends. Hind tibiæ with clear area extending only from near base to one-third the entire length; tarsi and other portions dark brown. Body, legs and antennæ with setaceous upstanding hairs.

Antennæ reaching to second pair of coxæ. Third and fourth segments with a single small, round sensoria near the distal end. Fifth with two large sensoria toward the distal end. Nectaries bell-shaped and of medium size. Anal plate bilobed. Hind tibiæ with numerous small sensoria.

Measurements.—Length of body 3.4 mm. Length of antennal segments: III, 0.46 mm.; IV, 0.21 mm.; V, 0.23 mm.; VI, 0.2 mm. Total length 1.25 mm. Length of beak 1.67 mm. Length of hind tibiæ 2.23 mm. Length of hind tarsus 0.29 mm.

Alate Male.—Antennæ black throughout. Front legs with femora yellowish at the base and brownish black toward the knee, knee nearly black, tibiæ light brown, being darker at the base and at the tip, tarsi dusky brown to black. Middle legs the same. Hind legs with tarsi, tibiæ and distal two-thirds of femora brownish black. Antennæ long and stout, and the third, fourth and fifth segments with numerous raised sensoria of variable size. Wing venation as in other species of this group. Nectaries appear to be much larger than in the apterous forms and with a much wider cone-shaped base.

Measurements.—Length of body from vertex to tip of abdomen, 2.25 mm. Length of antennal segments: III, 0.7 mm.; IV, 0.29 mm.; V, 0.146 mm.; VI, 0.21 mm. Total length 1.7 mm. Length of beak 1.77 mm. Length of hind tibiæ 2.17 mm. Length of hind tarsi 0.31 mm.

***Lachniella vandykei*, n. sp.**

From material collected at Hemphry, Washington, by E. C. Van Dyke on *Picea* sp., May 28, 1914. Original material in alcohol, descriptions from balsam mounts. Types in writer's collection.

Apterous viviparous female.—Antennæ light toward the base and dusky toward the tip. Legs light toward the basal portion and dusky otherwise. Nectaries and cauda dusky to black. Antennæ with the third segment shorter

than the fourth, fifth and sixth. Fourth segment shorter than the sixth. Third segment with one, two or no sensoria, fourth with one, and fifth with two. Beak extending to base of nectaries. Nectaries large and broadly cone-shaped. Body globose, the abdomen being wider than long. Body, legs and antennæ set with fine, silky hairs of medium length.

Measurements.—Length of body 2.25 mm. Length of antennal segments: III, 0.41 mm.; IV, 0.187 mm.; V, 0.23 mm.; VI, 0.19 mm. Total length 1.18 mm. Beak: III, 0.21 mm.; IV, 0.17 mm.; V, 0.085 mm. Total length 1.78 mm. Length of hind tibiæ 1.46 mm. Hind tarsus 0.37 mm.

Alate viviparous female.—Antennæ with basal two-thirds of third segment light-coloured remaining part of third and all of the other segments dusky. Legs alike in colouring with basal portions of the femora and tibiæ except the joints light coloured, remaining portions dusky. Cauda and anal plate dusky to black. Antennæ with third segment shorter than the fourth, fifth and sixth together. Fourth segment shorter than the sixth. Third segment with six to eight large, round sensoria, fourth with one or two, and fifth with two. Beak reaching slightly beyond the nectaries, in normal specimens. In specimens somewhat shrunken it appears to reach to the tip of the abdomen. Nectaries large and broadly cone-shaped.

Measurements.—Length of body 2.26 mm. Length of antennal segments: III, 0.52 mm.; IV, 0.18 mm.; V, 0.27 mm.; VI, 0.21 mm. Total length 1.28 mm. Beak: III, 0.21 mm.; IV, 0.166 mm.; V, 0.083 mm. Total length 1.97 mm. Length of hind tibiæ 1.84 mm.

***Lachniella gracilis*, n. sp.**

From a slide containing one apterous and two alate specimens collected by Theo. Pergande in the District of Columbia, May 27, 1894, on *Pinus inops*. Pergande applied the name here given, and it has been retained for that reason. Other slides in the material appear to be the same species, but in this case it seemed best to use but the one slide in setting this type. Types in the U. S. Bureau of Entomology collection.

Apterous viviparous female.—Antennæ light at the base and shading to dusky at the tip. Front and middle pair of legs light coloured except at the joints, third pair black except a small area just beyond the base. Cauda dusky to black. Third antennal segment approximately equal to the length of the fourth, fifth and sixth segments together. Fourth and fifth segments approximately equal in length, and the sixth shorter than the fourth. Third segment without sensoria although a single small one was observed on other specimens, fourth segment with one or two sensoria and the fifth with two nectaries cone-shaped, and unusually large. Cauda rather more angular than rounded, but with a widely rounded tip. Hairs short and much more inconspicuous at the base of the tibiæ than at the tip. Hairs at the base distinctly upstanding, those toward the distal end semi-erect.

Measurements.—Length of body 3.25 mm. Length of antennal segments: III, 0.46 mm.; IV, 0.21 mm.; V, 0.21 mm.; VI, 0.145 mm. Total length 1.22 mm. Beak: III, 0.25 mm.; IV, 0.187 mm.; V, 0.063 mm. Total length 1.86 mm. Length of hind tibiæ 2.45 mm. Length of hind tarsus 0.31 mm.

Alate viviparous female.—Antennæ light at the base of the third segment,

but dusky at the tip and shading into colour of other segments, the last one being nearly black. First and second pair of legs dark to black, except the greater portion of the tibiae. Hind legs almost black throughout except a small, dusky area near the base. Antennal segments as in the apterous forms, except that the fifth segment is longer than the fourth. Third segment with six, the fourth with two or three, and the fifth with two large sensoria. The sensoria are unusually large as in the apterous forms, and are volcanic in shape rather than cone-shaped. The legs and antennae are quite hairy, and those of the base of the tibiae are upstanding while those farther outward are inclined. Cauda angular but broadly rounded at the tip.

Measurements.—Length of body 3.88 mm. Length of antennal segments: III, 0.52 mm.; IV, 0.187 mm.; V, 0.23 mm.; VI, 0.166 mm. Total length 1.2 mm. Beak: III, 0.21 mm.; IV, 0.175 mm.; V, 0.063 mm. Total length 1.9 mm. Length of hind tibiae 2.42 mm.; hind tarsus 0.31 mm.

***Lachniella pacifica*, n. sp.**

From material bearing accession numbers of A. D. Hopkins and Theo. Pergande, collected at Eureka, California, May 19, 1903, on *Abies grandis*. Three alate specimens, several pupae and one apterous specimen in poor condition. However, general characters of species quite distinct. Types in U. S. Bureau of Entomology collection.

Alate viviparous female.—In balsam the legs appear to have been fairly dusky throughout, although the hind pair are much darker than the others. Hind tibiae with only a faint indication of the usually light area near the base of the tibiae. Antennae rather stout, third segment with seven to nine large sensoria, fourth with three and fifth with two. Nectaries mostly obscured but appear to be small and having a comparatively small base. Antennae, legs and body with short hairs of rather fine texture. On the femora and base of the tibiae they stand erect, while toward the tip of the latter they are inclined.

Measurements.—Length of body 1.86 mm.? Length of antennal segments: III, 0.41 mm.; IV, 0.166 mm.; V, 0.187 mm.; VI, 0.12 mm.? Total length 1.04 mm.? Beak: III, 0.187 mm.; IV, 0.145 mm.; V, 0.063 mm. Total length 1.78 mm. Length of hind tibiae 1.86 mm.; tarsus 0.31 mm.

***Lachniella atlantica*, n. sp.**

From material collected by L. C. Bragg, at Webster, Massachusetts, June 19, 1909, on *Pinus* sp. Two slides containing three alate and five apterous forms. One slide in writer's collection, others in collection of C. P. Gillette.

Apterous viviparous female.—Antennae light at base of third segment, remaining parts dusky black. All three pairs of legs black except the base of the femora, and a yellow area toward the base of each tibia. Third antennal segment approximately equal in length to the fourth and fifth together. Fourth segment slightly shorter than the fifth, and the sixth shorter than the fourth. Third segment with a single sensoria, fourth with one and fifth with two. Beak extending to the tip of the abdomen. Nectaries extremely large, volcano-shaped.

Measurements.—Length of body 2.37 mm. Length of antennal segments: III, 0.44 mm.; IV, 0.21 mm.; V, 0.23 mm.; VI, 0.166 mm. Total length 1.25 mm. Beak: III, 0.21 mm.; IV, 0.187 mm.; V, 0.063 mm. Total length 2.04 mm. Length of hind tibia 2.20 mm. Hind tarsus 0.31 mm.

Alate viviparous female.—Colour of antennæ and legs as in the apterous form. Third antennal segment approximately equal in length to fourth. Third antennal segment approximately equal in length to fourth. Third segment with six to eight large, circular sensoria, fourth with two and fifth with two. Nectaries extremely large. Beak extending to the base of the nectaries. Hairs on legs, body and antennæ fairly abundant and longer than those of other species in this group. Those on the femora and at the base of the tibiæ are not quite as upstanding as with other species in this group.

Measurements.—Length of body 2.39 mm. Length of antennal segments: III, 0.46 mm.; IV, 0.21 mm.; V, 0.23 mm.; VI, 0.145 mm. Total length 1.28 mm. Beak: III, 0.21 mm.; IV, 0.187 mm.; V, 0.063 mm. Total length 2 mm. Length of hind tibiæ 2.08 mm. Hind tarsus 0.33 mm.

***Lachniella arizonica*, n. sp.**

Descriptions made from eleven specimens on three slides. Specimens collected on *Pinus* sp. at Williams, Arizona, June, 1901, by E. Q. Schwarz. Types in U. S. Bureau of Entomology collection.

Apterous viviparous female.—General colour characteristics cannot be determined. Antennæ with basal half of third segment light coloured, remaining segments dusky to black. Legs black, except bases of femora, and a small section of the tibiæ near their bases.

Antennæ extending to the third pair of coxæ, the third segment longer than the fourth, fifth and sixth together. Third segment with one to three small sensoria near the distal end. Nectaries large and with a wide, cone-shaped base. This species is entirely different from all other lachnids I have seen because the surface of the body is reticulated, and the spines on the antennæ, body and legs, except on the tarsi and caudal plate, have the appearance of being capitate.

Measurements.—Length of body 5 to 6 mm. Width 3 mm. Length of antennal segments: III, 0.96 mm.; IV, 0.35 mm.; V, 0.27 mm.; VI, 0.17 mm. Total of beak 1.7 mm. Length of hind tibiæ 5.12 mm.

Alate viviparous female.—Colour characteristics cannot be determined. Dark and light coloration of antennæ and legs as in the apterous forms. Antennæ reaching to base of third pair of coxæ. Third segment about equal in length to the fourth, fifth and sixth segments, and with from two to four irregular-sized sensoria along the distal half. Fourth with two, and fifth normally with two. Body does not show reticulations as in apterous forms, but the hairs are similar and are strongly spine-like.

Measurements.—Length of body 5 to 6 mm. Length of antennal segments: III, 0.9 mm.; IV, 0.39 mm.; V, 0.37 mm.; VI, 0.166 mm. Total length 1.98 mm. Length of beak 1.9 mm. Length of hind tibiæ 5.2 mm. Cauda broad and rounded at the tip.

(To be continued.)



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