

ACCOUNT OF A NEW TINGITID.

By O. HEIDEMANN.

Corythuca pergandei, n. sp. (fig. 2).

Smaller than the oak or sycamore tingitids. The net-like reticulation of the surface yellowish, the areoles more or less translucent; across the elytra are two brown bands, one at base and the other near apex, the latter one sometimes only faintly colored; the membranous pronotal margins also partly infuscated. Body black, except the margin of prosternum, the humeral area, and the last two abdominal segments, which are fulvous; very dark specimens have the abdomen almost entirely black. The pronotal hood, which entirely covers the head, is of moderate size, with the posterior part not very elevated; it is about as long as the triangular portion of pronotum and its posterior globular part is not broader than one of the membranous pronotal margins; it is abruptly constricted at about the middle, from there tapering gradually towards front and forming an apex which, viewed from the side, is

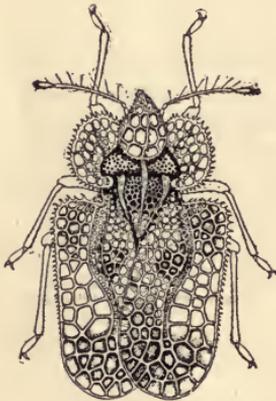


FIG. 2.—*Corythuca pergandei*: Adult.

hook-like. The areoles of the globular portion of the hood are quite large, hexagonal or pentagonal, the others smaller and irregular. Antennæ slender, pilose, and pale yellowish, sparsely beset with a few very long, bristly hairs, the apical joint knobbed at tip, usually darker in color; the third one hardly more than twice the length of the two basal joints taken together; second joint shortest, half as long as the first. The rostrum enclosed in the rostral groove, which is rounded and closed behind, reaches the base of the metasternum. The membranous pronotal margins are bean-shaped and the surface is much sunken before and behind the middle, with the areoles nearly uniform in size.

Pronotal processes broadly triangular, deeply punctured at base and irregularly reticulated towards the apex; the lateral margins only raised anteriorly, having a few cells. Middle carina feebly elevated, hardly one-half as high as the hood, rounding a little from its base and slightly sinuated behind the middle to the tip; it has five or six cells, sometimes one or two additional ones caused by a little cross-vein dividing the middle cell, which is then somewhat embrowned. In some specimens the carina often appears truncated. The elytra when closed are very little longer than broad, rather subquadrate; lateral margins

nearly straight, the anterior and posterior angles broadly rounded; edges of elytra and pronotal margins armed with short, white spines, tipped with black; at the nervures of the hood and near the elevated part of elytra there are also a few scattered spines. Sometimes specimens have the armature a little stronger. Discoidal area irregularly reticulated with four or five rows of areoles, tumidly elevated behind, marked with a brownish spot; the subcostal is biseriata and the costal area has three rows of hexagonal or pentagonal areoles, those on its widest part, mostly at the inner side, very large; on the sutural area before the apex are also a few large hexagonal areoles. Legs yellowish, the tarsi darker at tip. Claspers of the male strongly curved, not hairy.

Length 3.2 mm., width 1.6 mm.

Described from many specimens of both sexes. Some larval forms were also examined. Washington, D. C., February 18, 1884, October 12, 1882 (Pergande), July 18, 1902; Bedford Co., Pa., August 23, 1902; Front Royal, Va., September 10, 1903, May 29, 1904 (Heidemann); Springfield, Mass., August 29, 1902; Urbana, Ill., October 11, 1904 (Knab); Lawrence, Kans. (Tucker).

Type (from Washington, D. C., ♂ and ♀).—No. 8302, U. S. National Museum.

This new species is to be distinguished from *Corythuca ciliata* Say, and from the species occurring on oak by the different shape of the pronotal hood, which is less elevated in both of the latter, and by the fact that in these latter, also, the adjoining middle carina is as high as the globular portion of the hood. It is also distinct from *Corythuca marmorata* Uhler in having the elytra not so much speckled with brownish markings; while *Corythuca incurvata* Uhler differs from it in the great, abrupt height of the hood, and *Corythuca juglandis* Fitch differs from it in the more inflated, globular part of the same.

In one of the note-books of the Bureau of Entomology, Dept. of Agriculture, there is a short account of this tingis by Mr. Th. Pergande under number 2893, as follows:

October 12, 1882, February 18, 1884, found quite a number of Tingis on lower side of leaves of different species of *Alnus* on the Agricultural grounds of Washington, D. C. Mounted winged specimens, marked 2893, and larvæ on slides 3/4/1.5.

No. 2945, November 5, 1882; found several specimens, larvæ and adults of Tingis on lower side of leaves of Hazel. Mounted winged ones, marked 2945, and larvæ on slide 3/1/56.

The U. S. National Museum also contains specimens of this tingis, labeled as found on elm and crab-apple trees. I

have taken specimens from the leaves of black alder as early as May and late in September. The insect hibernates in the adult stage under fallen leaves and in the crevices of the bark.

The eggs of this tingis, which I found on the black alder, are shaped like the eggs of those known to be on oak and are only a trifle larger; this insect has, also, the same habit of depositing its eggs on the underside of the leaves, fastening them to the surface, differing however in that it completely hides them under the dense pubescence of the leaf, in the axil which is formed by the main rib and its side branches. In this way the eggs are entirely out of sight and well protected.

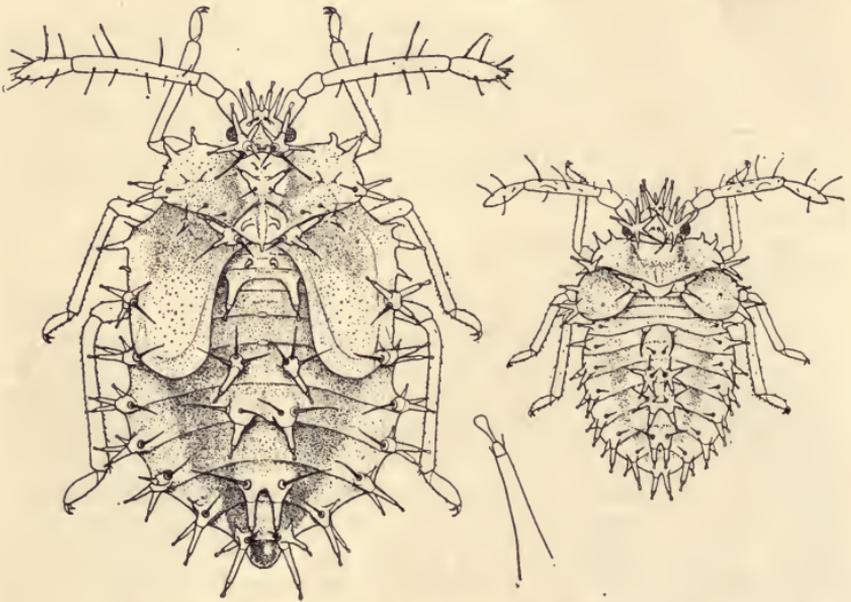


FIG. 3.—*Corythuca pergandei*: Young larva or nymph at right, older nymph at left, enlarged spine between.

The larval forms (fig. 3) are quite similar to those of the oak tingitid, except that the body appears to be less broad. They are armed with the same kind of spines, which Dr. A. W. Morrill in his excellent treatise on the immature stages of some tingitids^a has termed "trumpet-shaped spines, type No. 1, type No. 2, and simple spines, type No. 3." These spines arise from elongated, thick protuberances, or from a conical base, and are situated on the head, at the margins of thorax, and on the dorsal part and sides of the abdominal

^a Psyche, Vol. x, No. 324, pp. 127-134, August, 1903.

segments. But the larvæ of *C. pergandei* show some differences in their last two stages, in having also some spines belonging to type No. 1, rounded at tip (fig. 3), not trumpet-shaped, and more like those of the nymph of *C. ciliata* Say in the first instar, according to Doctor Morrill. Besides there appear in the last stage or pupal form some long, simple spines of type No. 3, which are not pointed at the end, but slightly inflated. Two very long spines of this latter shape rise from the base of the head, and a few smaller ones from the abdominal segments, dorsally, near the margins. The antennæ are sparsely covered with simple spines and the legs with very short ones. I take pleasure in naming this new species in honor of Mr. Theodore Pergande, who was the first to take notice of this species.

—Mr. Barrett showed several photographs taken by Mr. Fairchild and himself, of bumblebees in the act of mating, and presented the following notes:

NOTES ON THE COPULATION OF BOMBUS FERVIDUS.

By DAVID FAIRCHILD AND O. W. BARRETT.

(Plate I.)

While walking across the nursery plats of the Arlington Farm, about October 13, the writers noticed three individuals of a species of *Bombus* clinging to a young cherry tree about six inches above the surface of the ground. Upon close examination it was found that one male, apparently lifeless, was *in coitu* with a female of the same color but slightly larger size, and upon the back of the female another male was actively endeavoring to copulate. The female clung tenaciously to the stalk and paid little attention to the maneuvers of the male upon her back. The male *in coitu* was suspended by the genitalia only, all the legs being held appressed to the body and motionless. Upon irritation with a straw the latter male evinced life only by buzzing of the wings. The male not *in coitu*, which may be designated as male No. 2, was quick to notice any interference in his actions by means of the straw but could not be induced to leave the body of the female.

Presumably copulation had continued for some little time previous to the finding of the specimens and there was no apparent tendency towards its cessation when the coitus was