THE SONG OF THYREONOTUS.

BY WILLIAM T. DAVIS, STATEN ISLAND, N. Y.

Mr. Samuel H. Scudder, in the Report of the Ontario Entomological Society for 1892, gives an interesting account of the "Songs of Our Grasshoppers and Crickets," and kindly permits the stridulations of a number of Staten Island insects to be heard mid the general medley. There is, however, an additional songster to be added to this list, as appears from the following.

On the 26th of last June I heard in a moist pasture, on the north shore of the Island, a stridulation that was unknown to me. It much resembled that produced by *Orchelimum vulgare*, with the preliminary zip, zip, omitted. It was a continuous *zee e e*, with an occasional short *ik*, caused by the insect getting its wing-covers ready for action after a period of silence. It was too early for *Orchelimum vulgare* by about a week; at least I have never heard one on the Island before the fourth of July; so in the present instance I made careful search for the musician. In due time I discovered, in a tussock of rank swamp grass, the brown songster perched on a dead leaf, and receiving the evidently welcome rays from the afternoon sun. It was *Thyreonotus pachymerus*, and in the swampy field about me I heard others of its kind, so that this individual was only one of a considerable colony.

A failure to make proper use of his legs (the wings are abortive), resulted in the transfer of *Thyreonotus* from the tussock to a tin can. At home I made a bowery for him in a larger tin can covered with netting, into which was introduced a branch of the coriaceous leaved post oak, and when the leaves dried, there were innumerable nooks and crannies wherein to hide. Usually, however, the insect did not hide at all, but perched himself on one of the topmost leaves and there waved his antennæ after the manner of all long-horned Orthoptera. Starting with raspberries, he had the rest of the fruits in their season, including watermelon, of which he showed marked appreciation. If I offered him a raspberry, and then gradually drew it away, he would follow in the direction of the departing fruit and would finally eat it from my hand.

As the bowery was kept in my bed room, I had the full benefit of the songs of its occupant, and was often awakened in the night by his sudden, alarm-like outburst of melody. He stridulated with unabated zeal to the first of August, when I noticed that his energies were lagging—he

seemed to be much less sprightly. Finally his song, instead of filling the room, was but a faint sound, and I was obliged to place my ear close to the tin can. This was nearing the end, which came either on the tenth or eleventh of September, I cannot say which, for the bowery was not disturbed until its occupant had been missing from the upper leaves for several days.

Once or twice during his captivity he took unnecessary alarm at my well-meant efforts to "fix" the bowery, and whacked his head most insanely against the tin can, being propelled thereto by his muscular hind legs. However, no harm seemed to result from these little fits of nervousness, and he evidently died quietly enough in the end.

I have observed in other kinds of grasshoppers the subsidence in the volume of song as they grew older, which evidently makes it unsafe to take the efforts of a single individual as the standard of the species, especially if the time is late in the fall.

NOTES ON LEUCANIA PSEUDARGYRIA, GUEN.

BY REV. THOMAS W. FYLES, F. L. S., SOUTH QUEBEC.

Full-grown larva.—Length, two inches. Colour greenish-brown above, greenish-grey beneath. Pale dorsal and side lines. Spiracles black. Head and scale on second segment light reddish-brown; jaws darker brown. This description agrees with that given by Mr. Caulfield in Vol. XIII. of the CANADIAN ENTOMOLOGIST, page 132.

The larvæ, like those of *Arzama obliquata*, feed in the stems of *Typha latifolia*. The two species may sometimes be found in the same plant. They are plentiful in the swampy ground at the foot of Mount Royal, Montreal. Both sometimes become the prey of the maggots of *Chatopsis ænea*, Wied.

Pupa.—Length, one inch and a-quarter. Colour light brick-red. Forepart rounded abruptly and terminating in a beak-like projection, resembles the head of a bird. Thoracic portion of case curves backward on either side to a point. Wing cases large.

My specimens underwent the pupal change amongst the accumulated frass in their tunnels; but doubtless the larvæ sometimes leave the food-plant and seek hibernacula elsewhere, as do those of *Arzama obliquata*. (See Mr. Caulfield's notes referred to above.)