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EGGS OF THREE CERCOPIDÆ.

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In Eastern Massachusetts, *Philœnus leucophthalmus* Linn, and *Philœnus lineatus* Linn which Prof. Herbert Osborn (Bull. 254, Me. Agri. Exp. Sta. 1916) has designated as the Meadow Froghopper and the Grass-feeding Froghopper respectively, are undoubtedly the most numerous species of Spittle insects. *Philaronis bilineata* (Say) is also found, sometimes in large numbers, usually on grasses, near or on the extensive salt marshes of this region.

In August 1921, the writers confined adults of these three species in separate lantern-globe cages in which plants of *Setaria glauca* were growing. This grass was used because it was near at hand—not because these insects had showed any partiality for it as a food plant.

Eggs were easily obtained in this way, and the method of oviposition was found to agree exactly with that observed during 1920 when eggs of *P. leucophthalmus* Linn. were obtained in confinement and found in the field on Tansy, *Tanacetum vulgare*.

Oviposition of these three species is very similar indeed. Individual eggs nearly agree both in shape and in color and are deposited in the same manner. The eggs are laid in single rows, side by side, in numbers of from 2 to 24. Individual eggs are imbedded in, and the entire mass is surrounded with a white, frothy appearing material which is tough and inelastic and securely holds the individual eggs so that they can be dissected from it only with difficulty. This protective material is more plentiful about the edges of the mass and becomes sparse at the top and bottom where the mass lies in close contact with the stem and sheath of the plant.

The eggs are inserted between the stem and the leaf sheath at a point where the sheath adheres closely to the stem, the mass lying parallel with and very near to the edge of the sheath. It is evident from all the egg masses thus far observed that the female does not thrust her ovipositor thru any portion of the plant tissue,

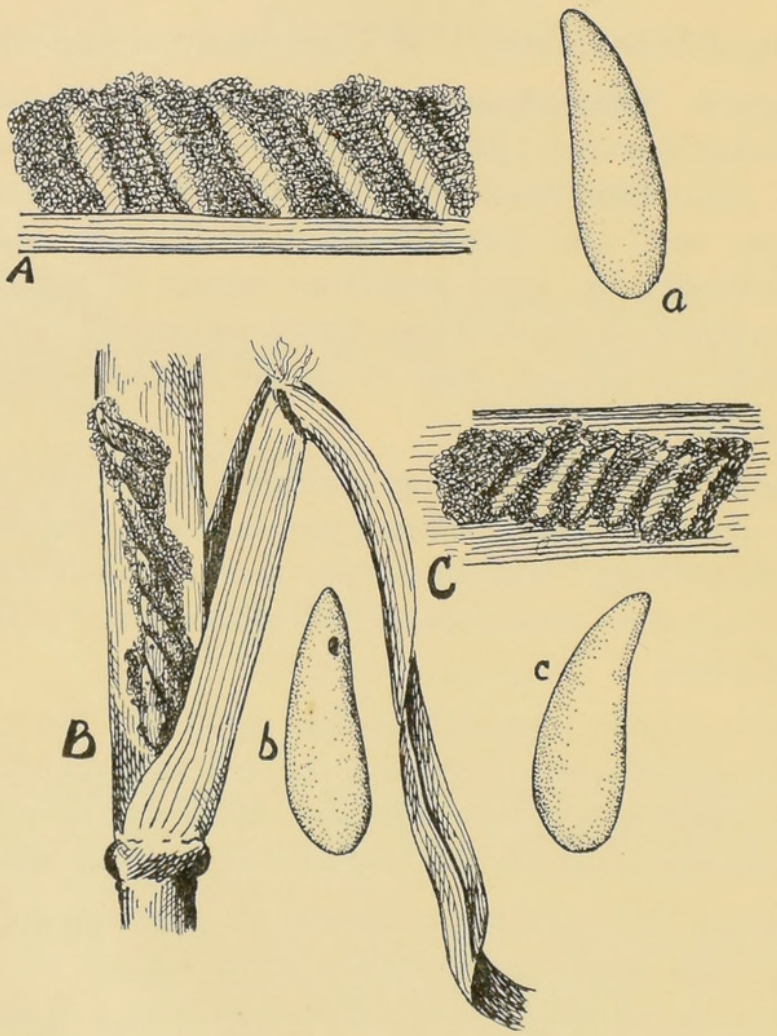

Fig. 1. A, *Philaronia bilineata* (Say), egg mass; a, egg of same; B, *Philaenus lineatus* Linn. eggs in situ; b, egg of same; C, *Philaenus leucophthalmus* Linn. egg mass; c, egg of same.

but merely inserts the eggs between the stalk and leaf sheath. Frequently the masses can be seen thru the leaf sheath, particularly when the latter is dried. Sometimes a portion of the mass can be seen exposed along the edge of the sheath.

Individual eggs are smooth, shining, slightly flattened, more than two times as long as wide, one end tapering, the other bluntly rounding; sides each convexly curved or with one side slightly incurved. They are light yellow in color, usually with a slight lemon tinge.

Prof. Osborn (ibid 1916) described and figured the eggs of *P. leucophthalmus* Linn. dissected from the female adult. Our description nearly coincides with his.

Philœnus lineatus Linn.[1]

Egg; Length. 98 mm; Width .37 mm. Protecting material only moderately abundant to sparse; individual eggs scarcely separated Eggs per mass 2 to 24.

Philœnus leucophthalmus Linn.

Egg: Length 1.03 mm; Width .39 mm. Protecting material abundant; individual eggs slightly separated. Eggs per mass 2 to 18.

Philaronia bilineata (Say.)

Egg: Length 1.22 mm; Width .42 nmm. Protecting material abundant; individual eggs more noticeably separated by protecting material. Eggs per mass 5.

[1]Since this paper has been in the hands of the publisher there has appeared a study of *Philaenus lineatus* Linn., (Philip Garmon, Conn. Agri. Expt. Sta. Bulletin 230, in which the eggs are described.

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