

LEPIDOPTEROUS GALLS COLLECTED IN THE VICINITY OF TORONTO.

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Gnorimoserema (Gelechia) Gallaesolidaginis, Riley.
(The Low Solidago Gall.)

Galls usually on the lower third of the stems of *S. Canadensis*, occasionally on the upper third, rarely at the summit of the stem. The galls vary in form from spindle form to prolate and oblate spheroid; and in size from 10 x 21 mm. to 18 x 30 mm.

When young the producer larvæ are confined in small cells, but when mature the cells are large, retaining the form of the exterior of the gall, the larvæ moving freely about feeding on the interior surface.

Some observers say the interior of the gall is lined with silk. I have never found this, but preparatory to the exit, the mature larva before pupating constructs a silken hammock in the upper end of the gall, at right angles to the axis of the gall, and opposite the aperture of exit. The larva resting in this hammock bites out a hole to the epidermis of the gall, which is carefully left. This hole is bevelled towards the outside, and then neatly filled up with the material gnawed out, mixed with a silk-like substance, doubtless from a gland, which forms a tight-fitting, hard plug which cannot be pushed in from the outside, but is easily pushed out from the inside.

The mature pupa places itself on the hammock, and using a part of it as a fulcrum, pushes out the plug, and enters on mature life.

A fair instance of the mental make-up of insects evidences two important attributes of mind, memory and choice.

I have kept up a somewhat continuous acquaintance with this common *Solidago* gall, its producer, and parasites since the summer of 1856. I have found it in Essex, London, Owen Sound, Bruce Peninsula, Manitoulin, St. Catharines, Napanee, Temagami and Algonquin Park. It is common in Muskoka, we may say common throughout Ontario.

Although most common on *S. Canadensis*, it is occasionally found on *S. nemoralis* and *S. serotina*.

From Manitoba, Saskatchewan and Alberta I had galls sent to me collected from some species of *Solidago*, which in structure were similar to Toronto galls. But as I failed in rearing producers, identity was uncertain, although the parasites were the same as Toronto species.

Records of annual collections of galls, from 1876 to 1896, showed the time of emergence of the producers to be from about Aug. 20 to Sept. 1, in each year.

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