

With regard to the new species, *Rhagoletis intrudens*, described above by Professor Aldrich, this is the one referred to by the late Dr. Fletcher in his annual report for 1906, page 228, under the title, "A Cherry Fruit Fly, *Rhagoletis cingulata*, Loew." This insect caused noticeable damage to cherries, in 1906, in British Columbia.

Mr. W. R. Palmer, of Victoria, B. C., in whose orchard the insect was injurious, was asked to send to the Division some living puparia, but in 1907 he wrote that he was unable to find any during the winter. Writing under date of July 20th, 1907, he says: "We had a harder winter than usual, and they do not seem to be as prominent. They still stick to the same trees as last season."

No reports of injury by the larvæ of this fly have been received during 1908.—ARTHUR GIBSON, Division of Entomology, Central Experimental Farm, Ottawa.

LEPIDOPTEROUS GALLS COLLECTED IN THE VICINITY OF TORONTO.—No. 2.

BY DR. WM. BRODIE, TORONTO.

Eucosma Scudderiana, Clemens; *Pedisca saligneana*, Clemens.
(The High Solidago Gall.)

The galls were collected usually in the spring, February and March, occasionally late in the fall, and kept in a suitable jar, until all occupants were out; always two seasons.

Annual collections were made during 12 seasons, from 1883 to 1895, each collection averaging over 45 specimens. Most of the collections were from the vicinity of Toronto, a few from distant localities.

From 1854 to 1864 these galls were very common throughout North York, and are so still. I have found these galls at Owen Sound, North Bruce, Temagami, Algonquin Park, Tobermory, Manitoulin, North Bay, Essex, St. Mary's, St. Catharines, Whitechurch, Scugog and other localities, and no doubt they are common in Ontario wherever the host-plant, *S. Canadensis*, is found.

The galls are at the top of the main stems of the plants, usually within the flowering panicle, rarely on the branches of the panicle; usually but one gall on a plant, occasionally two, rarely three.

The galls are spindle-form, varying in size from 10 x 16 mm. to 12 x 28 mm.; diameter of stem below gall from 4 mm. to 5 mm.; the average of

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ten galls collected in ten seasons, 100 specimens, was $9\frac{1}{2} \times 21\frac{1}{2}$ mm., diameter of stem below gall 5 mm.

The galls are unicellular, the larvæ for some time being closely confined in the cells. I do not think there is ever room for them to turn, and I am still in doubt as to their rather peculiar feeding habit.

The producers winter in the larva form, within the galls, pupate about May 1, and the imagoes emerge from June 1 to July 5; the average date of emergence is about the middle of June. From June 12 to July 1 I have taken specimens of the mature moth, while sweeping the hand net over *Solidago* blooms; it is a beautiful creature, strongly marked and readily recognized. The mature pupa pushes its way through the loosely-closed upper end of the gall, and the moth emerges into the environment of mature life.

The largest and most common parasite is *Macrocentrus pædisca*, Riley, easily recognized by its long ovipositor. This parasite emerges about the middle of July.

Perilampus platygaster, another parasite, emerges early in July; *Cryptus extrematis* still another parasite, seldom more than one individual from a gall; *Pimpla annulipes* also not rare. I bred *Copidosoma gelechia* from this gall, and once the secondary *Dibrachys boucheanus*.

From a lot of galls collected near Lake Simcoe, April, 1904, as well as producers and parasites, there emerged from May 2 to May 12, 1904, 18 specimens of a *Diplosis*, very much like gall producers; but, unfortunately, from the want of material I failed to determine whether these were gall producers or inquiline in *Eucosma* galls. The galls were all similar in size, shape and structure; normal *Eucosma* galls. In my notes I have entered as a provisional name for this species, *D. eucosma*.

I have found this gall restricted to the one host-plant, *S. Canadensis*, and there seems to be a fairly uniform relation between the producers and parasites in the vicinity of Toronto; so that year after year the galls are about equally numerous.

In Vol. 10, p. 202, CANADIAN ENTOMOLOGIST, Kellicott describes this gall, the habits and life-history of the larva and pupa of the producers.

Gnorimoschema asterella, Kell. (*Gelechia asterella*).

(The *Solidago latifolia* Gall.)

In Vol. 10, pages 203-4, of the CANADIAN ENTOMOLOGIST, D. S. Kellicott describes this gall and its producer.

He also gives a good engraving of the gall, but it is not that of a gall on *Aster corymbosum*, but on *S. latifolia*. The leaves at the top of the gall are evidently leaves of *S. latifolia*, and the angular form of the stem of the plant, which is always continued up the gall, is clearly shown by the engraving.

S. latifolia is one of our most common and beautiful forest flowers, having a wide geographical range over Ontario; and I have found the gall more or less common wherever the plant is found.

My first record of the gall is Aug., 1886, when I found it very common in a grand, primal, hardwood forest, in the Township of Whitchurch. My attention was directed to the galls from the fact that an ignorant old quack was using them as a cure for "fits," under the name of "Fitt Apples."

In a collection of 30 galls made May 29, 1890, a few miles north of Toronto, most of them were at the top of the stem, surmounted by a few leaves, occasionally but one, usually two. The galls at this date seemed to be mature, subtriangular, corresponding to stem of plant; from 20 mm. to 32 mm. long, and from 10 mm. to 15 mm. dia. In size, form and structure the galls closely resemble galls of *S. galliesolidaginis*. Rarely they occur on the middle and lower third of the stem of the plant.

From June 29, 1891, to June 25, 1896, annual collections of galls were made. Galls collected before the middle of June were immature, and seldom gave either producers or parasites. The producers had emerged from all the galls collected after the middle of August, but often contained larvæ and pupæ of parasites, *Cryptus*, *Pimpla*, *Copidosoma*, *Ephialtes*. The emergence of the producers was from July 28 to Aug. 20 in each season.

The following is an entry from my notebook, dated July 11, 1893: "Collected from wooded hillside, in St. James's cemetery, 35 galls, all terminal on stems of *S. latifolia*, all overtopped by a tuft of leaves, usually but two; plants not much dwarfed, but no flowers. July 13, 1893, from a wooded hill on the Don, collected 40 galls, all but one terminal, two galls on one plant."

From Aug. 7 to Aug. 20, 1893, producers emerged, and from July 17 to Aug. 17, 1893, four species of parasites: two *Pimplas*, one *Cryptus*, one *Ephialtes* emerged; *Copidosoma* occasionally the following spring, June, 1, 1894. The galls on growing plants appear to be full size, but still

solid, no open cavity, larva strictly confined in centre of gall, 3 mm. long. The parasites which I have bred from this gall are *P. conquisitor*, *P. inquisitor*, *C. extrematis*, *Ephialtes* sp., *C. gelechia*.

The structure of the galls, the habits of the larvæ, and the mode of exit from the gall, are very similar to those of *G. solidaginis*, and are all very fully described by Kellicott, in the article above referred to.

I have found what seems to be a lepidopterous gall, very rare about Toronto, on stems of *Aster corymbosum*, a spindle-form gall immediately under the flowering panicle, not at all like the gall figured by Kellicott but I failed to rear anything from them.

I found *A. corymbosum* very common all through the Temagami district, and the gall not especially rare, but as the galls I collected were immature, neither the producers nor parasites emerged from them.

THE OTTAWA NATURALIST for January consists of a series of tributes of respect and affection in memory of our deeply-lamented friend, Dr. James Fletcher. A meeting of the Ottawa Field Naturalists' Club was held on the first of December, and appreciative addresses were given by many colleagues and friends, all expressive of the highest admiration for his varied scientific attainments and the warmest affection for him whose kindness, geniality and unselfishness won the hearts of all who knew him. Mr. W. H. Harrington, an almost life-long companion, gives a most interesting account of their early days together, when they explored forest and field and stream collecting insects and plants, and how the intimate knowledge of nature thus obtained caused him to become such a recognized authority in both botany and entomology. All these addresses will be read with the deepest interest by the many friends of him whom they commemorate.

HONOLULU, HAWAIIAN ISLANDS.

About the middle of May the Hawaiian Board of Agriculture and Forestry hope to be in a position to engage an assistant entomologist. They want an economic entomologist inclined to take up Coleoptera or Parasitic Hymenoptera as a specialty, and one who is good at laboratory and field work. Their equipment and library are good. Salary \$1,500 to \$1,800 per annum, depending upon the man. The climate of Hawaii is unexcelled and opportunities good. Correspondence might be opened now. State age, schools, experience; also give references. Address: JACOB KOTINSKY, Superintendent of Entomology, Board of Agriculture and Forestry, Honolulu, Hawaii.

Mailed February 6th, 1909.