BAPTIST CONFERENCE OF ONTARIO.

Proceedings.

[Continuing Session.]

Conference re-assembled Wednesday in Jarvis street church, Rev. Dr. Fyfe in the chair. Prayer offered for half an hour, after which the minutes were read a paper, entitled "Our Way out on Associations." A short discussion followed, Rev. Dr. Fyfe read a paper on "Mutual Adjustment of the Societies." This was followed by a sermon delivered the annual sermon to the Conference. The meeting then adjourned.

Afternoon Session.

The Conference re-assembled at 2 30, Mr. Vice-President, in the devotional exercises. Reports on Arrangements reported the procedure of the Convention. The Committee on nominations for the ensuing year was reported. It is as follows:—

Hughes, M.D., Toronto, Vice-Pres. Port Hope; D. Sheldon Chas. Raymond, Guelph; A. John Dryden, Brooklin; Sarnia; Thos. Lailey, Thos. St. Catharines; John Burt; W. J. Copp, Hamilton; Benjamin Bethune, Toronto; Davidson, Guelph. Directors: H. R. Stovel, Mount Secretary, Georgetown; Charles Jr.; Rev. Jas. Ross, Secretary; F. Thomas Clark, Waterford; Jas. Thompson; J. Molesons, Colborne; Toronto; D. E. Robertson, Lucan; Rev. Geo. Sherwood; Wm. Moyle, Paris; Hartley; J. Q. Wainstead, Lon. Stewart, Rev. W. E. Anderson, Rev. Dr. Cooper, Toronto; Rev. Jas. Ross, Rev. Dr. Davidson, Rev. C. Goodspeed, M.A., Rev. E. Spencer, Rev. Dr. Fyfe, James Mills, A.M. Barber, A.B. Wood, Rev. James Rev. Dr. Fyfe and Stewart, Rev. Messrs. C. Goodspeed, Toronto, and J. Davis, Brantford.

After a short discussion the report was adopted.

The Treasurer read the financial statement of the year, showing the receipts to be as follows:—Total receipts since last session, $7921 57; proceeds of notes discounted, $5505 20; balance due treasurer, $254.79. Total receipts, $13,681 56. The report was adopted.

The Society then adjourned.

While the above meetings were going on, a Women's Missionary meeting was held in the main class room. There was a large attendance, and no one but ladies took part in the proceedings, which were of an interesting character.

TORONTO ENTOMOLOGICAL SOCIETY.

Interesting Paper on the Potato Beetle Read by Mr. Brodie, the President.

The following interesting paper on the habits of the potato beetle, was read at the last meeting of the Toronto Entomological Society by the President, Mr. Brodie:—

GENTLEMEN,—I hesitate to put your consideration a synopsis of a series of experiments, conducted by myself, intended to determine certain facts in the life-history of Doryphora 10 lineata, about which there is a good deal of popular misconception.

The experiments were made in cages, where the natural conditions of temperature, light, and moisture were maintained as nearly as possible, the same cages in which I had successfully reared larvæ of Papilio troilus and other delicate lepidoptera.

To secure greater accuracy nearly every experiment was repeated, and in no instance were results contradictory, and the results carefully compared and recorded.

The important propositions supported by these experiments are:—

First.—The potato is the only plant in Ontario on which the beetle can feed so as to become very numerous.

Second.—Food is necessary to the imago, in order to develop the reproductive functions.

Third.—If not supplied with food the imago will die in a short time—perhaps never exceeding two weeks.

Fourth.—The larvæ feed in Toronto of Lycopersicum esculentum, by far the most reliable and valuable of all the varieties of D. 10 lineata.

It is so generally conceded that D. 10 lineata will not feed on the leaves of any of our forest trees, neither on any of our grasses, nor cyperaceous plants; that proofs of this need not be submitted nor discussed. The plants experimented upon, you will see, are mainly those which have been named as food plants by newspaper men, farmers, and others.

Experiment 1.—Thirty mature beetles, after being kept without food for twenty-four hours, were supplied with leaves of carrot, parsnip, beet, pumpkin, lettuce, sunflower, aster, Canicum-crus galli, and cabbage, for eight hours; none eaten; when supplied with potato leaves all ate freely.

Experiment 2.—Thirty mature beetles, after being kept without food for thirty-two hours, were supplied for sixteen hours—in addition to the plants named in experiment 1—with red root, (Amaranthus hybridus), shepherd, (Capsella officinalis), lambs-quarters, (Chenopodium album), mullein, (Verbascum thapsus); none eaten; when supplied with potato leaves all ate freely. This experiment was also repeated three times, with uniform result.

Experiment 3.—Thirty mature beetles, after being kept without food for twenty-four hours, were supplied with leaves of tall mallow, (Malva rotundifolia), Indian hemp, (Apocynum cannabinum), milkweed, (Asclepias cornuti), green-leaved Woodstock, (Andrew Indian Cress, (Tropæolum minus), Dahlia, (Dahlia variabilis), Canada thistle, (Cirsium arvense), water parsnip (Sium lineare), goldenrod, (Solidago canadensis), Indian Weed, (Erigeron Canadense), and mint (Nepeta Cataria), common plantain (Plantago lanceolata), and common pimpernel, (Anagallis arvensis). None were eaten. When supplied with potato leaves, all ate freely. This experiment was repeated three times with unvarying results.

The solanaceous plants found in Ontario and cultivated on one of which D. 10 lineata is generally admitted Dorryphora will feed are the Hyposcamus niger, Physalis pubescens, Nicotiana tabacum, Solanum nigrum, Solanum dulcamara, Datura stramonium. It is very beautiful if Dorypha, either in the larva or imago state, will feed on the two last named. They are, however, all late plants, and would afford no food for the early spring season, and so scarce that they would not feed the July brood for one hour.

Experiment 4.—Aug. 5. Took in fifty mature D. 10 lineata larvæ, forty-five of which changed to beetles on August 20th, while five had died in the pupating stage. These forty-five beetles were kept without food; four died on the fourth day, thirty-seven were dead on the fifth day, thirty-nine on the eighth day, forty-two on the tenth day, forty-five on the eleventh day. Over 75 per cent. died within five days, the majority dying first. No pairing took place, no eva was deposited, and a disposition to hybernate was evinced. This is the average of three cases conducted simultaneously, and which varied but little.

Experiment 5.—Aug. 8. Took in thirty mature beetles all of which had partaken of food, and kept them without food. Two were dead in fourteen days; eight in nineteen days; thirteen in twenty-three days; sixteen in twenty-seven days; twenty-four in forty-seven days. Twenty per cent. survived forty-seven days' fast; pairing occurred and eva were deposited to a small extent during the first ten days. This is the average of the three cases conducted simultaneously.

There is a very marked difference between this result and that of Experiment 4, where the beetles had never partaken of food.

Experiment 6.—August 16. Twenty pairs Doryphora after being well fed were kept in a dry situation; thirty-two were dead in twelve days; all dead in twenty-two days; the males died first; a few eva were deposited and during the first week. This experiment was repeated three times.

Experiment 7.—As to the rate of feeding the experiments here were tried, the beetles numbered from fourteen to twenty-one, and the times from 24 to 168 hours; the average of the five trials was one beetle will eat one square inch of potato leaves in thirty hours; the average rate was two hours. Beetles were thirty-seven hours. It may be stated that one beetle during its imago life will defoliate one sets of potatoes.

Experiment 8.—August 20. Took in fifty beetles which had been well fed; eleven immediately buried themselves in the sand. September 6. All dead above ground; turned out the sand and found the eleven alive; replaced sand, also beetles; eight at once buried themselves. September 15. Three remaining on surface dead. September 20. Found all on surface of sand, which I found quite dry; on washing and sifting out the sand, not one alive, October 16.

Experiment 9.—September 1. Took 100 Doryphora larvæ, some immature, had them in pupating; Sept. 10, all pupating; Sept. 20, 15 beetles out; Oct. 1, beetles all dead. On turning out the sand found that none had hybernated. This agrees with the results of seven experiments, and shows that there was no disposition to hybernate until after the middle of August, and then only by beetles which had fed.

The date of hybernation will vary according as the season is warm or cold, but I think it pretty certain that beetles which have not fed will not survive the winter.

A result of experiment 4 was the finding of a pupa case of Lydell le doryphorae under conditions which were fully narrated to you at our September meeting, and which you all agree were conclusive as to the advent of this farmer's friend in Toronto.

It is hoped the publication of this will elicit evidence of its occurrence in other counties in Ontario, but it must be borne in mind that the general use of Paris green by potato growers, has hitherto prevented the increase of this as well as other natural enemies of D. 10 lineata; has, in fact, rendered their existence almost impossible.

Mr. John Wiley, sr., of the Main road, Adelaide, died on the 20th September in his 86th year, valued at $25, from marrow. Mr. Jno. Wiley, jr., of Adelaide, also lost a valuable cow recently from the same disease.

It is estimated that about 9 000 cattle have been exported from Montreal to England during the present season. A considerable number of horses, sheep, and pigs has also been sent across.

FOUNTAIN VIOLET.

A Story in Two Chapters.

CHAPTER I.

Grace is a very old name. I have been always curiously fond of Grace. A train of sisters thus called, popular in antiquity, were no less distinguished for personal attractions than for purity of life and manners. At the Stale balls of Olympus, of which they were among the chief ornaments, there is reason to infer that these young ladies, unchaving the charmed cestus of their mother, Mistress Venus, whose visiting list was mixed and comprehensive, or of their father, Signor Bacchus, whose too convivial habits occasionally gave uneasiness to his friends, placed themselves under the protection of the ladies Diana and Minerva; and then, with the powerful safeguard of innocence and wisdom, leaved in security the social perils of the time.

Modern history has climbed in melodiously with the records of old. Throughout the medieval times, little is heard of any Graces. They withdrew into a modest shade. It is a circumstance that tells immensely in their favour. Your true Grace was a flower too fragrant and delicate for the parterre of that parish day. Only when the painted and bedizened queens of the garden were swept away into the dust did Grace emerge from her tender-lidded leaves to the sun, and step back, lovelier than ever, into the welcoming world.

And well have the Graces since vindicated their claim to popular esteem. It is hardly appeal to all accessible archives in proof of what I allege. How faithful is every Grace, usually, to the traditions of her name! Hardly rarely have we to deplore the coming in serious grief of one so sweetly called. I was over Grace divorced, arrayed, pendrenchen, from a lunatic lord! Has society once had to blush for a Grace prosecuted for the crime of the smoke or tipple? Is she behold giantly over the dovecotes of Hurlingham, or heard lamenting that her set (large as is the prescriptive latitude) forbids that pastime in which horses' shins are battered, limbs sprained, and their tempers ruined, and the laws for their supposed protection openly violated, under the name of Polo? Never. Where Grace is, cruelty and self are not. Love, peace, charity inseparably companion her, and all those are comprehended in her dominions.

Grace Darling was an appellation worthy of the young heroine who bore it. But when I changed Grace Fairlocks (which became the nearest well) into Grace Bertrade (which become her better) I flatter myself that, in point of melody, Miss Darling had to yield the palm.

The exposals of Grata Fairlocks and myself, Adolphus Swestlove, would have it stigmatized as mercenary. Neither of the contracting parties coveted the other's wealth. Let me be frank. We had between us no money at all, or less. For Albert Miss Fairlocks enjoyed a net income of one hundred and twelve pounds a year, she had impignorated that revenue for three years to come, and, in addition of an immediate payment of £200, for the sole purpose, it would appear, of losing this latter sum in a few short months, during which, on the eve of floating triumphantly into the market, stuck in the mud, and then or no clinging a chance that the dividends are not, to this day, purged of the consequences of the immersion.

My own pecuniary resources were even less simple than Grace's. I was, to own the truth, slightly in debt, and at the epoch of my marriage, I had at my command just £30 (sterling) for the honey moon expenses, with following singular tale, I must recur, very briefly, to the circumstances of my actual pitiful life.

On the death of my parents, which occurred during my absence on service in India, I found myself in the somewhat unusual position of scarcely possessing a blood relation in the world. I could, indeed, boast (but rarely did) of an uncle, my mother's only brother, Mr. Lowrafi. But this gentleman, for all legitimate avuncular ends, might as well have flourished in another age.

Mr. Lowrafi's country seat, Fountain Violet, was perched upon a Welsh hill, overlooking the entrance of a western harbour, renowned in past days for sending forth many a hardy mariner, sometimes to defy his country's foes, sometimes its excise, for the very formation of the rocky shore, and the character of the adjacent country, marked it out as a spot expressly designed by the foresight of nature for a Nimrod of "run."

Wherefore "Fountain Violet" no man, knew. Fountain there was none; no even a hedge or bank on the wind-swept down under which a violet could nestle. The solitary fox itself was, as to its outside, low-browed and forbidding; as to its interior, dark and dreaghly, full of echoes, strange wild whistles, and melancholy croaking sounds, as if the aged mansion, conscious of a tendency to collapse, were debating with itself whether it should try yet another brick with Time.

My uncle had acquired this cheerful property for a very moderate sum; the mansion, in addition to its other attractions, gave him the reputation of being haunted. Mr. Lowrafi was understood not to discountenance this rumour. Owing, it was whispered, to some grievous wrong or disappointment in early life, the lord of Fountain Violet lived the life of a misanthrope, and was more than suspected of being a miser too.

An avenue of stunted lime, representing almost the only vegetable life of the domain, communicated with a narrow path winding down the cliff, and ending in a little shaded cove just within the harbour's mouth, of a size sufficient to contain my vessel, up to 100 tons. Strength of my life that still connected Mr. Lowrafi with the outer world. He had always loved the sea, and wooed it in all its changeful moods with the serene indulgence of a lover. From a harbour punt he had proceeded to a stout fishing wherry, and at length became the master of a splendid 45 ton cutter yacht, now snugly berthed in the little natural harbour I have described.

On board this vessel my uncle was known to spend the greater part of his very ample leisure. What he did there, even at time when it was manifestly impossible to put to sea, was a subject of much speculation to the sanfaring youth of the neighbourhood, who, unauthorised themselves, devoted their idle hours to vain efforts to penetrate the proceedings of the "Ogre," for by that agreeable title was the lord of Fountain Violet popularly known, partly from his mysterious prowling ways, partly from the fact that the unsparing denial, Time, had, with ornal pleasantry, pinched out every alternate tooth in his mouth. Lowrafi's body was thirty-seven hours. It may be stated that one beetle during its imago life will defoliate one sets of potatoes.

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