

I also have thirty-two species of Tenthredinidae, as follows:—

<i>Cimbex americana</i> .	<i>Lophyrus abiatis</i> .
<i>Tenthredo nigrocostata</i> .	<i>Steoniyogaster fidus</i> .
<i>Tenthredo varipictus</i> .	<i>Haplocampa spissipes</i> .
<i>Tenthredo variegatus</i> .	<i>Hylotoma clavicornis</i> .
<i>Tenthredo mellina</i> .	<i>Hylotoma abdominalis</i> .
<i>Tenthredo morosa</i> .	<i>Hylotoma mcleayi</i> .
<i>Tenthredo evansii</i> .	<i>Monophadnus tibiae</i> .
<i>Urocerus cyaneus</i> .	<i>Macrophya tibiator</i> .
<i>Urocerus albicornis</i> .	<i>Macrophya fumator</i> .
<i>Sirex flavicornis</i> .	<i>Pachynematus extensicornis</i> .
<i>Sirex abdominalis</i> .	<i>Pachynematus clypeatus</i> .
<i>Dolerus bicolor</i> .	<i>Poecilosoma maculata</i> .
<i>Dolerus aprilis</i> .	<i>Trichiocampus gregarius</i> .
<i>Monohadmus rubi</i> .	<i>Haplocampa montana</i> .
<i>Monohadmus medius</i> .	<i>Ubia americana</i> .
<i>Monostegia rosæ</i> .	

I also have some unnamed species in this group, and would feel it a favour to exchange with any of the members, either in this family or any other in which they are interested. In the early days of our Society we had, if I remember rightly, a considerable list of insects compiled by the different members, and if this list is still preserved it would no doubt be of value to draw up a catalogue of British Columbia entomology, or perhaps a copy might be made and utilized in the forthcoming list at present being worked up by our parent Society on Canadian insects.

I regret I am unable to be present at this meeting, but the distance is somewhat great. I regret also not having been able to attend the Vernon meeting during last summer, but nevertheless the Society has my best wishes and continued support.

REPORT OF THE FIFTIETH ANNUAL (JUBILEE) MEETING OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

By R. C. TREHERNE, EXPERIMENTAL FARM, AGASSIZ.

On August 27th, 28th, and 29th, 1913, at the Ontario Agricultural College, Guelph, Ontario, a special meeting of the Ontario Entomological Society took place, in commemoration of the fact that the Society had been in existence and active for exactly fifty years. The meeting was not to be missed, as it was of historic interest to all interested in the science of entomology in Canada. Through the courtesy of Dr. C. Gordon Hewitt, Dominion Entomologist, I was permitted to suspend my operations at Agassiz for a period of three weeks to attend this meeting at Guelph, and to transact other business of a personal as well as official character.

As we are out here an integral unit in the entomological work of the Dominion of Canada, and a branch of the parent Society in Ontario, apart from the interest this Jubilee meeting will arouse in our members, I believe it well to record in our annals the origin, formation, and growth of this Ontario Society, which, as I will show in a few moments, was and is the Entomological Society of Canada. I do not believe I could do better than to quote word for word the synopsis that was printed as an introduction to the programme arranged for the occasion:—

“The first meeting of entomologists in Canada was held in September, 1862. It was then decided to form an entomological society, whose chief objects were the formation of a collection of Canadian insects, the interchange of duplicate material, and the holding of meetings with the object of advancing the science. Accordingly, in April, 1863, the Entomological Society of Canada was organized, the original membership being twenty-five. The publication of a series of valuable papers was begun, and it is a matter of great gratification to know that we shall have with us at our Jubilee meeting the contributors of the first two papers, and two of the founders of the Society, Dr. Bethune and Dr. Wm. Saunders, C.M.G. The activity

of the Society and the zeal of its members were evinced by the publication by the Society of the first number of the *Canadian Entomologist* in August, 1868, and since that time the Society's journal has regularly appeared each month. In 1870 the Society received a grant from the Council of the Agricultural and Arts Association of Ontario for the formation of a collection and the publication of an annual report on injurious insects. Accordingly, the 'First Annual Report of the Noxious Insects of the Province of Ontario' was prepared in 1870, and published by the Ontario Government in the year following. In 1871 the Government of the Province of Ontario passed a Statute incorporating The Entomological Society of Canada as The Entomological Society of Ontario, which was instituted 'for the investigation of the character and habits of insects, the improvement of entomological science, and more especially its practical bearing on the agricultural and horticultural interests of the Province.' A grant was made to the Society by the Provincial Government, and the same has been continued annually, as also has the publication of the Society's Annual Report. The national character of the Society, notwithstanding its Provincial designation, was continued, and branches were formed outside Ontario, at Montreal, Quebec, and in British Columbia. Its history has been one of steady progress, and the systematic side of the science has not been divorced from the economic, as the pages of the Society's journal, the *Canadian Entomologist*, abundantly testify. The continued progress of the Society has been largely due to the untiring efforts, fired by an enthusiasm and devotion which ever increased, of our Jubilee President, who from its foundation has, as secretary, president, editor of the journal, and permanent counsellor, devoted himself wholeheartedly to its welfare and to the advancement of Canadian entomology."

Dr. C. J. S. Bethune had been elected previously as Jubilee President in honour of his energy and zeal for the cause of entomology in the Dominion. He was unable, however, to act in his official capacity on account of defective eyesight. The Vice-President, Dr. C. Gordon Hewitt, Dominion Entomologist, ably filled Dr. Bethune's position, seated on Dr. Bethune's left hand throughout the meetings. Mr. A. W. Baker acted as Secretary, and he also performed his arduous duties with pleasure to all.

As a further detailed description of the early days of the Society, I beg leave to extract the text of Dr. Bethune's address from the pages of the *Canadian Entomologist* of November, 1913:—

"The President, Dr. Bethune, stated that, owing to defective eyesight, he was unable to prepare a formal written address, and would therefore endeavour to give some account of the origin of the Society and the proceedings that led to its formation.

"When a student at Trinity College, Toronto, he began the collection and study of insects. At that time there were no available books on the subject. The first work that gave him any assistance in naming specimens was Gosse's 'Canadian Naturalist,' a delightful work giving an account of observations made in various departments of natural history during each month of the year in the eastern townships of the Province of Quebec. In the Canadian journal there were published excellent short descriptions of the more conspicuous beetles found in the neighbourhood of Toronto by Wm. Couper, a printer by trade. These were supplemented by lists furnished by Professor Croft, of the University of Toronto. Kirby and Spence's 'Entomology' and Westwood's 'Modern Classification of Insects' were published about that time and afforded the first scientific aids to the knowledge of insects. Through the kindness of Professor Croft, the speaker had access to the library of the University of Toronto, which contained several rare works on entomology. He was also permitted to consult the books in the library of Parliament, which at that time was located in Toronto. In these libraries he spent much of his leisure-time in laboriously transcribing descriptions of Canadian insects, which, for the most part, had to be translated from Latin and French, and also in making copies of illustrations. These difficulties can hardly be realized by

students at the present day who have such an abundance of literature upon every department of natural history. Such works as Comstock's 'Manual for the Study of Insects' and Mrs. Comstock's 'How to Know the Butterflies' would at that time have been treasures indeed. However, there is no doubt that the difficulties encountered helped one to build upon a sound foundation and to acquire a more complete knowledge than could be attained by attempting to hastily read a superabundance of publications.

"At the suggestion of Professor Croft, the speaker made the acquaintance of Mr. Wm. Saunders, of London, who carried on at the time the business of chemist and druggist on a moderate scale. The acquaintance thus formed soon ripened into a mutual friendship and esteem which has continued unbroken to the present time.

"In the *Canadian Naturalist* for June, 1862, there appeared a list of persons residing in Canada, all interested in the collection and study of insects, which contained no less than thirty-six names. This was prepared by the speaker, with the assistance of Mr. Saunders. It was then proposed that a meeting should be held for the purpose of bringing together as many as possible of those interested, and to form some kind of club or society which would be of general benefit to those concerned. The result of this publication was the holding of a meeting in Toronto at the residence of Professor Croft in September, 1862. As there were only ten persons present, it was thought inadvisable to form a society at that time, but a draft of a constitution was drawn up and it was decided to hold another meeting during the coming year. On April 16th, 1863, a meeting was held in the library of the Canadian Institute, and the formation of the Entomological Society of Canada was then decided upon and its constitution drawn up and adopted. The attendance was small, but several who were unable to be present had given in their adhesion to the movement. Dr. Henry Croft, Professor of Chemistry in the University of Toronto, was elected President; Mr. Saunders, of London, Secretary-Treasurer; and the Rev. Jas. Hibbert, Curator. The others present were: The Rev. Wm. Hincks, Professor of Botany and Zoology at the University of Toronto; Dr. Sangster, Principal of the Normal School, Toronto; Dr. Beverley R. Morris, an Englishman who not long after returned to England and there became editor of a popular magazine on natural history; Dr. Cowdry and his son, Mr. N. H. Cowdry, of York Mills; and Messrs. Saunders and Bethune. The following gentlemen were unable to be present, but became original members of the Society: Mr. E. Baynes Reed, Barrister, London; Mr. E. Billings, editor of the *Canadian Naturalist and Geologist*, for many years attached to the Geological Survey; Mr. R. V. Rogers, Barrister, Kingston; Mr. T. Reynolds, Engineer of the Great Western Railway, now part of the Grand Trunk system, Hamilton; Mr. B. Billings, Prescott, who subsequently lived in the neighbourhood of Ottawa and formed a large collection of Coleoptera; Rev. V. Clementi, Peterborough, an English Church clergyman, who was greatly interested in the various aspects of natural history. Mr. Wm. Saunders was appointed by the Dominion Government in 1886 to establish and superintend a series of experimental farms extending from Nova Scotia to British Columbia. For twenty-five years Dr. Saunders conducted this work in a most able and successful manner, and his name is well known not only throughout Canada, but also in the United States and Great Britain.

"The Society thus formed began its career of active usefulness and it has steadily grown and prospered to the present time. In 1868 the publication of the *Canadian Entomologist* was begun, the first number consisting of only eight pages. It is now in its forty-fifth year of publication and is sent to all parts of the world. In 1870 the first Annual Report of the Society on 'Noxious, Beneficial, and other Insects' was published, the three contributors being Dr. Saunders, Mr. Baynes Reed, and the speaker. What really made the fortunes of the Society was the invasion of Ontario by the Colorado potato-beetle. The Board of Agriculture for the Province

requested the Society to report on the insect and to advise as to the best methods of checking or controlling its ravages. An admirable report was prepared by Messrs. Saunders and Reed; the former, being a practical chemist, was able to experiment with various poisons and to discover that Paris green was the most convenient and reliable substance for the destruction of the beetle. The result of this report was a grant from the Department of \$400 per annum, which was afterwards increased to \$1,000, and the incorporation of the Society under the name of the 'Entomological Society of Ontario.' For a few years the Canadian Institute in Toronto gave the Society the privilege of using its library and museum for its meetings and collections. After a few years, however, the headquarters were removed to London and continued there until 1906, when a change was made to the Ontario Agricultural College, Guelph.

"The speaker expressed the great pleasure which it gave him and his colleagues to find that so many friends had come from long distances to join in the celebration of the Jubilee meeting of the Society. He joined in giving them all the most hearty welcome and expressed his hope that they would fully enjoy their visit."

As indicated by Dr. Bethune, the meetings were well attended and well represented by delegates from Scotland, England, United States, and from the various Provinces of Canada. In all, between forty and fifty individuals were in more or less regular attendance throughout the session. Addresses of congratulation to the Society and to its Jubilee President were tendered by representatives from the University of Toronto, University of McGill, University of Manchester, Royal Society of Canada, Academy of National Sciences of Philadelphia, the Canadian Department of Agriculture, University of Edinburgh, Imperial Bureau of Entomology, Harvard University, Boston Society of Natural History, Cornell University, the Entomological Society of London, the Entomological Society of America, the American Association of Economic Entomologists, the New York Entomological Society, the Entomological Society of Washington, the United States Bureau of Entomology, the United States Department of Agriculture, the Ottawa Field Naturalists' Club, the Quebec Society for the Protection of Plants, the Montreal Branch of the Ontario Entomological Society, the Toronto Branch of the Ontario Entomological Society, and the British Museum, London, England; and on behalf of this Society I conveyed the good wishes and congratulations that I was sure was felt by all the members.

An excellent programme had been arranged by the Executive, and contributors delivered their papers for two days of the meeting. The last day was spent by the members and visitors in a trip through the famous Niagara Fruit District.

A large number of letters of recognition and congratulation were read from various European centres of learning, by cable from Russia, from Germany, from England, and from Scotland. A number of letters were also read from various entomologists stationed throughout the United States at the various experiment stations. It was very evident, throughout the whole, that entomologists throughout America and Europe and probably throughout the world had been taught to recognize the Canadian Entomological Society as an active and sound adviser in the entomological world. The meetings closed with every good feeling and regard on Friday, August 29th.

Before closing, I would like to draw the attention of the members to the fact that there exists on the Pacific Slope an Association of Economic Entomologists. The fourth annual meeting of this Society was held on April 10th to 12th, 1913, at the University of California, Berkeley, California. The meeting was held, as it appears they usually are held, in affiliation with the Pacific Association of Scientific Societies. This present yearly meeting is to be held, I fancy, at Seattle. The various societies, of which the Entomological Society is one, enrol their officers and members from all of the immediate Pacific Coast States, from Mexico to Washington, including also the Canadian Province of British Columbia, and the United States Islands of Hawaii. Several of the bordering interior but western States are included within the scope of the Society. I fancy the place and date of the meeting

for the succeeding year is arranged by joint committees uniting all the various societies combined. Prof. W. B. Herms is Secretary-Treasurer of the Entomological Society, and he resides at the University of California, Berkeley, Cal. Should any of our members wish to become members of this Society, I am sure that Professor Herms would be willing to give you assistance and notification regarding the by-laws. It might be quite advisable if a small representation of our members went to Seattle in the spring to attend the meetings, to show our appreciation of the fact that the Pacific Association of Scientific Societies are bringing the results of their labours near to our doors. California is too far for most of us to go every year, but if a good turn-out of North-western entomologists were present at this spring meeting it may impress the authorities of the advisability of invading our territory once every so often.

A REVIEW OF APPLIED ENTOMOLOGY IN BRITISH COLUMBIA.

BY R. C. TREHERNE, EXPERIMENTAL FARM, AGASSIZ.

In an attempt to supplement the paper that our President, Mr. Day, has just presented, representing as it does a review of the systematic side of the science in the Province, I will refer, in as few words as possible, to the history and progress of the economic considerations that have taken place within our boundaries.

As will be noticed through this paper, applied entomology in this Province originated and has its place in the published annals of the British Columbia Fruit-growers' Association. Sundry notes and observations by those interested in fruit-growing in the early days brought forth remarks concerning insects. Consequently we find that the phase of entomology, dealing with insect pests of the agriculturist, and referred to as "economic entomology," began almost conjointly with the formation and foundation of the British Columbia Fruit-growers' Association. This Association began its active career in the year 1889.

In 1897 we find "An Act respecting the Provincial Board of Horticulture," cited as the "Horticultural Board Act" (1894, c. 20, s. 1), in operation. This enactment was the result of two previous Acts regarding the Board of Horticulture, the first coming into operation about 1892. In the wording of the Act, it states that "the Lieutenant-Governor in Council shall appoint . . . a competent person especially qualified by practical experience in horticulture, who shall be known as 'Inspector of Fruit Pests.'"

Mr. Ernest Hutcherson, of Ladner, was first appointed as Inspector of Fruit Pests in about the year 1892 under the authority of the original Board Act. Two years later he was succeeded by Mr. R. M. Palmer, who occupied this position in the neighbourhood of eight years, finally handing the office over to Mr. Thomas Cunningham in 1902, who to-day (1914) is still operating the Act in a most efficient manner. Mr. Cunningham, previous to his appointment, had charge of the fruit-inspection work since 1896.

The "Horticultural Board Act," however, after various changes, insertions, and amendments, finally, in 1911, was combined in the "Act respecting Agricultural Associations," and cited as the "Agricultural Associations Act," Part IV., the former Act and title being repealed.

As I have already said, we look to the Horticultural Board and to the Fruit-growers' Association for our information relative to the economic pests of fruit and agriculture of the time.

Two men compiled and published notes and remedies on insect pests of the agriculturist in the Province from the records of the British Columbia Fruit-growers' Association. Mr. J. R. Anderson, formerly Deputy Minister of Agriculture, and Mr. R. M. Palmer, formerly Inspector of Fruit Pests and later succeeding Mr. Anderson as Deputy Minister of Agriculture for the Province, are responsible for the dissemination of practical knowledge on economic entomology in these early

* Hort., chap. 94, sec. 9.