



**ENTOMOLOGISTS
OF
ALBERTA**



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FOREWORD

Active work in entomology in Alberta can be traced back to the days of the early 18th century. The initial exploration of the Canadian Northwest by Samuel Hearne (1769-1772), Alexander Henry and David Thompson (1799-1814), officials of the Hudson's Bay Company (N. Garry and others, 1821-1855), Robert Bell, G.M. Dawson, John Macoun and J.B. Tyrell of the Geological Survey of Canada (1872-1881), men of the Royal Canadian Mounted Police (1885-1900), and many others (H.Y. Hind, J. Palliser, Bishop Vital Grandin, Rev. George MacDougall), yielded some initial information on indigenous insects. These individuals were, of course, always aware of the biting flies (mosquitoes, black flies, and culicoides) and the bewildering and sometimes devastating invasions of the Rocky Mountain locust. Many made a concerted effort to collect the showy butterflies, the buzzing bees and wasps, and the ever-present beetles.

Such activities may not have been called "entomology" *per se*, but it certainly involved man and insects; either willingly, to enjoy the aesthetics of nature or unwillingly, in swatting the troublesome pests. The acquisitions may not have had much scientific impact but they filled the void in our knowledge of what insects were present in western British North America during its pristine existence before encroachment of the land by European settlers.

It wasn't until portions of central and southern Alberta had been settled by farmers and ranchers that insects began to have an economic impact on the agricultural scene. It was then that the North-West (Canada) Entomological Society was formed (1898) by a group of enthusiastic amateur entomologists, collectors and naturalists, including Percy Gregson, A.D. Gregson, F.H. Wolley-Dod, N. Sanson, and others. Professional entomologists, especially James Fletcher, the then Dominion Entomologist, saw to it that economic entomology as well as taxonomy was being fostered. The good work of the Society in promoting the identification and control of insect pests, established the importance of entomology in the daily lives of the people of Alberta.

In 1912, following the alarming and devastating outbreaks of grasshoppers and the pale western cutworm, the federal Division of Entomology - then under the leadership of C. Gordon Hewitt - placed an entomologist in Alberta to investigate insect-related problems and find solutions. It was E.H. Strickland who arrived in Lethbridge in 1913 to establish professional entomology in the province. That same year the Government of Alberta founded the Alberta Schools of Agriculture, where, as at Olds, the teaching of entomology was promoted and encouraged. However, it was not until 1922 that Strickland established the Department of Entomology at the University of Alberta, thereby confirming and promoting entomology as an important and discreet component of biological science.

Since then, entomology in Alberta has unfolded in diverse, expanding waves of excellence. The people responsible for its initiation, development, progress, and successes, have been as varied as the personalities of the founding settlers of western Canada. This booklet is an attempt to portray in a small and, perhaps, inadequate way, the role played by many persons in the drama of man-insect interaction in the province of Alberta. Those whose names and short biographies appear within the following pages deserve recognition, not only for their scientific accomplishments but also for their contribution to the welfare and economic well-being of the people of Canada. It is a profession of which they can be justly proud.

Although exhaustive attempts have been made to make the list of entomologists of Alberta as comprehensive and as complete as possible, there are those whose names and profiles will not appear here. For such inadvertent omission I tender my sincere apologies; human error knows no favourites.

May those who have dedicated so much of their lives to entomology, especially those who are mentioned herein, be recognized as an integral part of the rich heritage of Alberta.

ACKNOWLEDGEMENT

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- all members of the Entomological Society of Alberta for supporting the project and bearing some of the costs of publication.
- all those entomologists who gave so freely of their time and effort in response to my requests for biographical information, photographs, etc.
- **Joe Shemachuk** for special help in obtaining information on federal entomologists; **Bill Nelson** for supplying me with many of the photographs; **George Ball**, **Bev Mitchell** and **Gordon Pritchard** for supplying information on graduate students, theses, and University personnel; and to **Ernest Mengersen** for his yeoman effort to contact all living Alberta entomologists and obtain biographical details.

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I. NATURALISTS AND COLLECTORS

ANDERSON, Robert L.: was the curator of Lepidoptera at the Riveredge Foundation for many years. He was born in 1916 in Omaha, Nebraska; became interested in butterflies and collected them near Kansas City when in his teens. Bob came to Calgary in November 1947 and collected in south-western Alberta from 1950 to 1970. Although he and N.W. VanVeen wanted to produce a book on Alberta butterflies, it did not come to pass. His large personal collection was sold to the Riveredge Foundation and their Collection was later donated to the Alberta Provincial Museum.

BEACH-NICHOLL, Mary de la: was an aristocratic, well-to-do, English lady from South Wales, interested in moths and butterflies. In 1904, at the age of 54 she visited western Canada, travelled extensively, visited F.H. Wolley-Dod and passed through Banff and into the Yoho area where she met with John Macoun. She returned to collect in the Banff, Lake Louise, Mount Assiniboine and Simpson River areas. In 1905 she returned to collect Lepidoptera in the Okanagan Valley of British Columbia. Two years later she once more visited the Alberta mountains and spent the summer collecting from Bow Lake to the Alexandra River. Her collection has been deposited in the British Museum.

BEAN, Thomas Ebenezer: was born in England in 1844 and emigrated to Galena, Illinois; later was employed as a telegrapher by the Canadian Pacific Railway. He worked in Saskatchewan (1884-1885) and at Lake Louise, then known as Laggan, from 1886-1895, and then returned to Galena. He collected six new species of butterflies, three of which were named *beani*, and 12 new species of moths. His collection was purchased by C.F. Dos Passos.

BIRCH, Francis (1895-1958): was born in Holborn, London, England and emigrated to Canada in 1912. He returned in 1914 as a member of the Canadian Expeditionary Force, saw action in France during the First World War, but was invalided by lung trouble before the war's end and repatriated. He worked in Edmonton as a painter and decorator and as a part-time pest exterminator. After 1940 he founded his own pest control company, was an active member of the National Pest Control Association, and a participatory member of the Entomological Society of Alberta.

BOWMAN, Kenneth (1875-1955): was born in Durham, England in 1875, graduated from Dulwich College and emigrated to Alberta in 1904. After a few years of ranching at Pine Lake, south-east of Red Deer, he moved to Edmonton in 1906 and became a chartered accountant. Having a keen interest in natural history he roamed the Edmonton district to collect Lepidoptera, expanding his collecting territory annually to include the Nordegg, Jasper-Pocahontas, and Hillcrest-Blairmore regions. In 1919 Bowman updated Wolley-Dod's checklist of Lepidoptera of Alberta but kept adding to this from the collections he made up to 1944. In 1951, with the help of E.H. Strickland, he published a revised list of the Lepidoptera of Alberta which contained 1800 taxa, nearly twice that of his former list. Although he was an inveterate collector he was not a taxonomist, preferring that others name the specimens he captured. However, he did name one species that he collected at Wembley, but its true identity is still in doubt. His extensive and meticulous collection was deposited at the University of Alberta after his death in 1955.

BRUGGEMANN, Paul F. (1890-1974): was born in Germany in 1890, emigrated to Canada in 1926 to settle in the Lloydminster area. He worked as a farm labourer for a number of years, then established a small farm machinery and car repair business. His interest in Lepidoptera was augmented by his association with R.J. Fitch who lived nearby. He started collecting butterflies in 1938 and was soon caught up in the avocation, covering the north-eastern region of Alberta around Lloydminster to include Cold Lake, Frog Lake, Onion Lake, and the Battle River districts. He was an active collector with the Northern Insect Survey from 1949 to 1954 capturing insect specimens for the Canadian National Collection in the Arctic and High Arctic regions of Canada. In addition, he served as Editor of "Arctic" for ten years.

BURKE, Edward: is believed to be the first collector of butterflies in Alberta having captured specimens in 1844 near Rock Lake for Lord Darby of England. Six species of butterflies and two species of moths were described from his collection and are now in the British Museum of Natural History.

CARR, Fredrick Stephen (1881-1934): moved west from Ontario and taught school at Innisfail from 1904 to 1909, then in Edmonton from 1909 to 1919. Thereafter he became a school inspector moving to Medicine Hat in 1921. Carr's entomological interest was beetles, amassing 100,000 specimens from Alberta and publishing the first list of these insects from the province. He also collected Lepidoptera in the Medicine Hat and Cypress Hills regions. After his death the collection was donated to the University of Alberta in 1939 by his son John, and daughter-in-law Bertha, who have continued to collect the beetles and butterflies of the province.

EDMUNDS, John Wesley (Jack): was a graduate of Ontario Agricultural College keenly interested in bees, beekeeping, and apiculture generally. He succeeded W.G. leMaistre as the Provincial Apiarist in 1956 and served the beekeepers of Alberta with diligence and understanding for the next fifteen years. His persistent appeal for more apicultural research resulted in an increase in investigational work in the past 20 years by government, universities, and the beekeepers themselves. He served as Vice-President (1960) and President (1961) of the Entomological Society of Alberta.

FITCH, Richard John (1886-1961): was the son of Edward A. Fitch who had been the President of the British Entomological Society. This interest in insects was inherent in the Fitch family and when they left Malden, Essex, for Canada in 1905, the boy continued to collect butterflies in the Lloydminster area when the family settled near the hamlet of Rivercourse. Such collecting began again in earnest in 1921 so that by 1930 he had developed a small business of selling Lepidoptera to individuals in North America and elsewhere. Most of Fitch's collecting was done in the aspen parkland around Lloydminster although some collections were also made in Saskatchewan near Harlan in an area of boreal forest. Specimens that Fitch collected are type specimens for two sub-species of butterflies.

GARRETT, C.B.D.: was an avid collector of butterflies and moths in the Calgary, Didsbury, and Fallen Timber Creek areas from 1904 to 1908. He moved to Cranbrook, British Columbia and was appointed as an "Insect Pest Investigator" by the federal Division of Entomology, to assist Eric Hearle with mosquito control work at Banff in 1922. While there he collected Lepidoptera which were later deposited in the Canadian National Collection in Ottawa and in the Los Angeles County Museum. He returned to British Columbia but continued his collecting. One species of butterfly, *Speyeria zerene garretti*, has been named in his honour by J.D. Gunder, who also bought his collection of insects in 1931.

GEDDES, J. Gamble (1850-1896): was a banker and then became the Aide-de-Camp and Private Secretary for the Hon. J.B. Robinson, the Lieutenant Governor of Ontario. His hobby was insect collecting and on a trip west to Alberta in the summer of 1883, the year that the railway first reached Calgary, he captured several new species of Lepidoptera. He published the first list of Alberta butterflies collected in the North West Territories and Rocky Mountains that same year. On his second trip west in 1884, he stood on the cow-catcher of the locomotive as it puffed its way across the prairies, so that he might better catch an abundance of insects, including the many plains "locusts", as he passed. W.H. Edwards, who described the specimens Geddes had collected, found three new species of butterflies that had been captured in the Red Deer and Lundbreck districts. The Division of Entomology bought Gamble's collection; it has been incorporated into the Canadian National Collection.

GEORGE, H. (1864-1932): was a medical doctor from Lincolnshire, England. He emigrated to Calgary in 1889, set up a local medical practice but also ministered to the N.W.M.P. and three Indian tribes including Chief Crowfoot. He moved his practice to Innisfail in 1893, then to Red Deer in 1907, and after suffering a heart attack in 1922 gave up his medical work and retired to the West Coast where he pursued his many hobbies until death claimed him in 1932. Dr. George had an intense love for natural history with a main interest in ornithology. He was Vice President of the Innisfail Agricultural Society and a charter member of the Northwest (Canada) Entomological Society, a Branch Director (Ornithology) and the last President of the Territorial Natural History Society. He was the first President of the Alberta Natural History Society founded in 1906. Dr. George collected everything including Indian artifacts, weapons, stamps, insects, stuffed animals, plants, eggs, and curios. Many of his collections now repose in the Glenbow Museum.

GODWIN, B.J. (Buck): was an instructor in horticulture at Olds College where he also taught a course in entomology. Students were required to collect, label, mount, identify, and organize a collection of insects. These provided research data for other entomologists and have included at least one provincial "first" record. Buck was regarded as an excellent teacher who instilled an enthusiasm for learning into his students, aroused their curiosity, and was ever helpful and on hand to further their desire to learn. In 1981 he was awarded the "Criddle Award" of the Entomological Society of Canada for the furtherance of entomology in Canada by a non-professional entomologist. He retired in August 1987.

GREGSON, Arthur Douglas (1864-1936): was a consumptive Englishman living in Sussex, then worked in a London Stock Exchange until forced, because of his health, to seek better climates. He tried Switzerland for six months, then decided in 1885 to emigrate to Canada with a family of 11, most of whom also had tuberculosis. He went west as far as the railway would go, namely Calgary, then homesteaded at Blackfaulds near the junction of the Red Deer and Blindman Rivers. To make ends meet he trapped live animals for their fur, collected the ectoparasitic fleas from these animals, and sold them to Nathaniel Rothschild who paid him as much as a shilling per specimen. Karl Jordan, the flea expert, also received some of the specimens. Gregson collected the type specimen of the black swallow-tail butterfly, *Papilio nitra*, described by Edwards. In 1897 he was appointed a Justice of the Peace by the Lieutenant Governor of the North-West Territories, giving him jurisdiction in the area extending from the Arctic to the United States border. He was active in the affairs of the North-West (Canada) Entomological Society (1898- 1902) founded by his brother Percy. In 1924 he and his family moved to Courtney on Vancouver Island where he established and operated a mink farm until his death.

GREGSON, Percy G.: also emigrated from England and settled on a homestead near Blackfaulds near his brother Arthur. He was very interested in natural history, especially in insects and weeds. He founded the North-West (Canada) Entomological Society in 1898, along with all the amateur entomologists in Western Canada, and was its first and only President for the five years of the Society's existence. Not only did he collect the insects of the region but he actively embarked upon a program of educating the farmers on methods of weed and insect control. He lectured to farmers at Agricultural Fairs and Field Days, to school children, and even paid for prizes for the best insect and weed-seed collections. When the Entomological Society disbanded in 1902 it was immediately reformed as the "Territorial Natural History Society" - the forerunner of the Alberta Natural History Society - with Percy Gregson as its new President.

HUDSON, Arthur: was a collector of moths and butterflies in the Midnapore district of Alberta. He often collected with F.H. Wolley-Dod during the period 1895 to 1910. Many of the first-discovered species of macrolepidoptera in the Calgary district, although identified and named by experts in the United States, were captured by Hudson.

KONDLA, Norbert: is currently working in land and resource management with the provincial government in Edmonton. He is a keen naturalist with an interest in butterflies, the collection of which he began in earnest in 1971. He has collected extensively throughout the province of Alberta, adding two species to the provincial list. In addition to many governmental reports on topics of natural history, he has contributed a number of papers that document the butterfly fauna of the province.

MACOUN, John (1831-1920): was a botanist with the Geological Survey of Canada from 1877 to 1912, during which time he made several trips throughout western Canada. Although his primary interest was in plants he made many interesting and astute observations concerning the insects of the day in the regions that he visited. In the first place he considered it unwise to settle the plains comprising that which Palliser named the "desert", and that locusts would never invade the Peace River country nor do much damage in the "Saskatchewan country". He collected butterflies at Morley, Alberta, in 1885 and in the Cypress Hills in 1894. One species, *Oeneis macouni*, was named in his honour by W.H. Edwards.

ROSS, Christina: was the wife of the Hudson Bay Factor at Fort Simpson, North-West Territories. She has the distinction of being the second insect collector in present-day Alberta. In 1862, armed with a net and some pins left to her by R.W. Kennicott, she collected a large number of butterflies which she sent to W.H. Edwards in Coalburg, West Virginia, for identification. Included in this collection was one captured at Smith Rapids on the northern border of Alberta; named by Edwards as *Colias christina*, in her honour.

SANSON, Norman Bethune (1861-1949): came west with the Queen's Own Regiment in 1885 to help quell the Riel Rebellion. He stayed and became the Curator of the National Park Museum in Banff from 1896 to 1931. His interest in natural history led him to collect many biological specimens not the least of which were skippers and butterflies. Of the 585 labelled specimens, now at the University of Calgary, 71 are in different taxa, thus testifying to his assiduous collecting acumen. Most of these were collected from Banff and Sulphur Mountain, the latter he had to climb an estimated 815 times during his tenure at Banff, because he had to ascend the 3,500 feet to take weather readings at the top of the mountain. Although he sometimes was also involved with practical control of mosquito populations in the Park, it was left to Eric Hearle to lay the foundations for mosquito abatement in the province.

SHIGEMATSU, Steve Sunao: was born in Vancouver in 1909 but received most of his formal education in Japan. When he returned his interests in natural history were increased by the attention and interest shown him by G.J. Spencer and J. Davidson of the University of British Columbia. His excellent collection of insects and plants was taken over by a custodian during World War II and Steve was relocated to Raymond, Alberta. The collection was eventually destroyed by apparent neglect, but Steve commenced collecting anew at Raymond - where he is employed as a carpenter - as well as making paintings of local butterflies. Further collections were made in the mountains during Steve's holiday travels with the result that his collection is once again flourishing.

TAMS, W.H.T.: came to Canada at the invitation of F.H. Wolley-Dod to become the latter's assistant at his ranch south-west of Calgary. They had met in the British Museum when Wolley-Dod visited there in 1912, and came to Calgary the following year. He was responsible for Wolley-Dod's private insect collection, did much of the routine rearings, collecting, pinning, arranging, and cataloging of the captured specimens. So good was his training under Wolley-Dod that when he returned to London in 1917 he was immediately appointed the Curator of Lepidoptera at the British Museum of Natural History in Kensington.

THORMIN, Terry W.: works in the Provincial Museum in Edmonton. His interest in butterflies began in the mid-1970s and he has made extensive collecting trips in the province since then. He was the first to capture specimens of the skipper, *Yvretta rhesus*, in Alberta as well as that of the *Coenonympha ocracea mackenziei* in the district south of Fort Smith.

VANVEEN, Nicholas W.: was an ardent collector of butterflies, mainly in the mountains of south-western Alberta, from 1956 to 1964. Many of his specimens are deposited in the Riveredge Collection, now part of the holdings of the Provincial Museum. He was President of the Entomological Society of Alberta in 1962.

WHITEHOUSE, Francis Cecil (1879-1959): was a British banker who arrived from Warwick in 1905 to take charge of a bank in Red Deer. His love of dragonflies, their splendid iridescent colours and aerobatical prowess, urged him on to a lifetime of collecting these insects. He had collected and described most of the Odonata of Alberta by 1918 and published a descriptive key of the species. He retired from banking in 1934 but maintained an Olympian pace in dragonfly collecting. He published comprehensive lists, keys, and catalogs of the Odonata, not only of Alberta and British Columbia but also of all of Canada and Jamaica. The personal collection was divided among the University of British Columbia, the Provincial Museum in Victoria, and the City Museum in Vancouver. He had 61 species of dragonflies and 18 species of damselflies in the University collection; these represented 79 of the 89 species found in British Columbia.

WILLING, Thomas Nathaniel (1858-1920): came west from Ontario in 1879 to homestead in the Calgary area in 1881 but abandoned this to take up farming in the Olds district. In 1899 he was appointed Inspector of Weeds and Game Warden for the Territorial Government and spent the next twelve years in active extension work in Saskatchewan helping the farmers control weeds and insects. During this period in western Canada he collected insects wherever he went, particularly the Lepidoptera in southern Alberta. Because of his extensive travels throughout the prairie region he was able to collect all orders of insects. Most of the specimens were of species that had economic significance. His extensive collection remained in the Saskatchewan Museum of Natural History and at the University of Saskatchewan. Many of his captures were made at the request of James Fletcher, the then Dominion Entomologist, and placed in the Canadian National Collection. In 1911 he was appointed as Professor of Natural History of the University of Saskatchewan, remaining there until retirement.

WOLLEY-DOD, Frederic Hova (1871-1919): was an enthusiastic collector of moths and butterflies in the Calgary- Midnapore area from 1893 to 1917. He, a well-educated and independently wealthy Englishman who came to Calgary in 1893, was one of the two leading Lepidopterists on the North American continent. After living with his brother Arthur for two years he settled on his own small ranch on Pine Creek, 18 miles south-west of Calgary. He had brought several thousand specimens of British moths and butterflies with him and proceeded to add to these with Canadian species most of which were collected in the region where he lived. He exchanged specimens, traded, and willingly identified the Lepidoptera sent to him by many across America. More than 60 of the moths that he collected were new species; five of these he described himself. He published the first comprehensive list of Alberta's moths and butterflies and kept adding to this as the years progressed. He joined the Canadian Army in 1917 and succumbed to enteritis after being wounded in Mesopotamia in 1919. He, indeed, was a real amateur who did his work for the pure joy of doing it, without thought being given to reward or remuneration.

II. GRADUATE STUDENTS IN ENTOMOLOGY AND BIOLOGY

1. University of Alberta

The following is a list of former graduate students of the **Department of Entomology**, the degree received, year of graduation, thesis title, and name of supervisor:

Abdelnur, O.M. - Ph.D., 1966. The biology of some black flies (Diptera : Simuliidae) of Alberta. Supervisor: B. Hocking.

Acorn, J.H. - M.Sc., 1988. Sand dune tiger beetles in western Canada : community ecology, colouration, and historical biogeography. Supervisor: J.R. Spence.

Adisoemarto, S. - M.Sc., 1965. The taxonomy and distribution of the Asilidae (Diptera) of Alberta. Supervisor: B. Hocking.

Anderson, R.S. - Ph.D., 1986. Systematics, phylogeny and biogeography of New World weevils traditionally of the tribe Cleonini (Coleoptera : Curculionidae : Cleoninae). Supervisor: G.E. Ball.

Ashe, J.S. - Ph.D., 1982. Generic revision of the subtribe Gyrophaenina (Coleoptera : Staphylinidae : Aleocharinae) with a review of described subgenera and major features of evolution. Supervisor: G.E. Ball.

Awram, W.J. - M.Sc., 1966. The effects of crowding and mechanical stimulation on wing morphogenesis in *Myzus persicae* Sulz. (Aphididae : Homoptera). Supervisor: W.G. Evans.

Barr, W.R. - M.Sc., 1982. Attachment and silk of larvae of *Simulium vittatum* Zetterstedt (Diptera : Simuliidae). Supervisor: D.A. Craig.

Barron, J.R. - Ph.D., 1969. A revision of the Trogositidae of America north of Mexico (Coleoptera : Cleroidea). Supervisor: G.E. Ball.

Belicek, J. - M.Sc., 1975. Coccinellidae of western Canada and Alaska. Supervisor: G.E. Ball.

Blakeley, P.E. - M.Sc., 1954. Certain aspects of the ecology and behaviour of prepupae, pupae and adults of the pale western cutworm, *Agrotis orthogonia* Morr. Supervisor: B. Hocking.

Borkent, A. - M.Sc., 1978. Systematics and bionomics of the species of the subgenus *Schadonophasma* Dyar and Shannon (*Chaoborus*, Chaoboridae, Diptera). Supervisor: G.E. Ball.

Braimah, S.A. - Ph.D., 1985. Mechanisms and fluid mechanical aspects of filter-feeding in blackfly larvae (Diptera : Simuliidae) and mayfly nymphs (Ephemeroptera : Oligoneuriidae). Supervisor: D.A. Craig.

Burgess, A.E. - M.Sc., 1969. How temperature and morphology influence the calling songs of two species of *Gryllus*. Supervisor: B. Hocking.

Carter, A. - M.Sc., 1971. Some aspects of the comparative ecology of populations of the four *Patrobis* species (Coleoptera : Carabidae : Patrobini) at George Lake, Alberta. Supervisor: G.E. Ball.

Cerezke, H.F. - M.Sc., 1962. The morphology and functions of the reproductive systems of the mountain pine beetle, *Dendroctonus monticolae* Hopk. (Coleoptera : Scolytidae). Supervisor: B. Hocking.

Chance, M. - M.Sc., 1970. Functional morphology of the mouthparts of blackfly larvae (Diptera : Simuliidae). Supervisor: B. Hocking.

Chance, M.M. - M.Sc., 1969. Flight mechanics of *Agrotis orthogonia* Morrison (Lepidoptera : Phalaenidae). Supervisor: D.A. Craig.

Chance, M.M. - Ph.D., 1977. Influence of water flow and particle concentration on larvae of the black fly, *Simulium vittatum* Zett. (Diptera : Simuliidae) with emphasis on larval filter-feeding. Supervisor: D.A. Craig.

Charnetski, W.A. - M.Sc., 1965. Chlorinated hydrocarbon residues in ducklings. Supervisor: W.G. Evans.

Cheung, A.C. - M.Sc., 1972. Arginine phosphokinase from honeybees. Supervisor: R.H. Gooding.

Chiang, P.K. - M.Sc., 1967. Synaptic transmission in the roach, *Periplaneta americana* (L.). Supervisor: R.H. Gooding.

Chiang, P.K. - Ph.D., 1970. A comparative study of triosephosphate isomerase. Supervisor: R.H. Gooding.

Clearwater, J.R. - Ph.D., 1975. The pheromone systems of males of *Mamestra configurata* (Walker) and other noctuids (Lepidoptera). Supervisor: R.H. Gooding.

Cumming, J.M. - Ph.D., 1986. Classification and evolution of the eumenine wasp genus *Symmorphus* Wesmäl (Hymenoptera : Vespidae). Supervisor: G.E. Ball.

Currie, D.C. - Ph.D., 1988. Morphology and systematics of primitive Simuliidae (Diptera : Culicomorpha). Supervisor: D.A. Craig.

Davidson, T.R. - M.Sc., 1945. Potato leaf roll and its insect vectors in the Edmonton district. Supervisor: E.H. Strickland.

Depner, K.R. - M.Sc., 1956. Reproduction and development of the horn fly, *Siphona irritans* (L.) (Diptera : Muscidae). Supervisor: B. Hocking.

Ellis, C.R. - Ph.D., 1970. Factors influencing the susceptibility of two strains of *Sitophilus granarius* (L.) to 1,2 dibromoethane (EDB). Supervisor: W.G. Evans.

Erwin, T.L. - Ph.D., 1961. A reclassification of bombardier beetles and a taxonomic revision of the North and Middle American species (Carabidae : Brachinida). Supervisor: G.E. Ball.

Ewen, A.B. - Ph.D., 1961. Studies on neurosecretion in the alfalfa plant bug, *Adelphocoris lineolatus* (Goeze) (Hemiptera : Miridae). Supervisor: B. Hocking, G.E. Ball.

Fennie, K.P. - M.Sc., 1987. A study of cuticular sense organs on the legs of *Gerris remigis* Say (Heteroptera : Gerridae), with special reference to a chemosensitive basiconic sensillum and its putative role in mating behaviour. Supervisor: B.K. Mitchell.

Frana, H. - M.Sc., 1978. Geographical and altitudinal variation in enzyme polymorphism and colour among western populations of *Elaphrus americanus* Dejean. Supervisor: G.E. Ball.

Freitag, R. - M.Sc., 1964. A taxonomic revision of the North American species of the *Cicindela maritima* group with a detailed study of hybridization between *Cicindela duodecimguttata* and *oregona*. Supervisor: G.E. Ball.

Freitag, R. - Ph.D., 1967. A revision of the species of the genus *Evarthrus* Leconte (Coleoptera : Carabidae). Supervisor: G.E. Ball.

Froelich, D.E. - M.Sc., 1970. Sense organs of the mosquito, *Culex pipiens fatigans* (Wiedemann). Supervisor: D.A. Craig.

Gibson, G.A. - Ph.D., 1986. Systematics of Hymenoptera, with special reference to the superfamily Chalcidoidea and family Eupelmidae (Terebrants). Supervisor: G.E. Ball.

Goulet, H. - M.Sc., 1971. Biology and relationships of *Pterostichus adstrictus* Eschscholtz and *Pterostichus pensylvanicus* Leconte (Coleoptera : Carabidae). Supervisor: G.E. Ball.

Goulet, H. - Ph.D., 1977. The genera of the holarctic Elaphrini and species of *Elaphrus fabricius* (Coleoptera : Carabidae) : classification, phylogeny, and zoogeography. Supervisor: G.E. Ball.

Graham, P. - Ph.D., 1968. A comparison of methods for sampling adult mosquito populations with observations on the biology of the adult females in central Alberta, Canada. Supervisor: B. Hocking.

Griffiths, G.C.D. - Ph.D., 1971. Studies on the phylogenetic classification of Diptera cyclorrhapha, with special reference to the structure of the male postabdomen. Supervisor: G.E. Ball.

Haley, J.L. - M.Sc., 1988. Host selection and gustatory chemoreception in three *Leptinotarsa* species. Supervisor: B.K. Mitchell.

Happold, D.C. - Ph.D., 1963. Studies on the ecology of mosquitoes in the boreal forest of Alberta. Supervisor: B. Hocking.

Harper, A.M. - M.Sc., 1951. The sugar beet root aphid, *Pemphigus betae* Doane, in southern Alberta. Supervisor: E.H. Strickland.

Hearle, E. - M.Sc., 1925. Mosquitoes of the Lower Fraser Valley, B.C. Supervisor: E.H. Strickland.

Hilchie, G.J. - M.Sc., 1978. Evolutionary aspects of geographical variation in colour and of prey in the beewolf species *Philanthus albopilosus* Cresson (Hymenoptera : Sphecidae). Supervisor: G.E. Ball.

Hocking, B. - Ph.D., 1953. On the intrinsic range and speed of flight of insects. Supervisor: E.H. Strickland.

Holmes, N.D. - M.Sc., 1949. A preliminary study of food relations of wheat stem sawfly (*Cephus cinctus* Norton) larvae. Supervisor: E.H. Strickland.

Houseman, J.G. - M.Sc., 1978. Anterior midgut proteinase inhibitor from *Glossina morsitans morsitans* Westwood (Diptera : Glossinidae) and its effects upon tsetse digestive enzymes. Supervisor: R.H. Gooding.

Huang, C. - Ph.D., 1970. Vertebrate serum inhibitors of *Aedes aegypti* (L.) trypsin. Supervisor: R.H. Gooding.

Hudson, J. - Ph.D., 1976. Seasonal biology of *Anopheles*, *Culex* and *Culiseta* in central Alberta (Diptera : Culicidae). Supervisor: R.H. Gooding.

Jones, M.P. - M.Sc., 1976. The effects of temperature and relative humidity on embryogenesis of *Mamestra configurata* (Wlk) (Lepidoptera : Noctuidae). Supervisor: B.S. Heming.

Kavanaugh, D.H. - Ph.D., 1978. The nearctic species of *Nebria* Latreille (Coleoptera : Carabidae : Nebriini) : classification, phylogeny, zoogeography, and natural history. Supervisor: G.E. Ball.

Kevan, P.G. - Ph.D., 1970. High arctic insect-flower relations: the inter-relationships of arthropods and flowers at Lake Hazen, Ellesmere Island, N.W.T., Canada. Supervisor: B. Hocking.

Khan, A.A. - Ph.D., 1963. Effects of repellents on mosquito behaviour. Supervisor: B. Hocking.

Klassen, W. - M.Sc., 1959. The influence of the North Saskatchewan River valley on the dispersion of *Aedes*. Supervisor: B. Hocking.

Krishnan, Y.S. - Ph.D., 1967. Lipid metabolism in *Blattella germanica* L. Supervisor: R.H. Gooding.

Kuster, J.E. - Ph.D., 1978. Comparative structure and function of compound eyes of Cicindelidae and Carabidae (Coleoptera) : evolution of scotopic and photopic eyes and fine structure of photopic cicindelid eyes. Supervisor: D.A. Craig.

Lafontaine, J.D. - Ph.D., 1979. Classification, phylogeny, and biogeography of the *Euxoa detersa* group (Lepidoptera : Noctuidae). Supervisor: G.E. Ball.

Landry, J.F. - M.Sc., 1981. Resource partitioning in a guild of marsh dwelling *Agonum* (Coleoptera : Carabidae). Supervisor: W.G. Evans.

Landry, J.F. - Ph.D., 1988. Nearctic Scythrididae (Lepidoptera : Gelechioidea) : Synopsis of described species, revision of selected genera, and phylogenetic analysis of structural characters. Supervisor: G.E. Ball.

Larson, D.J. - M.Sc., 1968. A revision of the genera *Philophuga* Motschoulsky and *Tecnophilus* Chaudoir, with notes on the North American *callidina* (Coleoptera : Carabidae). Supervisor: G.E. Ball.

Laverty, T.M. - M.Sc., 1978. Flower-visiting behaviour of experienced and inexperienced bumblebees (Hymenoptera : Apidae). Supervisor: W.G. Evans.

Leech, R.E. - M.Sc., 1965. The spiders (Araneida) of the Hazen Camp area, Ellesmere Island, Northwest Territories, Canada (81°49'N, 71°18'W). A taxonomical, biological, and zoogeographical investigation. Supervisor: G.E. Ball.

Leech, R.E. - Ph.D., 1970. Revision of the amaurobiid spiders of the nearctic region (Arachnida : Araneida). Supervisor: G.E. Ball.

Lee, D.A. - M.Sc., 1986. Phenology, life history, and habitat selection of the European corn borer, *Ostrinia nubilalis*, in Alberta. Supervisor: J.R. Spence.

Lee, R. - Ph.D., 1975. Structure and function of the sense organs on the labium, fascicular stylets, cibarium and tarsi of mosquitoes. Supervisor: D.A. Craig.

Leggett, F.L. - Ph.D., 1983. Mouthpart development in embryos of *Macrosteles fascifrons* Stal (Hemiptera : Cicadellidae). Supervisor: B.S. Heming.

Lilly, C.E. - M.Sc., 1953. Bionomics and control of the superb plant bug, *Adelphocoris superbis* (Uhl.) (Miridae) in southern Alberta. Supervisor: E.H. Strickland.

Lindsay, I.S. - M.Sc., 1952. Some effects of temperature on the rate of incubation of eggs of the pale western cutworm (*Agrotis orthogonia* Morr.). Supervisor: E.H. Strickland.

Longair, R.W. - M.Sc., 1978. Aspects of resource partitioning in some chareophilous hymenoptera. Supervisor: W.G. Evans.

Maddison, D.R. - M.Sc., 1985. Systematics of the holarctic ground-beetle subgenus *Chrysobraceon* Netolitzky and related *Bembidion* Latreille (Coleoptera : Carabidae). Supervisor: G.E. Ball.

Madge, R.B. - Ph.D., 1962. A revision of the genus *Lebia* Latreille in America north of Mexico (Coleoptera : Carabidae). Supervisor: G.E. Ball.

Mansingh, A. - Ph.D., 1963. Effects of malathion on water content and metabolism in *Blattella germanica* L. Supervisor: W.G. Evans.

Matsumura, F. - M.Sc., 1959. The permeability of insect cuticle. Supervisor: W.G. Evans.

Maw, E. - M.Sc., 1981. Biology of some *Aphthona* spp. (Coleoptera : Chrysomelidae) feeding on *Euphorbia* spp. (Euphorbiaceae), with special reference to Leafy Spurge (*Euphorbia* sp. near *esula*). Supervisor: W.G. Evans.

McCauley, V.J. - Ph.D., 1975. Life tables for some natural populations of Chironomidae (Diptera) in a *Typha* marsh. Supervisor: W.G. Evans.

McDonald, F.J. - Ph.D., 1965. The male and female genitalia of North American Pentatomoidea (Hemiptera : Heteroptera) : morphology and bearing on classification. Supervisor: G.E. Ball.

McFadden, M.W. - Ph.D., 1962. A taxonomic study of the soldier fly larvae occurring in America north of Mexico (Diptera : Stratiomyidae). Supervisor: G.E. Ball.

Miller, M.A. - M.Sc., 1950. Bionomics and control of some northern species of Tabanidae. Supervisor: E.H. Strickland.

Morrison, F.O. - M.Sc., 1937. Study of the life history and control of wireworms (larval forms of elaterid beetles) with especial reference to *Ludius aeripennis destructor* Brown. Supervisor: E.H. Strickland.

Murdoch, F.M. - M.Sc., 1966. The biology of the lilac leaf miner, *Gracillaria syringella* Fabr. (Lepidoptera : Cracillariidae). Supervisor: J. Sharplin.

Nimmo, A.P. - M.Sc., 1965. The arrival pattern of Trichoptera at artificial light near Montreal, Quebec. Supervisor: W.G. Evans.

Nimmo, A.P. - Ph.D., 1970. The adult Rhyacophilidae and Limnephilidae (Trichoptera) of Alberta and eastern British Columbia with an examination of the post-glacial origins of the fauna. Supervisor: G.E. Ball.

O'Hara, J.E. - M.Sc., 1981. Classification, phylogeny and zoogeography of the North American species of *Siphona* Meigen (Diptera : Tachinidae). Supervisor: G.E. Ball.

O'Hara, J.E. - Ph.D., 1987. Systematics of the genus group taxa of the Siphonini (Diptera : Tachinidae). Supervisor: G.E. Ball.

Parker, K.R. - M.Sc., 1977. The interaction between *Glossina morsitans* and host rabbits : a host/biting-fly model. Supervisor: R.H. Gooding.

Pearson, T.R. - Ph.D., 1970. The structure and function of the apical labral pegs and long labellar hairs of the mosquito *Aedes aegypti* (L.). Supervisor: B. Hocking.

Pfarr, D.E. - M.Sc., 1973. Nocturnal activity patterns and habitat preference of some Lepidoptera of George Lake, Alberta. Supervisor: W.G. Evans.

Phillips, H.G. - M.Sc., 1970. The effect of gamma radiation on DDT resistance in DDT resistant house flies, *Musca domestica* L. Supervisor: R.H. Gooding.

Pike, E.M. - M.Sc., 1978. Origin of tundra butterflies in Alberta, Canada and their significance in the study of refugia of Wisconsin age. Supervisor: G.E. Ball.

Pledger, D.J. - M.Sc., 1978. Black flies (Diptera : Simuliidae) of the Swan Hills, Alberta as possible vectors of *Onchocerca cervipedis* Wehr and Dikmans, 1935 (Nematoda : Onchocercidae) in moose (*Alces alces* Linnaeus). Supervisor: D.A. Craig.

Pritchard, G. - Ph.D., 1963. Predation by dragonflies (Odonata : Anisoptera). Supervisor: W.G. Evans.

Proctor, D.L. - Ph.D., 1979. Energy flow through free-living soil nematodes in high arctic terrestrial communities. Supervisor: W.G. Evans.

Pucat, A.M. - M.Sc., 1962. The morphology and function of the mouthparts of mosquito larvae. Supervisor: B. Hocking.

Reddy, M.J. - Ph.D., 1969. The mode of action of insect repellents. Supervisor: G.E. Ball.

Richards, K.W. - M.Sc., 1969. Biological studies of arctic bumblebees. Supervisor: W.G. Evans.

Rosenberg, D.M. - Ph.D., 1973. Effects of dieldrin on diversity of macroinvertebrates in a slough in central Alberta. Supervisor: W.G. Evans.

Roughley, R.E. - Ph.D., 1983. Classification, phylogeny and zoogeography of the world species of *Dytiscus* Linnaeus (Coleoptera : Dytiscidae). Supervisor: G.E. Ball.

Ryan, J. - Ph.D., 1977. Energy flow through arctic invertebrates at Truelove Lowland, Devon Island, N.W.T., 75°40'N 84°40'W. Supervisor: B.S. Heming.

Sarai, D.S. - Ph.D., 1966. Effects of photoperiod and temperature on embryonic diapause in *Nemobius fasciatus* (DeGeer) (Orthoptera : Gryllidae : Nemobiinae). Supervisor: W.G. Evans.

Schaaf, A.C. - M.Sc., 1971. The parasitoid complex of *Euxoa ochrogaster* (Guenée). (Lepidoptera : Noctuidae). Supervisor: W.G. Evans.

Sehgal, V.K. - Ph.D., 1970. A taxonomic survey of agromyzid flies of Alberta and a study of host-plant relationships of an oligophagous species *Phytomyza matricariae* Hendel (Diptera : Agromyzidae). Supervisor: B. Hocking.

Sen, A. - Ph.D., 1987. Structure and function of palpi in the Colorado potato beetle, *Leptinotarsa decemlineata* (Say). Supervisor: B.K. Mitchell.

Shamsuddin, M. - Ph.D., 1961. Behaviour of larval tabanids (Diptera : Tabanidae) in relation to light, moisture, and temperature. Supervisor: W.G. Evans.

Shemanchuk, J.A. - M.Sc., 1958. On the bionomics of mosquitoes in irrigated areas of Alberta. Supervisor: B. Hocking.

Shorthouse, J.D. - M.Sc., 1970. The insect community associated with rose galls of *Diplolepis polita* (Cynipidae : Hymenoptera). Supervisor: W.G. Evans.

Skirving, M.A. - M.Sc., 1967. Aspects of pollen collection by honeybees. Supervisor: B. Hocking.

Sperling, F.A. - M.Sc., 1986. Evolution of the *Papilio machaon* species group in western Canada (Lepidoptera : Papilionidae). Supervisor: G.E. Ball.

Stewart, D.B. - M.Sc., 1973. The red turnip beetle, *Entomoscelis americana* Brown (Coleoptera : Chrysomelidae) biology and plant relationships. Supervisor: B. Hocking.

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Tawfik, M.S. - Ph.D., 1967. Feeding and population studies on some blood-sucking insects. Supervisor: B. Hocking.

Teo, L.H. - M.Sc., 1965. The effects of fumigants on the respiratory mechanisms of *Tenebrio molitor* (L.) Supervisor: W.G. Evans.

Thomas, A.W. - Ph.D., 1971. Autogeny and anautogeny in some species of tabanids (Diptera : Tabanidae) in Alberta, Canada. Supervisor: W.G. Evans.

Wada, Y. - M.Sc., 1965. Population studies on mosquitoes. Supervisor: B. Hocking.

Watler, D. - Ph.D., 1979. Influence of social experience on development of individuals of *Acheta domesticus* (L.) the house cricket, and of some *Gryllus* species (Orthoptera : Gryllidae). Supervisor: B.S. Heming.

Whitehead, D.R. - Ph.D., 1971. A taxonomic revision of *Schizogenius* (Coleoptera : Carabidae : Scaritini). Supervisor: G.E. Ball.

Williams, D.J. - M.Sc., 1986. Classification, phylogeny and zoogeographic studies of species of *Sathon* Mason (Hymenoptera : Braconidae). Supervisor: G.E. Ball.

2. University of Calgary

The following is a list of former graduate students of the **Department of Biological Sciences**, the degree received, year of graduation, thesis title, and name of supervisor:

Addison, J. - Ph.D., 1976. Ecology of Collembola at a High Arctic site, Devon Island, N.W.T. Supervisor: D. Parkinson.

Benton, M. - Ph.D., 1987. Ecology and bioenergetics of two *Ameletus* (Siphonuridae: Ephemeroptera) populations. Supervisor: G. Pritchard.

Berte, S. - Ph.D., 1981. Life histories of four species of Limnephilid caddisflies in a pond in southern Alberta. Supervisor: G. Pritchard.

Bruce, I.C. - Ph.D., 1975. Electrophysiology of neurosecretory cells in the fleshfly *Sarcophaga bullata*. Supervisor: J.L. Wilkens.

Carter, A. - Ph.D., 1975. Aspects of the population biology of *Agonum retractum* Leconte (Coleoptera: Carabidae) and its role and that of some other arthropods in the cycling of chemical elements in an aspen woodland ecosystem. Supervisor: G. Pritchard.

Cheeseman, M. - Ph.D., 1983. Feeding by carabid beetles. Supervisor: G. Pritchard.

Conrad, K. - M.Sc., 1987. Complementary male and female mating strategies of *Argia vivida* Hagen (Odonata: Zygoptera: Libellulidae): An example of a female control mating system. Supervisor: G. Pritchard.

Crowther, R. - Ph.D., 1980. Ecological investigation of Hartley Creek, Alberta. Supervisor: R.W. Davies.

Dixon, J. - M.Sc., 1988. The population and feeding ecology of *Rhyacophila vao* (Trichoptera: Rhyacophilidae). Supervisor: F. Wrona.

Enfield, M. - M.Sc., 1976. Quantitative sampling studies on the immature stages of *Aedes* mosquitoes in a temporary slough in southern Alberta. Supervisor: G. Pritchard.

Hall, H.A. - M.Sc., 1970. A preliminary examination of feeding by the aquatic larvae of the crane fly, *Tipula sacra* Alexander (Diptera: Tipulidae) in a series of abandoned beaver ponds. Supervisor: G. Pritchard.

Kavanagh, M. - M.Sc., 1986. The use of stable carbon isotope analysis to investigate the diet of *Tipula commiscibilis*. Supervisor: R.W. Davies.

Larson, D.J. - Ph.D., 1974. The predaceous water beetles (Coleoptera: Dytiscidae) of Alberta: taxonomy, biology and distribution. Supervisor: G. Pritchard.

Leggott, M. - M.Sc., 1984. The effects of temperature on growth, development and activity in three populations of the dragonfly *Argia vivida* Hagen (Odonata: Coenagrionidae). Supervisor: G. Pritchard.

Mitchell, M.J. - Ph.D., 1974. Ecology of oribatid mites (Acari: Cryptostigmata) in an aspen woodland soil. Supervisor: D. Parkinson.

Mutch, R. - Ph.D., 1981. Life histories of two insect shredders and their role in detritus degradation in Rocky Mountain streams. Supervisor: G. Pritchard.

Parsons, W. - M.Sc. 1983. Decomposition processes in a reclaimed strip mined soil: the role of Collembola. Supervisor: D. Parkinson.

Porter, W.B. - Ph.D., 1976. Aspects of the biology and dynamics of *Phyllocnistis populiella* Cham. (Lepidoptera: Phyllocnistidae) on trembling aspen in the Rocky Mountain foothills of southern Alberta. Supervisor: G. Pritchard.

Proctor, H. - M.Sc., 1988. The life history and predatory biology of *Unionicola crassipes* (Muller) (Acari: Unionicolidae) in an Albertan foothills pond. Supervisor: G. Pritchard.

Rasmussen, J. - Ph.D., 1983. An experimental analysis of competition and predation and their effects on growth and coexistence of chironomid larvae in a small pond. Supervisor: R.W. Davies.

Robinson, D. - M.Sc., 1976. An ecological study of seven streams in Yoho and Banff National Parks, with special reference to the life histories and community composition of the benthic insect fauna. Supervisor: R. Hartland-Rowe.

Scott, G. - M.Sc., 1985. An ecological study of factors affecting the microdistribution of Ephemeroptera and other benthic macroinvertebrates in Bragg Creek, Alberta. Supervisor: R.W. Davies.

Slater, J. - M.Sc., 1978. An ecological model of *Aedes vexans* populations in southern Alberta. Supervisor: G. Pritchard.

Stewart, M. - M.Sc., 1980. Aspects of growth and development in aquatic and terrestrial species of *Tipula* (Diptera: Tipulidae). Supervisor: G. Pritchard.

Walde, S. - Ph.D., 1985. Invertebrate predator-prey interaction and stream community structure. Supervisor: R.W. Davies.

PROFILES OF ALBERTA ENTOMOLOGISTS



ACORN, John Harrison

B.Sc. (1980), M.Sc. (1988) Alberta

Born: 14 August 1958

Edmonton, Alberta

Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

John began collecting beetles at the age of five thus getting an early start in the fascinating world of entomology. His major interest has remained with the beetles, especially the Cicindellidae. This interest in entomology led to a Master's thesis that dealt with community ecology, colouration, and historical geography of tiger beetles on dune sand in western Canada. In addition to collecting and studying tiger beetles, John has pursued an interest in the structure and evolution of carabid beetle mandibles, the distribution of Alberta butterflies and dragonflies, tropical entomology, and insect photography. His current work with J.R. Spence, as an insect ecology technologist, involves the study of the biology of pondskippers and fishing spiders. He maintains a personal insect collection consisting of caraboid and scarabaeoid beetles and butterflies. John has served as Secretary of the Entomological Society of Alberta since 1986.



BALL, George Eugene F.E.S.C.

A.B. (1949) Cornell; M.Sc. (1950)

Alabama; Ph.D. (1954) Cornell

Born: 25 September 1926

Detroit, Michigan, U.S.A.

Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

George has had an interest in insects, especially of ground beetles, since his early years and gained an international reputation for his research on the systematics, phylogeny and zoogeography of the Carabidae. Since joining the Department of Entomology, University of Alberta, he has risen through the professorial ranks and served as Chairman for ten years since 1974, building an unrivalled reputation for the Department as a centre of excellence for insect systematics research. His more than 60 scientific publications, some being book length treatises, are renowned for their significance to phylogenetic and biogeographic theory; more than 25 students from several countries have completed theses in systematics under his direction. He is a member of 15 entomological and biological societies, has served on a large number of scientific committees and has held positions as President, Vice-President, and member of several committees of the Entomological Societies of Alberta and Canada. In 1980 George was awarded the Gold Medal of the Entomological Society of Canada.



BARR, William Brian
 B.Sc. (1978), M.Sc. (1982) Alta.
 Born: 30 October 1953
 Vermilion, Alberta
 Address: 15709 - 89A Ave.
 Edmonton, Alberta.
 T5R 4T1

Bill's introduction to the inner world of insects came when he was hired as a cytology technician with Alberta Agriculture in 1983. Here he was required to prepare slides of chromosomes of blackflies. The following year, 1984, as an entomology technician, he helped to maintain colonies of warble flies, houseflies, and otitid flies. Then he got involved with mosquitoes when working for the City of Edmonton in 1986, work that involved collection, rearing, and identification of species. This led to his involvement with mosquito abatement in which he assisted in experiments on control using larvicides and predators. With Alberta Environment since 1987, he has been engaged in insect control and the testing of chemical repellents of insects.



BIRD, Charles Durham
 B.Sc. (1956) Manitoba; M.Sc. (1958)
 Ph.D. (1960) Oklahoma St.
 Born: 7 July 1932
 Norman, Oklahoma, U.S.A.
 Retired: 1979
 Address: Box 165,
 Mirror, Alberta.
 T0B 3C0

Being the son of an entomologist, Charley developed a keen interest in nature at an early age. His first job in professional entomology was summer work with the Northern Insect Survey (1950-1953) and with Forest Entomology (1964-1965). In the summers while obtaining his two post-graduate degrees - the theses research comprised ecological vegetation changes related to waterfowl habitat - he worked for the Canadian Wildlife Service. Charley joined the Department of Biology, University of Calgary, as a Professor of Botany in 1962; here he remained until he retired. Although his contribution to science has been mainly in botany, specifically in bryology, he has also published extensively on birds, reptiles, butterflies and skippers, thus adding materially to our knowledge of the natural history of Alberta. He was an excellent teacher, herbarium curator, educational advisor, and editor. Although still active in natural history research, he is currently a rancher involved in improving methods of beef cattle production and range management.



BLAKELEY, Phillip Earl
 B.S.A. (1945) Sask.; M.Sc. (1954) Alta.
 Born: 3 April 1922
 Canwood, Saskatchewan
 Retired: 1977
 Address: 2313 - 11th Ave.S.
 Lethbridge, Alberta.
 T1K 0K6

Phil was introduced to entomology as a summer student in 1944 at the Dominion Entomological Laboratory, Lethbridge, where, with C.W. Farstad and associates, he took part in wheat stem sawfly investigations which included the early screening of wheat varieties for sawfly resistance and stem solidness. After graduating from the University of Saskatchewan he spent a year in the Canadian Infantry Corps, then he returned to the Laboratory and remained in Lethbridge for the remainder of his career. In 1946 he joined L.A. Jacobson in investigations of the pale western, and other cutworms and continued the work on the biology and control of cutworms until 1962. He then was appointed as Information Officer of the Science Service Laboratories, and subsequently, the Research Station, a position he held until retirement. He has served as Treasurer and Editor for the Entomological Society of Alberta.



BRAIMAH, Stephen Aki
 B.Sc. (1976) Ghana; Diploma (1978)
 CDC, Georgia; M.Sc. (1980)
 Quebec; Ph.D. (1985) Alta.
 Born: 9 March 1952
 Hohoe, Ghana.
 Address: 2541 - 116 Street
 Edmonton, Alberta.
 T6J 3Z7

From his native Gnana, Stephen travelled abroad to improve his academic qualifications as an aquatic biologist. Time spent in Quebec prepared him for his doctoral work at the University of Alberta. Here he nourished his interest in the ecology of aquatic insects by studying the hydrodynamics of filter-feeding. His dissertation and other publications are scientific contributions to our knowledge of the mechanism of particle capture by insects, other than by sieving. It is hoped that the information on the pattern of flow around scaled-up models of filtering structures will be of interest and use to the insecticide industry and to researchers of insect feeding mechanisms.



BROWN, John Hugh (Jack)
B.Sc. (1940), M.Sc. (1942) Alta.
Born: 18 May 1904
Parrsboro, Nova Scotia
Died: 5 December 1967
Edmonton, Alberta

Jack received his early education and subsequent training in agriculture, in Nova Scotia. He continued this at the Olds School of Agriculture and then specialized in entomology at the University of Alberta where he gained two degrees. When Professor Strickland was absent on military duty during World War II, Jack filled the breach and taught the entomology courses (1942-1944). His principal interest was in public health and from 1943 until retirement he remained with the Entomology Division of the Alberta Department of Public Health. Here he conducted ectoparasite and plague surveys, directed the work of the Division, developed Poison Control Centres, and published some 60 scientific articles, leaflets, bulletins, and pamphlets. From 1953 until his death he was a participating member of the Entomological Society of Alberta. His collection of ectoparasites and reprints have been deposited with the Department of Entomology in Edmonton.



BUTTS, Richard Adrian
B.Sc. (1976), M.Sc. (1979) Guelph
Born: 21 April 1954
Guelph, Ontario
Address: Alberta Environmental
Centre, Bag 4000,
Vegreville, Alberta.
T0B 4L0

After completing his Master's degree in Guelph in 1979, Richard joined Cyanamid Canada Inc. as their sales representative in Lacombe, Alberta. Two years later he joined Agriculture Alberta to become Supervisor of the Regional Crops Laboratory in Fairview, Alberta. He was the first entomologist to be stationed in the Peace River region where his duties were to develop and co-ordinate an extension service in entomology. He also developed an IPM program for alfalfa seed crops grown in the region. In 1985 he was appointed Head of the Entomology Section of the Environmental Centre in Vegreville. There he conducts research in field crop entomology, especially on insect pests of canola. He also administers the research programs in horticulture and livestock entomology. Richard is currently writing his Ph.D. thesis: "*Biology and damage assessment of Lygus spp. (Heteroptera:Miridae) infesting canola grown in Alberta*". He was Secretary-Treasurer of the Entomological Society of Alberta in 1982-1983.



BYERS, John Robert
B.S.A. (1962), M.Sc. (1963), Ph.D.
(1967) Sask.
Born: 27 July 1937
Stoughton, Saskatchewan
Address: Agriculture Canada
Research Station
Lethbridge, Alberta.
T1J 4B1

After a three-degree stint at the University of Saskatchewan, Bob departed to the United Kingdom for another year of experience in entomology. Upon his return to Canada he joined the ranks of the academics at his *alma mater* as an Assistant Professor. The academic life was not to his liking so he joined Agriculture Canada as a systematist in Ottawa. Here his interest in the ecology, biology, and taxonomy of Lepidoptera held him at the Biosystematics Research Institute until 1981. He then transferred to the Research Station, Lethbridge, where he has been involved in the use of sex attractants for monitoring population levels and forecasting of cutworm infestations, especially the pale western cutworm. He continues his interest in clarification of the taxonomic status of closely-related cutworm species by identification of differences in their sex pheromones and reproductive behaviour. More recently he has investigated an arctiid, *Grammia blakei*, which has become a pest of native rangelands in Alberta.



CRAIG, Douglas Abercrombie McBeath
B.Sc.(Hons.) (1962), Ph.D. (1966)
Canterbury
Born: 24 October 1942
Nelson, New Zealand
Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

When Doug completed his doctoral program in Canterbury he was appointed to the Department of Entomology, University of Alberta. His interests in black fly biology, taxonomy, and larval feeding, directed him towards investigations of insect morphology. He has risen rapidly through the professorial ranks and has received peer acclaim not only because of his excellent teaching of morphology and related topics, but also for his enthusiastic and critical research of insect structure and function. He has, by example, enticed many students into in-depth studies of the insect realm. Doug has published extensively on larval filter feeding, homologies and fine structure of larval black fly labral fans, and the hydrodynamics of larval behaviour. He has served as Editor, Secretary-Treasurer, Director, and Archivist for the Entomological Society of Alberta.



DEPNER, Kurt Rudolph
 B.S.A. (1950), M.Sc. (1954) Alberta;
 Ph.D. (1966) Wash. St.
 Born: 13 May 1921
 Germany
 Retired: 28 December 1979
 Address: 2450 Ocean Ave.
 Sidney, B.C.
 V8L 1T4

Kurt grew up and got his schooling in the Wetaskawin area of Alberta after emigrating from Germany in 1925. After a stint with the C.P.R. (1938-1940) and the R.C.A.F. (1941-1945) he enrolled at the University of Alberta. Prof. Strickland's lectures piqued his interest and caused him to consider, and then choose, a career in entomology. Kurt joined the federal Livestock Insect Laboratory, Lethbridge, in 1950 to work on the biology and control of horn flies. He was the first to rear these dipterans in the laboratory. He then worked out their life history, studied the parasites of the flies, the photoperiodic effects, and determined that diapause is induced in the offspring when the adult flies feed on the blood of ultra-violet irradiated hosts. He also incepted studies of mosquitoes, face flies, and the chemical control parameters of black fly populations in the Athabasca River. The latter studies have made it possible to raise cattle in the region without serious and calamitous losses caused by the ravages of black flies.



DIXON, Robert Donald
 B.S.A. (1967), M.Sc. (1968) Manitoba
 Born: 27 August 1938
 Edmonton, Alberta
 Died: 22 November 1974

At the age of 10 his family moved to Sheraton, Manitoba, where he completed his elementary education in 1954. After working as a labourer for a year he joined the Canadian Army, remained there until 1958 and then worked as a fisherman and miner. In 1960 at the age of 22 he entered High School and graduated in 1963, then went off to the University of Manitoba and graduate work involving mosquito behaviour and control. After completing his Master's degree he joined Alberta Agriculture as an entomologist working on a wide spectrum of entomological problems. In 1970 he became Head of the Plant Industry Laboratory in Edmonton. His interest in biting flies placed him in a position of leadership in mosquito control associations and in the establishment of urban mosquito abatement programs in western Canada. Although Bob enjoyed but a short entomological career his was one of dedication to the solution of entomological problems in agriculture. He was also instrumental in initiating black fly research in the Athabasca area.



DOLINSKI, Michael Gordon
 B.S.A. (1969), M.Sc. (1972) Man.;
 M.P.M. (1980) Simon Fraser
 Born: 13 November 1947
 Selkirk, Manitoba
 Address: Crop Protection Branch
 Alberta Agriculture
 7000 - 113 Street
 Edmonton, Alberta.
 T6H 5T6

Michael got "turned on" to entomology by the staff of the Entomology Department, University of Manitoba. Having completed his Master's program he joined Alberta Agriculture as their Supervisor of Entomology. As such he dealt with the insect problems of the province, including grasshopper control campaigns, blackfly abatement on the Athabasca River, bertha armyworm control in canola, and the myriad pests affecting the homeowner, farmer, and rancher. Since 1985 he has been the Section Head of Entomology, Plant Pathology, and Apiculture, where his work on insect behaviour, pesticides, insect control, and honeybee management, has enabled him to be of service in the management of pests on agricultural crops and honeybees.



DROUIN, James Albert
 Born: 1 June 1925
 St. Boniface, Manitoba
 Retired: 15 May 1986
 Edmonton, Alberta
 Address: 11520 - 41 Avenue
 Edmonton, Alberta
 T6J 0V1

Jim began his entomological career as a Forest Insect Ranger with the Forest Insect Laboratory, Winnipeg, in 1946. For fifteen years he worked with the Forest Insect and Disease Survey unit, surveying for the incidence of forest insect pests in the three Prairie Provinces and the N.W.T., assessing their impact on forest production and making control recommendations. Then, as a Senior Technician, he investigated the larch sawfly (1961-1972), compiled annual life tables, directed the procurement and analyses of data, and was Director of the Whiteshell Field Station. In 1970 he transferred to Edmonton where, until 1978, he implemented a working pest control unit and conducted efficacy trials on pesticides/herbicides for label expansion/registration for Canadian use. Jim has in the past 40 years had experience with most phases of chemical control of forest pests and has taken part in pheromone and biological research on these noxious insects. More than 80 papers attest to his contribution to entomology in western Canada. He was President of the Entomological Society of Alberta in 1985.



EVANS, William George

B.S.A. (1952); M.Sc. (1954), Ph.D.

(1956) Cornell

Born: 11 August 1923

Swansea, Wales

Retired: 1 September 1988

Address: Department of Entomology

University of Alberta

Edmonton, Alberta.

T6G 2E3

Following his early education in Swansea, George spent some time in the British Merchant Navy (1939-1943) and the U.S. Army (1943-1946). He attended the Long Island Agricultural Institute for two years (1947-1949), and completed his Bachelor's degree at Cornell. He remained there for two more degrees and then accepted a teaching-research position at the Virginia Polytechnic Institute (1956-1958). He then received an appointment to the University of Alberta remaining with the Department of Entomology until retirement. George has taught courses in forest entomology, applied entomology, insect ecology, and insect toxicology. His early research included investigations of the biology and control of alfalfa weevil and alfalfa aphid. He discovered that some insects, like the buprestid, *Melanophila*, possess infra-red receptors that permit them to orient to fires and smoke. George's further interests and work included aquatic entomology, physiological and chemical ecology, and environmental protection. This reinforces his belief in the preservation of all life forms so as to maintain the precarious balance of nature. He served as President of the Entomological Society of Alberta in 1964 and is the current Editor.



FARSTAD, Christian W.

B.Sc. (1931), M.Sc. (1935) Sask.;

Ph.D. (1940) Iowa St.

Born: 5 August 1906

Lofoten, Norway

Died: 18 November 1966

Toronto, Ontario

Chris began his entomological career as a summer assistant at the Dominion Entomological Laboratory, Lethbridge, in 1929. For the next six years he studied the biology and control of the pale western cutworm, then shifted his work to the biology and control of the wheat stem sawfly. He led the team of scientists who were successful in producing *Rescue*, the first sawfly resistant wheat, thereby reducing the prairie's worst field crop pest to a minor role. As Head of the Laboratory, and later, of the Entomology Section of the Science Service Laboratory, he played a prominent role in tripling the number of entomologists engaged in entomology at Lethbridge, and in integrating the work of several sub-disciplines in agricultural research. Chris was appointed Head of the federal Plant Protection Service in 1959, a position he served with distinction until his passing. He also served as President of the Entomological Society of Canada and was a founding member of the Entomological Society of Alberta. In 1966 he was awarded the Gold Medal of the Entomological Society of Canada.



FINNAMORE, Albert Theodore

Dipl. Agric. (1974) N.S.Agr. Coll.;

B.Sc. (1976), M.Sc. (1979),

Ph.D. (1983) McDonald College.

Born: 8 June 1954

St. John, N.B.

Address: Alberta Provincial Museum

12845 - 102 Avenue

Edmonton, Alberta.

T5N 0M6

Albert joined the Provincial Museum of Alberta as Curator of Invertebrate Zoology in 1983. Here he has been responsible for the development of the insect collection designed to reflect the fauna of Alberta and to increase public interest in viewing these as well as the exotic specimens. Because the museum program includes an established research commitment in the fields of ecology and systematics, he can pursue his interests in the aculeate wasps. In 1983 the collections totalled about 33,000 specimens of exotic butterflies and beetles, mainly unlabelled. In five years Albert has extended this to 150,000 mounted, labelled, and identified specimens that include both research and exotic material from around the world. His continued collecting and exhibiting of specimens will add greatly to the current knowledge of insect taxa in Alberta.



GOODING, Ronald Harry

B.Sc. (1957) Alberta; M.A. (1960)

Rice; Sc.D. (1964) Johns Hopkins

Born: 18 October 1936

Edmonton, Alberta.

Address: Department of Entomology

University of Alberta

Edmonton, Alberta.

T6G 2E3

As a summer assistant at the Lethbridge Research Station (1956-1958), Ron was engaged in warble fly and sheep ked research with J. Weintraub and W.A. Nelson. Then, having completed his University education, he served as a Research Associate at the Department of Microbiology of Vanderbilt University for two years, assisting in work with yeast hexokinase. He has been on the teaching staff of the Department of Entomology, University of Alberta, since 1966. Here he teaches medical and veterinary entomology, insect biochemistry and has conducted research on haematophagous insects. He has authored or co-authored 21 scientific papers on digestion in haematophagous insects and carabids, and 29 papers on the genetics of tsetse flies. He has also served as President and Vice-President of the Entomological Society of Alberta, and as Director-at-Large of the Entomological Society of Canada.



GRAY, Harold Ellacott (Hal)
 B.Sc.(1923) Alberta; B.Sc.(1925)
 Mont. St. Coll.; M.Sc. (1930) Minn.
 Born: 1898
 Ottawa, Ontario
 Retired: 1965
 Died: 4 September 1979

Hal first worked in field crop entomology in 1922 at the Dominion Entomological Laboratory, Lethbridge, Alberta. In 1925 he was charged with the investigations of pollination, seed production, and insect damage of alfalfa. He continued these activities for two years after receiving his Master's degree. In 1932 he was placed in charge of Stored Products Insect Investigations and moved to Winnipeg to tackle the spider beetle problem in stored grain. In 1934 the work was moved to Ottawa from where he co-ordinated all future stored products insect work in Canada. His research efforts were responsible for keeping grain - from farm to export ports - insect free, especially during wartime, and for protecting flour and milled products from insect damage. His advice on the control of stored products insects and the protection of foodstuffs was acclaimed and sought after, worldwide. In 1955 he was transferred to the Board of Grain Commissioners where he continued his work on the control of grain pests until retirement.



GRIFFITHS, Graham Charles Douglas
 B.A. (1961), M.A. (1964) Cambridge;
 Ph.D. (1971) Alberta
 Born: 22 June 1937
 Cardiff, Wales
 Address: Department of Entomology
 University of Alberta
 Edmonton, Alberta.
 T6G 2E3

Armed with a Bachelor's degree, Graham was appointed Assistant Principal in the administrative service of the Ministry of Agriculture, Fisheries and Food of the United Kingdom. Here he became acquainted with problems of plant protection, farm support and international trade. After receiving his doctorate he was awarded a Killam Postdoctoral Research Fellowship at the University of Alberta, Department of Entomology (1972-1974). Here he was engaged in establishing the philosophical foundations of biosystematics. From 1974 to the present he has held the position of Honourary Research Associate. He has contributed many papers on various aspects of entomology, principally on the systematics of the Diptera, and on the biology and systematics of root maggots and mining flies. He has founded and edits a series of books on the Flies of the Nearctic Region. In 1986 he was elected Chairman of the Council for International Congresses of Dipterology.



GURBA, Joseph B.
 Teacher's Cert. (1943), B.S.A.
 (1950) Alta.
 Born: 8 November 1922
 Waskatenau, Alberta
 Retired: 1983
 Address: 9415 -144 St.
 Edmonton, Alberta.
 T5R 0R8

After receiving his Teacher's Certificate, Joe taught school for one year (1942) and then joined the R.C.A.F. serving as navigator and attaining the rank of Pilot Officer. After the war he attended the University of Alberta, working as a weed inspector and grasshopper control fieldman with Alberta Agriculture during the summer months. After graduation he remained with the Department, first as a District Agriculturist (1950-1953), Assistant Supervisor (1953-1957), Supervisor (1957-1967), and Branch Head (1967-1983) of the Crop Protection Branch. He provided research, technical and extension services for the protection of crops and livestock from insect and animal pests, and plant diseases. His most satisfying contributions were programs to prevent the establishment in Alberta of pests such as Norway rats, rabies, and Dutch elm disease. He has worked with the Canadian Executive Services Organization (1983-1987), completing four entomology assignments in Antigua, Colombia, and Costa Rica. In 1970, Joe served as President of the Entomological Society of Alberta.



GUSHUL, Evan T.
 National Art School Dipl. (1935)
 Chicago; Aurora Sch. Photo-Eng.
 Dipl. (1941); R.B.P. (1970);
 A.P.S.A. (1975)
 Born: 28 July 1916
 Coleman, Alberta
 Retired: 1977
 Address: 1714 - 15 Avenue S.
 Lethbridge, Alberta.
 T1K 0W9

Evan has enriched the lives of many with his exquisite, in-depth photographs of insects and of entomologists. He began his career in photography as a boy in his father's shop in Coleman and Blairmore, Alberta. The practical side of photography was augmented by numerous courses in photo-engraving, framing, water and oil colouring, machining and welding, and as a journeyman welder. The latter gave him the expertise to make special equipment to photograph insects more efficiently. In 1955 he began work as a technician in the photo-laboratory of the Science Service Laboratories, Lethbridge, remaining there until retirement in 1977 as Head of the Section. Evan has received several prestigious honours and awards as a biological photographer, membership in the Photographic Society of America, and in science photography. His contribution to entomology was to record on film the details of man-crop-insect interactions. The history of the Entomological Society of Alberta is enshrined in his many photographs published in the annual Proceedings.

**HARDMAN, John Michael**

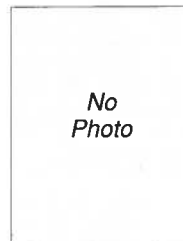
B.Sc. (1968) Dalhousie; M.Sc.(1969) Imp. Coll.; Ph.D. (1973) Simon Fraser
 Born: 31 October 1947
 Exeter, Ontario
 Address: Agriculture Canada
 Research Station
 Kentville, Nova Scotia.
 B4N 1J5

Michael's flair for mathematics directed him into numerical biology and simulation modelling. After receiving his doctorate he worked for C.S.I.R.O. in Canberra, Australia (1973-1977), using the modelling technique and the parameters of anoxic storage, aeration, and refrigeration of grain to predict damage caused by insects in stored wheat. His model is now used to provide safe, cost-effective storage of grain in Australia. After a brief stint as a Research Associate at Simon Fraser University he joined the Agriculture Canada Research Station in Lethbridge to develop similar models to determine damage by grasshoppers to field crops and rangeland. After transferring to Kentville he has been involved in an IPM program of mites and insects in apple orchards including the use of predatory mites, bacterial-insecticidal mixtures, and a computer model to optimize timing and use of pesticides for mite control.

**HARPER, Alexander Maitland**

B.Sc. (1948), M.Sc. (1951) Alta.;
 Ph.D. (1957) Wash. St.
 Born: 10 March 1926
 Lethbridge, Alberta
 Retired: 31 December 1986
 Address: 1127 - 29A Street S.
 Lethbridge, Alberta.
 T1K 2Y2

Alex has, throughout his entomological career, conducted research on crop pests as a federal entomologist stationed at Lethbridge, Alberta. Since 1948 he has studied the biology and ecology of sugar beet and forage crop insects, gall insects, and various species of aphids. Much of the research, especially that on root maggots and aphids, has led to improved crop yields in irrigated areas of the province. The cytogenetics of aphids and the transmission of plant diseases by insects have also received detailed attention. Alex has served as external examiner on thesis committees, as a member of the Western Committee on Crop Pests, and was a charter member of the Entomological Society of Alberta. He is recognized nationally and internationally for his research published as 40 scientific and 155 technical papers. Over the years he has held every executive position of the Entomological Society of Alberta and has served on the Heritage Committee of the Entomological Society of Canada.

**HARTLAND-ROWE, Richard C.B.**

B.Sc. (Hons.)(1952), Ph.D. (1957)
 London
 Born: 19 June 1927
 Bristol, England
 Address: Department of Biology
 University of Calgary
 Calgary, Alberta.
 T2N 1N4

Richard was an ardent butterfly collector as early as age 10. At the University College, Exeter, he was influenced by the ecologist, Leslie Harvey, and made ecology his life's work. He accepted an appointment at Makerere College in 1952 where he not only lectured in entomology but also conducted thesis research on the biology of a unique mayfly, *Povilla adusta*, whose larvae are filter feeders but bore into and damage wooden boats. He applied for a position in biology at the then "new" University of Calgary and was appointed as the first zoologist at that institution in 1958. He headed the Department of Biology from 1963 to 1969. Richard taught almost every course in biology including chordate anatomy, evolution, invertebrate zoology, and ecology. His research has involved the biology, taxonomy and life histories of many of the Canadian species of mayflies and stoneflies, and the ecology of temporary pools. He served as President of the Entomological Society of Alberta in 1965.

**HAUFE, Wilbur Oscar**

B.A. (1950) Toronto; M.Sc. (1952)
 Western Ont.; Ph.D. (1958) London
 Born: 13 January 1932
 Powassan, Ontario
 Retired: 31 January 1986
 Address: 3620 South Parkside Drive
 Lethbridge, Alberta.
 T1K 0E3

Although Wib began his professional career as a school teacher at Burkfalls, Ontario (1940-1942), he sought more exciting things. He enlisted in the Royal Canadian Signals Corps to experience active duty (1943-1946) in World War II. He first worked in entomology with the Defence Research Board as a summer student engaged in Northern Biting Fly research in 1949. After graduating from Toronto he joined Canada Agriculture; still involved in the biting fly problem of northern Canada. In 1953 Wib joined the staff of the Livestock Insect Laboratory, Lethbridge, as the Head of the re-named Veterinary-Medical Entomology Unit, Science Service Laboratories. This was the forerunner of the Animal Parasitology Section of the present Research Station. Wib gained international recognition for his bioclimatological studies which interpreted the interactions between climate, insects, and hosts. He also developed a system that facilitated the analysis of cost benefits in the control of animal parasites. He was active in eight scientific organizations and two editorial boards; provided leadership in parasitological research in Canada and has received international acclaim for his promotion of the importance of meteorology and parasitology.



HEMING, Bruce Sword

B.S.A. (1963) Toronto; Ph.D. (1968)
N. Carolina St.
Born: 1 December 1939
Ithaca, New York, U.S.A.
Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

Bruce was born into an entomological family thus his interest in insects could be considered as being preordained. Immediately after completing his doctoral program in 1968 he joined the Department of Entomology, University of Alberta. Although he has a far-ranging general entomological interest his area of expertise lies in insect morphology, especially that of thrips, bugs, and beetles. Bruce is probably the best known of the few remaining insect morphologists in Canada at the present time. His well-written papers and clear, expressive illustrations attest to the high calibre of his work. He has taught insect development and general and applied entomology. In 1976, Bruce was awarded the C.Gordon Hewitt Award for entomological excellence, by the Entomological Society of Canada. He served as President of the Entomological Society of Alberta in 1977.



HERGERT, Colin Robert

B.S.A.(1973) Alta.
Born: 9 September 1949
Calgary, Alberta
Address: 2316 Crestwood Road S.E.
Calgary, Alberta.
T2C 0C6

Colin, then a summer student assistant, started in entomology by collecting invertebrates on Devon Island, N.W.T. (1971-1973), as part of the International Biological Programme. After graduation he joined CUSO and spent two years in Kano, Nigeria (1973-1975), where he aided in the establishment of an entomological extension service. Returning to Canada he was hired by the Alberta Hail and Crop Insurance Corp. (1975-1978) to conduct actuarial research and develop their program design. In 1979 Colin returned to his preferred entomological endeavours to work for the City of Calgary as an Insect Abatement Technician. Mosquito abatement and the promotion of entomological awareness by the public are his prime goals at the present time. He has served as Director, Vice President and President of the Entomological Society of Alberta.



HILCHIE, Gerald John

B.Sc. (1975) Calgary; M.Sc. (1978)
Alta.; Teaching Cert. (1982) Alta.
Born: 13 September 1953
Calgary, Alberta
Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

Gerald has had a long association with insects, especially the beetles and butterflies which he has collected for years. From 1972 to 1975 he curated the beetle collection at the Riveredge Foundation. In 1980 he teamed up with J.K. Ryan to form an entomological consulting firm. Their research efforts have produced extensive faunal inventories and bio-monitoring systems associated with the oil sands, blackfly abatement, pollution control, and environmental restoration programs throughout Alberta. At present he is an Insect Culture Technician in the Department of Entomology, University of Alberta, responsible for the rearing of insects, assisting in the teaching program as a laboratory instructor, and providing insects for research. He has served as Treasurer of the Entomological Society of Alberta.



HOBBS, Gordon Andrew

B.S.A.(1946) O.A.C.; M.Sc.(1948)
Utah St.; Ph.D.(1952) Ore. St.
Born: 25 September 1916
Ottawa, Ontario.
Retired: 1975
Died: 24 March 1977

Gordon showed an early interest in insects, collecting them for the federal systematist, J.H. McDunnough, in Ottawa during his High School days. After graduating from Guelph he served in the tank corps during World War II and came to Lethbridge in 1946 to work on forage crop insects at the Field Crop Insect Laboratory, which later became part of the Research Station. While taking his post-graduate training, and in the years thereafter, Gordon conducted research on the biology and control of forage crop insects. His research soon focussed on pollinators; honey bees were found to be of no value for pollinating alfalfa. He investigated 19 species of bumblebees and in 1962 imported the first alfalfa leafcutter bees into Alberta. He spent the remaining years of his career in developing new management techniques for leafcutter bees, work that not only greatly increased yields of alfalfa seed but placed Alberta in the forefront regarding leafcutter bee behaviour and commercial management programs. He received an award of merit in 1968 from Agriculture Canada, for re-establishing the alfalfa seed industry in Canada.



HOCKING, Brian F.R.S., F.E.S.C.
 B.Sc. (Hons.) (19..) Imp. Coll.;
 M.Sc. (1949) Alberta; Ph.D. (1953)
 London
 Born: 22 September 1914
 London, England
 Died: 23 May 1974

Armed with a Bachelor's degree and a supportive wife, Brian spent the initial years of his scientific life as an entomologist in the Indian Army during World War II. He was appointed to the staff of the Department of Entomology, University of Alberta in 1946 where he served for the remainder of his years as Professor and Head. His interest in insects, evidenced by 110 published papers, involved ecology (mosquito and black fly populations), physiology (flight, vision, nutrition of many species), medical entomology (onchocerciasis, filariasis), and insect control. He studied the biting flies at Churchill, Manitoba, pioneered in their control with chemicals and also investigated methods of personal protection from their bites. Brian supervised the thesis research of 30 graduate students, constantly tried to improve biology education in schools, and never ceased to make the public more aware of the good and the bad of insects. Brian was President of the Entomological Society of Alberta in 1967; he was awarded the Gold Medal of the Entomological Society of Canada in 1973.



HOLMBERG, Robert George
 B.A. (1967), Hons. (1970), M.Sc.
 (1971) Sask.; Ph.D. (1979) Simon Fraser
 Born: 25 December 1946
 Preeceville, Saskatchewan
 Address: Faculty of Arts & Sciences
 Athabasca University
 Box 10,000
 Athabasca, Alberta.
 T0G 2R0

Robert whet his entomological appetite as a student assistant identifying mosquitoes for the Western Equine Encephalitis project in Saskatoon (1966-1968). Then he nurtured his interests in invertebrates as a Teaching Assistant at the University of Saskatchewan and later as a Teaching and Research Assistant at Simon Fraser University. His Master's research encompassed the scent glands of harvestmen (spiders); his doctorate, prey selection by a spider. He joined the teaching staff of Athabasca University in 1974, a position he has filled with enthusiasm and excellence. Robert has taught various biology courses while continuing his interests in arachnid behaviour and ecology. He was a visiting scientist at the Research Station in Lethbridge in 1980-81, investigating the feeding relationships of grasshoppers. He has served as Director and Secretary-Treasurer of the Entomological Society of Alberta.



HOLMES, Neil Devlin
 B.Sc. (1943), M.Sc. (1948) Alta.; Ph.D. (1954)
 Oregon St.; LL.D. (1975) Univ. of Lethbridge
 Born: 22 April 1920
 Prince Albert, Saskatchewan
 Retired: 1978
 Address: 800 Satellite Park Drive
 R.R. 2
 Cobble Hill, B.C.
 V0R 1L0

Neil worked his way up through the ranks of entomology with Agriculture Canada at Lethbridge; first as an entomologist at the Dominion Entomological Laboratory (1947-1959), then as Head of the Crop Entomology Section (1959-1978) and acting Assistant Director of the Research Station (1976-1978). His research embraced economic entomology of agricultural crops. He delineated the essential bionomics of the wheat stem sawfly, investigated sex attractants of moths, the forecast and control of grasshoppers, and the biology of aphids and mites on grass forage crops. He provided leadership in entomological research, fostered interprovincial and national work on insecticides and plant breeding, encouraged co-operative relationships between federal and provincial agricultural research branches, and assisted in dealing with public apprehension of widespread use of insecticides. Neil served as President of the Entomological Society of Alberta in 1963.



IVES, William George Herbert
 B.S.A. (1951) Manitoba; M.Sc. (1953)
 Iowa St. Coll.
 Born: 30 September 1922
 Mulvihill, Manitoba
 Retired: 30 March 1989
 Edmonton, Alberta
 Address: 11459 - 41st Avenue
 Edmonton, Alberta.
 T6J 0W2

Bill started his lengthy professional career as a forest entomologist in Winnipeg. He began work at the Forest Insect Laboratory in 1953, delving into the problems associated with the larch sawfly. In 1970 he was transferred to the Northern Forest Research Centre in Edmonton. Bill has been responsible for studies of the population dynamics of the larch sawfly (1956-1966), then was Head of the Forest Insect and Disease Survey (1966-1976), and Head of the Insect Management Systems (1976-1983). Since 1983 he has been working on the survival of juvenile pine and, together with H.R. Wong, has prepared a guide to tree and shrub insects of the Prairie Provinces. The latter includes more than 500 species of insects and will serve as a guide to the identification of forest insect pests, for Forest Rangers and others. Bill served as President of the Entomological Society of Manitoba in 1963.



JACOBSON, Larry Andrew
 B.Sc. (1934) Alta.; M.Sc. (1938)
 Mont. St. Coll.
 Born: 24 September 1910
 Barons, Alberta
 Retired: 31 March 1971
 Address: 1011 - 14 Street South
 Lethbridge, Alberta.
 T1H 2W3

Larry began his entomological career - his initial intention was to be a medical doctor - as a summer student in 1933 at the Dominion Entomological Laboratory, Lethbridge, Alberta. After graduation in 1934 he stayed on permanently, conducting research on the biology, life history and control of Say's stink bug. He was also involved in the initial studies of the biology and control of the wheat stem sawfly and in 1943 was placed in charge of cutworm investigations on the prairies. In the next 28 years he provided essential information on the biology, laboratory rearing, and cultural and chemical control of the pale western cutworm and the army worm. His final efforts were directed towards the identification and use of pheromones in monitoring cutworm populations. Larry served as President of the Entomological Society of Alberta in 1960.



JOHNSON, Daniel Lloyd
 B.Sc.(High Hons.)(1978) Sask.;
 M.Sc.(1980), Ph.D. (1983) U.B.C.
 Born: 30 September 1953
 Yankton, South Dakota, U.S.A.
 Address: Agriculture Canada
 Research Station
 Lethbridge, Alberta.
 T1J 4B1

Dan's interest in ecology, whetted by a four-year stint at the University of Saskatchewan, urged him to continue his academic career at the Institute of Animal Resource Ecology, University of British Columbia. Here he investigated the growth and distribution of Collembola, predation by pseudoscorpions, and ecological relationships of mites in an orchard ecosystem. In 1983 he was appointed to the staff of the Research Station in Lethbridge. As the "grasshopper man", Dan has been involved in assessing population densities, distribution, and forecasting of outbreaks of pest species of grasshoppers in Alberta. His research in grasshopper control using biocontrol agents and synthetic pyrethroid insecticides, has instilled a system of responsible insect control to crop protection. His recent research has been directed toward developing spatial modelling systems for use in insect ecology. The unique system of plotting annual geographic distribution of Alberta grasshoppers allows rapid mapping and modelling of populations when considering variables that have affected them over a 20-year period.



JONES, James William
 B.Sc. (1977) Brock; M.Sc. (1982)
 U.B.C.
 Born: 10 December 1949
 Toronto, Ontario
 Address: Alberta Special Crops &
 Hort. Res. Centre
 Bag Service 200
 Brooks, Alberta.
 T0J 0J0

Jim started early in entomology by rearing monarch butterflies in his parent's garden and collecting insects in the Muskoka area. His interests were maintained at Brock University, where he studied parasitoids and insect dispersal with Hugh Danks and at U.B.C. examining the reproductive behaviour of parasitoids with Bill Wellington. Actual field experience, from 1982 onward, was obtained with Alberta Agriculture on grasshopper control at Lethbridge, European corn borer control at Brooks, and agricultural extension work with Mike Dolinski at Edmonton. While on the job he learned the practice of chemical and non-chemical crop protection and I.P.M. As the entomologist at the Horticultural Centre, Jim is providing extension services, conducting applied research (including pesticide trials) on crop insect pests, and developing pest management programs. The arrival of the Russian wheat aphid in southern Alberta will challenge his capabilities of research, extension, and the application of pest management techniques.



KASTING, Robert
 B.Sc. (1946), M.Sc. (1948) Alta.;
 Ph.D. (1956) California
 Born: 27 August 1923
 Edmonton, Alberta
 Died: 2 March 1975
 Lethbridge, Alberta

Bob's early days were spent in Edmonton where he developed an interest in chemistry and the functioning of living organisms. After completing his Master's program he joined Canada Agriculture in Ottawa where he was involved in the analyses of insecticides. In 1950 he transferred to the Science Service Laboratories, Lethbridge, as Head of the Chemistry Section. From then until his untimely death in 1975, he devoted his research to a study of the biochemistry of insect nutrition. The methods he developed were used internationally, all reflecting his interest in plant resistance to insect attack. Many of his 83 scientific papers dealt with the chemical analyses of plant materials and the biochemistry of insect digestion. These were valuable contributions to our knowledge of how grasshoppers, or cutworms, or the wheat stem sawfly larvae survived on the foods upon which they fed. At the time of his death he was working on phytotoxins in rapeseed plants, and the effects of pesticides on the quality of wheat.



KAUFMAN, William Reuben
 B.Sc. (1965), M.Sc. (1967) McGill;
 Ph.D. (1972) U.B.C.
 Born: 24 December 1944
 Montreal, Quebec
 Address: Department of Zoology
 University of Alberta
 Edmonton, Alberta.
 T6G 2E9

After Reuben had completed his University education he was awarded a Wellcome Postdoctoral Fellowship in Veterinary Medicine tenable at Cambridge University. His research there, from 1971 to 1974, involved pharmacological studies on the receptors mediating fluid transport in salivary glands of Ixodid ticks. A further two and a half years (1975-1977) were spent as a Post-doctoral Fellow at the Université de Neuchatel in Switzerland, followed by an appointment to the Zoology Department of the University of Alberta. Reuben has had an on-going interest in ticks; his physiological research on these arthropods has given us information on the receptors that mediate the salivary secretion of ticks, and the discovery of the hormone that is responsible for degeneration of the salivary glands.



KHAN, Mushtaq Ahmed
 Grad. Vet Sci. (1938) Calcutta; M.Sc.
 (1948) Mich. St.; Ph.D. (1972) London
 Born: 8 October 1919
 Najibabad, India
 Retired: 1984
 Address: P.O. Box 2188
 Qualicum Beach, B.C.
 V0R 2T0

Mushtaq has had an illustrious career in veterinary entomology. From the outset in India, followed by a stay in Guelph, Ontario, and then at the Research Station, Lethbridge, he has been involved with the investigation of the biology, immunology, and the control of animal ectoparasites. He had a hand at control and eradication of warble grubs, control of cattle lice, horn flies and mange mites, protection of cattle from black flies, and the feeding behaviour of mosquitoes. He has been concerned with mammalian toxicity of insecticides and to that end has evaluated data that supports the registration of insecticides to be used on livestock. His 162 scientific and technical papers, extension bulletins and one book on the toxicology of livestock insecticides, attest to his commendable contribution to entomological science. He has also made original contributions to the systematics of nematode parasites and other associated insects of economic importance to man and animals.



LARSON, Ruby Ila
 B.A. (Hon.)(1943), M.A. (1945) Sask.;
 Ph.D. (1952) Missouri; D.Sc. (1977)
 Univ. Lethbridge
 Born: 30 May 1914
 Hatfield, Saskatchewan
 Retired: 29 May 1979
 Address: 2503 - 12 Avenue South
 Lethbridge, Alberta.
 T1K 0P4

Following High School and Normal School training, Ruby taught in rural public schools for seven years before entering the University and embarking on a career in biology. Having received training in genetics and cytology she joined the plant breeding section of the Swift Current Research Station in 1946 to assist in the production of solid stemmed wheat for the control of the wheat stem sawfly. After her transfer to Lethbridge in 1948 she became involved in a 20-year research program developing complete monosomic chromosome series for each of three varieties of wheat, and also three series of substitution lines of wheat. This program included studies of the conditions influencing and controlling wheat root rot. Ruby initiated the Lethbridge Science Club to further the development of young biologists, many of whom have gone on to achieve international recognition in science, medicine, and the arts. She has enriched the lives of six children under the Foster Parents Plan and is a founding member of the Genetics Society of Canada, the Entomological Society of Alberta, and the Saskatchewan Institute of Agrologists.



LEE, Dennis Allan
 B.Sc. (1983), M.Sc. (1986) Alta.
 Born: 24 April 1955
 Toronto, Ontario.
 Address: P.O. Box 158
 Halkirk, Alberta.
 T0C 1M0

With a Diploma in Building Construction Engineering Technology from the Northern Alberta Institute of Technology in Edmonton in 1976, Dennis spent two years as a Regional Development Officer in Zaire, Africa. Upon his return to Canada he was employed in the building trade as a draftsman and as a construction superintendent. He then became involved with insects as a summer student in 1981, working with Alberta Agriculture in the Peace River region. Here he monitored the presence and activities of the Bertha armyworm. The following summer he worked for the City of Edmonton, this time monitoring mosquito populations. Then from 1983 to 1986 he was employed as a Teaching and Research Technician in the Department of Entomology, University of Alberta. This afforded an opportunity to delve into the ecology, phenology, developmental adaptation, reproduction, dispersal, and habitat selection of the European corn borer in southern Alberta.

**LEECH, Robin**

B.Sc. (1963) U.B.C.; M.Sc. (1965),
Ph.D. (1971) Alta.
Born: 1 February 1937
Berkeley, California, U.S.A.
Address: 10534 - 139 Street
Edmonton, Alberta.
T5N 2K7

Robin has had an interesting and variable career in entomology. He has collected and written about spiders at Hazen Camp, N.W.T. (1966), enjoyed a post-doctoral position in Ottawa (1970-1972), was a program manager for Parks Canada in Ottawa (1972-1974), and a member of the Research Secretariat of Alberta Environment (1974-1978). He has retained his interest in spiders, their ecology and systematics, and has chosen to be independent by becoming a private consultant in entomology. He also instructs Bioscience at the Northern Alberta Institute of Technology in Edmonton, is a technical writer and editor, photographer and cinematographer. His current project is a treatise on the origins of insect flight.

**LILLY, Charles Edward**

B.Sc.(1949), M.Sc.(1953) Alberta
Born: 25 January 1920
Edmonton, Alberta
Retired: 1981
Address: 2314 - 10 Avenue South
Lethbridge, Alberta.
T1K 0C2

Charlie finished High School in 1938 at Wainwright, Alberta. He worked on a farm, then served with the Royal Canadian Signal Corps in Canada from 1943-1945. When he entered the University of Alberta in 1946, and after taking one class from E.H. Strickland, he was hooked on entomology for life. He began work with the Dominion Entomological Laboratory, Lethbridge, Alberta, as a summer student in 1948 and was introduced to the world of cutworms and sawflies. He received a permanent appointment in 1949 and worked with G.A. Hobbs on alfalfa insect pests and pollinators until 1954. After that he was assigned to investigate the ecology and control of wireworms in the irrigated regions of the province. This also involved studies of root maggots and nematodes. In 1958 he initiated field and laboratory studies concerning insect sex attractants. This pioneer work led to the discovery, isolation, and identification of sex pheromones in wireworm and June beetles. His work helped to extend the use of pheromones for the identification, monitoring, and control of field crop insects in western Canada.

**LINOWSKI, Ronald**

B.Sc. (1975), M.P.M. (1983) Simon
Fraser
Born: 5 July 1952
Napa, California, U.S.A.
Address: Alberta Special Crops &
Hort. Res. Center
Bag Service 200
Brooks, Alberta.
T0J 0J0

Having graduated with a degree in Chemistry in 1975, Ron returned to acquire a second major, biology, by 1977 and completed his academic work for his Master's degree by 1979. That summer he was engaged as the Co-ordinator of the Alfalfa Seed IPM program for Alberta. However, for the next three years (1979-1982) he went afield as a consulting entomologist in the Montana alfalfa seed production program. In 1983 he was appointed Co-ordinator for the Alfalfa Seed IPM program in southern Alberta for the now private West-Ag Company. This was a chance to determine insect pest thresholds for the successful growing of alfalfa seed, and deal with all aspects of seed production, including pollination. In 1984 he accepted a position as Instructor at Medicine Hat College where he currently is engaged in the teaching of first-year biology, chemistry, microbiology, and zoology.

**MANSON, George Francis**

B.Sc.(Hons.)(1929); M.Sc.(1932)
Sask.
Born: 23 September 1902
Eden, Manitoba
Retired: 1 May 1967
Died: 23 June 1984

George started work in entomology as a summer assistant under Hod Seamans at the Dominion Entomological Laboratory, Lethbridge, Alberta, in 1928. He investigated the biology and control of grasshoppers (1928), wheat stem sawfly in relation to strip farming (1929-1931), pale western cutworm (1931-1934), vegetable, sugar beet, and greenhouse pests (1934-1944), and served (part time) as Secretary of the Pesticides Requirements Committee of the Wartime Prices and Trade Board during World War II (1942-1945). He was placed in charge of the Lethbridge laboratory in 1944 and transferred to the Chatham laboratory in 1948. Here he co-ordinated the efforts of a research team to deal with insects of forage, tobacco, vegetables, and the control of soil insects generally. He spent a year (1961-1962) with F.A.O. in Rome and was elected an Honorary Member of the Entomological Society of Canada.

**McDONALD, Stuart**

B.Sc. (1950), M.Sc. (1952) Univ.
West. Ont.
Born: 25 November 1919
Saskatoon, Saskatchewan
Retired: 1984
Died: 27 February 1987
Lethbridge, Alberta

After completing his elementary education in Saskatoon, Stu enrolled in the Radio College of Canada, graduating in 1939. He joined the R.C.A.F. in 1940 and served as a radio instructor until demobilized in 1945. After completing his University education - specializing in insect toxicology - he joined the staff of the Canadian Forestry Service in Sault Ste. Marie (1950-1953), then transferred to the Lethbridge Research Station. Here he remained until he retired in 1984. His interest and expertise in chemical control led to the utilization of chemicals for the control of 23 economically-important insect pests. He published 26 research papers and identified the presence of resistance to chemicals in Colorado potato beetles, cabbage maggots, and Bertha armyworms. Stu was a strong proponent of I.P.M. and was always concerned about the excess, widespread, and unwise use of herbicides and insecticides. His down-to-earth and common sense philosophy, willingness to assist, and genial nature will long be remembered by all who knew him.

**MITCHELL, Beverley King**

B.Sc.(1968); Ph.D. (1972) U.N.B.
Born: 30 April 1946
Fredericton, New Brunswick
Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

Bev's interest in biology developed in High School and later during his undergraduate studies. Having completed his doctoral program he applied for and was awarded a position as Assistant Professor to engage in research and teaching at the University of Alberta in 1975. Here he quickly rose to the rank of Professor by 1987 and has served as the Chairman of the Department since 1984. His interests have been in insect sensory physiology, especially related to insect-plant interactions, chemoreception, and feeding behaviour. His research work with tsetse fly behaviour and their chemoreceptors, demonstrated that specialized nucleotide-sensitive sensilla are present on mouthparts of these insects. Bev has developed and explored chrysomelid beetle models for studies on the chemosensory basis of insect-plant interactions. He has used these models for investigations into the modes of action of feeding stimulants and deterrents. He has served as Assistant Editor of the *Bulletin* of the Entomological Society of Canada and as President of the Entomological Society of Alberta; the latter in 1987.

**NELSON, William Arnold**

B.Sc. (1944) Alta.; M.Sc. (1948),
Ph.D. (1957) McGill
Born: 24 June 1918
Lethbridge, Alberta
Retired: 12 December 1982
Address: 1020 Fern Crescent
Lethbridge, Alberta.
T1K 2W3

Bill remained in Lethbridge with Agriculture Canada throughout his entomological career. He started as a summer assistant (1941-1943), then as an Agricultural Assistant (1943-1947) with the Dominion Entomological Laboratory. From 1948 onward he gained Research Scientist status working first with parasites of the wheat stem sawfly, then turning to the ectoparasites of animals; cattle lice and sheep keds. He demonstrated that sheep acquire resistance to keds, this being mediated locally in the skin. Other animals acquire similar resistance to other blood sucking ectoparasites by the same mechanism. Bill's research on keds has demonstrated that the host resistance response in keds caused economic losses in mutton and wool production, thus indicating the necessity for control of animal ectoparasites. He has held all executive positions of the Entomological Society of Alberta, other than Secretary, and is a Life Member of the Society.

**NIMMO, Andrew Peebles**

B.Sc. (1961) New Brunswick; M.Sc.
(1965), Ph.D. (1970) Alta. Teaching
Cert.(1983) Alta.
Born: 9 December 1938
Wick, Caithness, Scotland
Address: Department of Entomology
University of Alberta
Edmonton, Alberta.
T6G 2E3

With a doctoral degree in hand Andrew accepted the position of Assistant Curator of Invertebrates at the Hancock Museum, University of Newcastle upon Tyne in Britain. He returned to Alberta in 1974 but because of the scarcity of jobs went to work as a machinist helper in the diesel shops of the C.N.R. in Edmonton. This lasted three months after which he went to work as a Liaison Assistant in the Provincial Museum (1974-1976). He was attached to the Department of Entomology, University of Alberta, as an Honourary Research Associate working under contract, with a year in Ottawa, for the Biological Survey of Insects of Canada. He is presently involved in part-time teaching in local schools. His involvement with insects has been mainly with the identification and systematics of Trichoptera and with the preparation of monographs on specific families of caddisflies.



ONO, Hideji

B.Sc. (1972) Tokyo; B.Sc. (1978)
Alta.
Born: 14 November 1949
Utsunomiya, Japan
Address: P.O. Box 763
Vulcan, Alberta.
T0L 2B0

Hideji's interest in ecology and pest management, especially of those insects in forests and on ornamentals, has dictated his course in entomological work. After receiving his degree he was appointed a Regional Agrologist by the Alberta Department of Recreation and Parks and was made responsible for directing horticultural management programs in provincial parks and recreation areas. At present he is the Regional Resource Management Co-ordinator, directing and co-ordinating the natural and cultural resource management programs in southern Alberta for the Alberta Department of Recreation and Parks.



PAINTER, Richard Harold

B.S.A. (1922) O.A.C.; M.Sc. (1929)
Macdonald Coll.
Born: 18 November 1899
Jordan Station, Ontario
Retired: 20 November 1964
Died: 10 July 1970

Dick, as an entomologist in the federal Division of Entomology, waded into insect work with a flourish. First he investigated the biology and control of the European corn borer and garden pests in Ontario (1925-1932). He came west to undertake grasshopper control and population surveys in Manitoba (1932-1937) and graduated to entomology extension work in Saskatchewan (1937) and in Alberta (1938-1942). Here Dick's innate special talent for organization and extension came to fruition. He organized and conducted a national anti-warble fly campaign (1942-1944), then prodded, cajoled, persuaded, and had built by the Division of Entomology, the Livestock Insect Laboratory at Lethbridge, Alberta by 1949. He staffed it and turned insect research over to W.O. Haufe while he became the Liaison Officer to bring the latest of research findings on control of livestock insects to the farmers and ranchers of western Canada. His ability to transform technical information into lively conversation brought acclaim from numerous livestock organizations, exhibition boards, livestock breeders, ranchers and the general public throughout Canada.



PANKIW, Peter

B.Sc. (1949), M.Sc. (1951) Man.;
Ph.D. (1964) Sask.
Born: 21 April 1919
Komarno, Manitoba
Retired: 21 December 1979
Address: P.O. Box No. 395
Beaverlodge, Alberta.
T0H 0C0

As a scientist with Agriculture Canada, Peter has had a long-standing involvement with apicultural research since 1953; first in Ottawa and then in western Canada. At Beaverlodge he was instrumental in breeding and managing legume and grass cultivars (*Peace, Anik*) suitable for northern regions. With honey bees, he has studied foul brood, pollination of alsike and clover, management of package bees, overwintering conditions, and evaluation of various strains for honey production. Peter has also introduced leafcutter bees to northern Alberta, evaluated their capabilities to increase alfalfa seed production and has modified their management to suit local conditions in the more northerly latitudes. These procedures have been adopted in many countries throughout the world.



PETERSON, Lloyd Kenneth

B.S.A. (1961) Alberta; M.Sc. (1958)
N. Dakota
Born: 22 November 1924
Medicine Hat, Alberta
Address: 11619 - 46 Avenue
Edmonton, Alberta
T6H 0A6

Lloyd began his entomological career as a summer student assistant at the Dominion Entomological Laboratory, Lethbridge, in 1947. This early introduction to the biology and control of field crop insects, particularly the wheat stem sawfly, led to a continuation of insect research for the next 18 years. He studied the life processes, parasites, diapause, development and control of the sawfly as well as conducted surveys, assessed insect damage and forecast the probable outbreak of the wheat pest. Lloyd resigned in 1965 to join the Field Crops Branch, Alberta Agriculture, as the Assistant Plant Protection and Pest Control Officer. At this time, and later as Director of the Branch, he was responsible for departmental policies regarding pest control in the province, for monitoring pest control practices, licensing of pest control operators, and establishing environmental protection policies relating to the use of pesticides. Lloyd served as President of the Entomological Society of Alberta in 1974.



PHILIP, Hugh Graham P.Ag.
 B.S.A. (1968), M.Sc. (1970) Alberta
 Born: 18 September 1945
 Kamloops, British Columbia
 Address: Alberta Environmental
 Centre, Bag 4000,
 Vegreville, Alberta.
 T0B 4L0

Hugh started work in entomology as a summer forestry technician for Environment Canada (1964-1965). After completing his University education he worked for a year as a Research Assistant for the Entomology Department of his *alma mater*. In 1972 he began his career with Alberta Agriculture as an applied entomologist, helping the farmers and others solve their pest insect problems. In 1979 he transferred to the Alberta Environmental Centre, Vegreville, to continue his practice of economic entomology, but now as a livestock entomologist. Hugh is Head of the Crop Protection Group, not only responsible for the research and extension programs of entomology and plant pathology, but also in charge of the greenhouse and growth chamber facilities. In addition to his administrative duties he continues his research in developing methods for the control of mosquitoes, black flies, horn flies, house flies, and lice. Hugh has served as Editor, Vice President, and President of the Entomological Society of Alberta.



PIKE, Edward (Ted) Marshall
 B.Sc. (1976), M.Sc. (1978) Alberta
 Born: 25 December 1954
 Calgary, Alberta
 Address: Department of Entomology
 University of Calgary
 Calgary, Alberta.
 T2N 1N4

Ever since Ted could crawl he has been catching crawly things, aided by a grandmother-made insect net. His entomological collecting became obsessive after meeting John Leggee of Okatoks, another butterfly enthusiast. He entered the University of Alberta where he continued to nurture his entomological interests by acquiring two degrees in entomology, and a Teaching Certificate. He taught school at Fairview (1979-1985) and while so engaged took time to study, record, and collect an extensive series of butterflies of the Peace River region. In 1985 he moved to Drumheller where he continued to teach science and collect butterflies. He has a special interest in *Boloria* and was the first to find *B. improba* in Alberta. Ted has written about butterflies and is currently engaged in producing a monograph, together with N. Kondla, F. Sperling, C. Bird and G. Hilchie, on Alberta butterflies. He is now undertaking doctoral studies at the University of Calgary.



PRITCHARD, Gordon
 B.Sc. (1960) London; Ph.D. (1963)
 Alberta
 Born: 9 February 1939
 Burton-on-Trent, England
 Address: Department of Biological Sciences
 University of Calgary
 Calgary, Alberta.
 T2N 1N4

In 1963, after he had completed his doctorate in Alberta, Gordon went to Australia, having been appointed a Research Scientist of C.S.I.R.O. to study the biology of the Queensland fruit fly. In 1967 he was appointed to the staff of the Biology Department of the University of Calgary. Here he has taught courses in general biology, zoology, ecology and evolution, and entomology, and has attained the rank of Professor. His entomological interests lie in evolutionary ecology, especially of aquatic insects. Gordon has worked mainly with dragonflies and crane flies, organized meetings for the International Society of Odonatology and the Entomological Society of Canada, served as President of the Entomological Society of Alberta (1971, 1989), and also as Chairman, Director-at-Large, and member of several committees of the Entomological Society of Canada.



RICHARDS, Kenneth William
 B.Sc. (1967), M.Sc. (1970)
 Alberta; Ph.D. (1975) Kansas
 Born: 10 August 1946
 Lethbridge, Alberta
 Address: Agriculture Canada
 Research Station
 Lethbridge, Alberta.
 T1J 4B1

In his formative years, Ken came under the influence of Ruby Larson and her Science Club activities. His interest in bumblebees developed rapidly, encouraged by Gordon Hobbs and by participation in the Lethbridge Science Fairs. A trip to the High Arctic to study arctic Hymenoptera resulted in data that served as thesis material for his Master's degree. In 1975 he joined the research staff of the Lethbridge Research Station. Here he has been responsible for the development of management practices for native insect pollinators used for the pollination of forage legume crops. His newly-developed management practices for leafcutter bees has increased pollination and seed yields of alfalfa. It has also made Canada an exporting nation of alfalfa seed and leafcutter bees. He has shared his expertise in bee management technology during visits to Yugoslavia, Hungary, U.S.S.R., France, and Britain. Ken has served as a Director of the Entomological Society of Alberta.



RYAN, James Kenneth
B.Sc. (1967) U. Calif.; Ph.D.
(1977) Alberta
Born: 28 November 1945
San Francisco, California
Address: 8613 -108A Street
Edmonton, Alberta.
T6E 4M7

Jim has a deep concern for environmental issues, fostered by his interest in ecology, especially where this involves insects. He worked with agricultural insect problems in California and while at the University, as a Laboratory Demonstrator and Graduate Assistant, he developed skills in understanding quantitative biology. This led to a four-year study of the energy flow in an arctic ecosystem involving the production of insect biomass and energy expenditure. In 1977 he worked as a Biological Consultant with McCourt Management and conducted several research projects dealing with quantitative entomology of the main oil-sands plant communities for the Alberta Oil Sands Environmental Research Program. In 1980 he, together with Gerald Hilchie, founded a consultancy partnership to investigate the black fly problem in Athabasca County. Since then he has worked on several minor biological studies as well as investigating the use of waste honey bees as food. Jim has served as a Director of the Entomological Society of Alberta.



SALT, Reginald Wilson
B.Sc. (1930) Alberta; M.S. (1933)
Mont. St. Coll.; Ph.D. (1936) Minnesota
Born: 10 September 1910
Loughborough, England
Retired: 1970
Address: 639 - 18th Street South
Lethbridge, Alberta.
T1J 3E9

Reg grew up amongst amateur entomologists and naturally gravitated into that field. After the stimulating lectures of Prof. Strickland he began active work under Hod Seamans of the Dominion Entomological Laboratory, Lethbridge, acquiring experience with a wide variety of pests of field, forage, and garden crops. From 1940 to 1942 he replaced Prof. Strickland at the University of Alberta while the latter was on active service. He then took charge of forage crop insect investigations at Lethbridge and began to develop two of his major interests: cold hardiness and diapause of insects. He achieved appreciable success with basic research on diapause in the wheat stem sawfly. Full-time research on insect supercooling and freezing led to considerable clarification of the fundamental processes involved. The roles and nature of nucleating agents, the role of polyols as protective agents, and the progression and nature of freezing in biological tissues may be considered milestones in this field. Reg served as President of the Entomological Society of Alberta (1966), was awarded the Gold Medal of the Entomological Society of Canada (1972) and has recently been honoured by the Society for Cryobiology.



SCHAAF, Allan Clarence
B.Sc. (1967), M.Sc. (1971) Alberta
Born: 12 April 1946
Medicine Hat, Alberta
Address: 1212 - 6th Avenue South
Lethbridge, Alberta.
T1J 1A4

After obtaining his Master's degree, Allan went to Jamaica as a Research Assistant to work on the control of insect pests of sugar cane. Two and a half years later (1972-1974) he accepted a position as a Research and Extension Entomologist in Guyana. Here too, he was involved in the control of insects in sugar cane fields. Upon his return to Canada in 1976 he worked at Swan Hills, Alberta for the Department of Entomology, University of Alberta, investigating black flies and their effects on moose. In 1978, Allan took a job with Sanex Chemicals and served as their Technical and Sales Representative until 1981. He then transferred to PCO Services - a large pest control company - as Manager of the Prairie Region. In 1985 he purchased a local pest control company in Lethbridge and formed his own company, *Big Horn Pest Control Ltd.* Allan now tenders the Lethbridge and district region with commercial and residential pest control services as well as tree spraying and weed control.



SCHABER, Burton Danis
B.A. (1967) Columbia Union Coll.;
M.Sc. (1970) Univ. Maryland; Ph.D.
(1973) S. Dak. St. Univ.
Born: 21 November 1943
Carbon, Alberta
Address: Canada Agriculture
Research Station
Lethbridge, Alberta.
T1J 4B1

Burton's interest in entomology began in 1963 when as a biology student at Columbia Union College he was requested to reorganize an old insect collection. This led to a study of entomology with a particular emphasis on the systematics and taxonomy of Lepidoptera, specifically the Phycitidae. He delineated their biology and described a new species of pinecone worm infesting loblolly pine in Maryland. In 1976 he was appointed as a Counsellor by Canada Manpower, responsible for the agriculture section in Simcoe, Ontario, to bring in migrant workers. Then in 1978 he joined the Research Station, Lethbridge, to initiate and implement an IPM program for pest insects on alfalfa grown for seed in southern Alberta. The major emphasis of his research has been to investigate the effects of cultural control (burning) on the alfalfa ecosystem. Burton has been a Director of the Entomological Society of Alberta.



SCHOLEFIELD, Patrick John

B.Sc.(Hons.) (1974) Calgary

Born: 5 November 1939

York, England

Address: Alberta Environment
Pesticide Chemicals Branch
2938 - 11th Street N.E.
Calgary, Alberta.
T2E 7L7

After graduating from the University of Calgary in 1974, Patrick remained there to work as a technician for Gordon Pritchard and assist in the investigation of the population biology and distribution of aquatic insects, specifically mosquitoes. In 1980 he was engaged by Alberta Environment to work on the collecting, identification, and control of mosquitoes in an awareness and abatement program in the irrigated districts of southern Alberta. In 1986 he became Mosquito Control Program Co-ordinator for southern Alberta. However, he continues his interest in culicid taxonomy and population dynamics, and in the biology of the Grylloblattidae. He has served as a Director of the Entomological Society of Alberta.



SEAMANS, Howard (Hod) Loomis

B.Sc. (1916) Mont. St. Coll.;

M.Sc. (1933) Sask.; LL.D. (1962) Calgary

Born: 11 August 1891

Wawatosa, Wisconsin, U.S.A.

Retired: 1956

Died: 16 December 1974

Ottawa, Ontario

After receiving his Bachelor's degree "Hod" was appointed Assistant State Entomologist for Montana. In 1917 he served as special agent for the Bureau of Entomology of the U.S.D.A., followed by a hitch in the army. In 1919 he was appointed to the teaching staff of Montana State College. During this time he was also involved in the control of grasshoppers, alfalfa weevils, and cutworms. In 1921 he was appointed to head the Dominion Entomological Laboratory, Lethbridge, Alberta, a position he held with distinction for the next 28 years. Control of grasshoppers, cutworms, wheat stem sawfly, stink bugs, and forage crop insects, all came under his scrutiny and attention. Hod's innovative scheme to control cutworms by cultural methods (delayed seeding and starvation), gained him international recognition and, in 1938, the Medal of the Professional Institute of Canada for meritorious achievement. In 1944 he was appointed Head of the Field Crop Insect Unit in Ottawa, an administrative position he filled with notable success until retirement. Hod was elected an Honorary Member of the Entomological Society of Alberta.



SHARPLIN, Janet

B.Sc. (Hons.) (1957), D.I.C. (1958),

Ph.D. (1960) Imp. Coll.

Born: 13 May 1936

London, England

Address: 11506 - 77 Avenue
Edmonton, Alberta.
T6G 0M1

Janet's early education was interrupted and prolonged by World War II and a period of evacuation in Wales. After the completion of her Bachelor's degree, Janet spent the summer months with the Ministry of Agriculture, Fish and Food, gaining practical experience in entomology by assisting with the control of stored products pests on boats. Further experience was obtained while working on biting flies for the Colonial Office (1960-1961). Her interest and proficiency in insect functional morphology gained her a position with the Department of Entomology, University of Alberta, where she taught insect morphology. In addition to her work on the cuticle and wing-base structure of Lepidoptera, she collaborated with B. Hocking in studies of insect flight and the control of biting flies. She was active in extension entomology and produced several leaflets on the control of pest moths. Janet resigned from the Department in 1967 to spend more time with her active, young family.



SHEMANCHUK, Joseph Alexander F.E.S.C.

B.Sc. (1950), M.Sc. (1958) Alberta

Born: 28 April 1927

Wostok, Alberta

Address: Agriculture Canada
Research Station
P.O. Box 3000, Main
Lethbridge, Alberta.
T1J 4B1

Joe has devoted his energies, during his entomological career with Agriculture Canada, to studies of the biology, habits, and control of biting flies. He worked with C.R. Twinn and the Household and Medical Entomology Unit, Ottawa (1950-51), then with F.J.H. Fredeen, Saskatoon (1951-1955), and since then has been in Lethbridge with the Animal Parasitology Section of the Research Station. Joe's work on mosquito flight using radio-active phosphorus, their dispersal, and the effects of irrigation on mosquito populations and control, laid much of the groundwork for effective suppression of these pests. He discovered a fungus pathogen of mosquitoes in the prairie region of Canada. Recent research on the use of ear tags, rubbing bars, and chemical mists to control biting flies on farms, has made it possible for ranchers to successfully raise cattle in blackfly- and mosquito-infested regions of northern Alberta. Joe has served as President of the Entomological Society of Alberta in 1969 and is currently the Secretary of the Entomological Society of Canada.



SHIPP, John Leslie
 B.Sc. (Hons.)(1975), M.Sc. (1977)
 Guelph; Ph.D. (1981) Iowa St.
 Born: 18 August 1951
 Guelph, Ontario
 Address: Agriculture Canada
 Research Station
 Harrow, Ontario.
 N0R 1G0

John accepted an appointment and arrived at the Research Station, Lethbridge, on 18 December 1980, to work on the ecology of black flies. He demonstrated that *Simulium arcticum*, a cattle pest in central Alberta, had at least two generations per season and that diapause occurred in the egg stage. The application of this and other information will improve the effectiveness of larviciding programs by permitting better timing of chemical applications. John has developed a monitoring technique for measuring adult black fly activity as related to climatic conditions. He produced a comprehensive inventory of black fly species in southwestern Alberta which will serve as baseline data when determining the effects of the construction of dams and off-stream reservoirs on future black fly populations and species diversity. John has returned to eastern Canada to work on greenhouse pests at the Harrow Research Station.



SMITH, Dean Seyward
 B.Sc. (Hons.)(1937) Manitoba; M.Sc.
 (1948), Ph.D. (1958) Minn.
 Born: 15 January 1914
 London, Ontario
 Retired: 27 December 1973
 Address: Apt. No. 302
 126 Ontario St.
 Victoria, B.C.
 V8V 1M9

Seyward began his entomological career in 1936 as a summer student with the Dominion Entomological Laboratory, Brandon, Manitoba. In the four subsequent years, on selected Study Centres in southern Manitoba, he probed into the ecology of grasshoppers and the causes of population increases. He then served in the R.C.A.F. (1941-1945) and returned to Brandon to resume his work with grasshoppers; principally studies of the nutrition of the pest species. In 1949 he transferred to Lethbridge, Alberta, where he continued his research and also supervised the annual grasshopper abundance surveys and forecasts of outbreaks. Seyward pioneered in the field of insect nutrition, developed methods of rearing grasshoppers on hydroponically-grown food, and demonstrated that food, crowding, and fertilizers caused variations in the reproductive rate of these insects. He also contributed to our basic knowledge of the distribution of grasshopper species, their life histories, and their damage potential on cereal field crops.



SPENCE, John Richard
 B.A. (1970) Wash. & Jeff. Coll.;
 M.Sc. (1974) Vermont; Ph.D. (1979) U.B.C.
 Born: 5 November 1948
 Warren, Pennsylvania, U.S.A.
 Address: Department of Entomology
 University of Alberta
 Edmonton, Alberta
 T6G 2E3

Since his High School days, John has had an interest in living things, especially insects. His subsequent University training enabled him to delve into population biology, interspecific interactions, insect habitat use, and evolution of arthropod life cycles. He spent a year as a Killam Post-doctoral Fellow at the Department of Entomology, University of Alberta (1979-1980), and then was appointed to a teaching-research position in the same Department. He has taught ecology, invertebrate zoology, general entomology, and insect pest management. John has studied predation and parasitism and their effects on the population dynamics and phenology of semi-aquatic bugs and spiders. His interest in natural history and in the zoogeography of ground beetles has led to studies of the spread of some exotic species of beetles in western Canada and to assemblages of carabids in aspen litter.



SPERLING, Felix Alexander Hermann
 B.Sc.(Hons.)(1979), M.Sc. (1986) Alberta
 Born: 21 February 1957
 Calgary, Alberta
 Address: Department of Entomology
 University of Alberta
 Edmonton, Alberta.
 T6G 2E3

Until the age of nine Felix lived on a farm on the northeastern edge of Calgary, an area now submerged by urban suburbs. The family moved to Bragg Creek where he began collecting butterflies in earnest; a hobby highlighted by a trip to the Yukon just before he began his University education. As a summer student he worked at the Rocky Mountain Biological Laboratory, Gothic, Colorado (1977-1978) and with the Crop Entomology Section, Lethbridge Research Station (1979). While in Colorado he and L.F. Gall discovered and described a new high altitude species of *Bolaria*. His Master's thesis research comprised the evolution of the *Papilio machon* group of butterflies in western Canada. He is at present in a Ph.D. program at Cornell University continuing his studies of the evolution and classification of swallowtail butterflies.



STEINER, Marilyn Yvonne
 B.Sc. (1969) Bath
 Born: 6 October 1945
 Southampton, England
 Address: Alberta Environmental
 Centre, Box 4000,
 Vegreville, Alberta.
 T0B 4L0

Marilyn began her entomological career in 1974 in Edmonton, in the Plant Industry Laboratory of Alberta Agriculture. For the next six years she was responsible for the insect diagnostic service and assisted with research of field crops, horticultural and livestock pest control. In 1980, she transferred to the Alberta Environmental Centre, Vegreville, and concentrated her research efforts on horticultural crops, developing a keen interest in biological pest control. In 1981 she established a biological control program for the Muttart Conservatory in Edmonton, and co-authored the booklet "*Biological Pest Management for Interior Plantscapes*". She has actively pursued the testing and registration of new products for use against greenhouse pests such as leafminer, whitefly, and thrips, and against flea beetles and root maggots in outdoor vegetables. Currently she is investigating various aspects of western flower thrips and sweet potato whitefly control in greenhouse cucumbers.



STEWART, Charles Cowley
 B.A. (1954), M.A. (1955), Ph.D.
 (1959) Toronto
 Born: 29 July 1907
 Wallasey, England
 Died: 22 September 1968

Charles completed his secondary education in England in 1922, came to Canada in 1928 and completed a course as a commercial radio operator in 1941. He joined the Merchant Navy in 1942, served with medal-awarding distinction until 1945, then continued to serve other steamship firms as a wireless operator until he retired from the sea in 1950. His student career at the University of Toronto was marked with a series of prestigious awards and prizes. He joined the Veterinary Medical Entomology Laboratory, Guelph, Ontario, in 1959 and transferred to the Lethbridge Research Station in 1964. His research investigations were directed towards mosquitoes: systematics and antennal sense organ physiology, and the cholinesterase inhibition by systemic insecticides used for warble grub control. He was working on a monograph on the mosquitoes of Canada before his death.



STRICKLAND, Edgar Harold
 B.Sc. (1911) Wye Agric. Coll.; D.Sc.
 (1954) Alberta
 Born: 29 May 1889
 Erith, Kent, England
 Retired: 1 July 1954
 Died: 31 May 1962

"Strick" was the first official entomologist of Alberta, sent west in 1913 to establish the Dominion Entomological Laboratory at Lethbridge, Alberta, and to find means of controlling the pale western cutworm. But entomology was laid aside for the duration of the First World War. After demobilization he investigated stored products insect problems for the federal Division of Entomology but also continued to keep an eye on field crop pests in Alberta. In 1922 he resigned from the federal service to establish the Department of Entomology, University of Alberta. As a one-man department he taught all the entomology courses and labs until joined by B. Hocking in 1946. He was active in the control of all economic insect pests of the prairies, wrote widely on the subject, and prepared bulletins and pamphlets for extension purposes. He was an avid collector leaving an enviable collection of insects as a legacy to his work. It also served as a foundation for the effective and distinguished teaching of systematic and economic entomology at the University he loved. He was the first President of the Entomological Society of Alberta.



STRUBLE, Dean Lyle F.E.S.C.
 B.A. (1961), M.A. (1962), Ph.D.
 (1966) Saskatchewan
 Born: 29 August 1936
 Wawota, Saskatchewan
 Address: Agriculture Canada
 Research Station
 P.O. Box No. 3000, Main
 Lethbridge, Alberta.
 T1J 4B1

Dean tried farming (1954-1956) after High School, then entered University to begin the life of an organic chemist. After graduating he worked as a development chemist for DuPont, then garnered a doctorate with subsequent service as a 'Post-Doc' at the Imperial College, London, and the University of Adelaide, Australia. He joined the Research Station, Lethbridge in 1968. His major activities there involved insecticide residue analyses and the identification and synthesis of sex pheromones of Lepidoptera. To date he not only holds four Canadian and four American patents on specific pheromones, but he has materially aided the pest management programs in suppressing noxious insects on the prairies. His pheromonal work has helped to monitor population densities of 17 pest insect species. He is currently Head of the Crop Sciences Section, Lethbridge Research Station.



SWAILES, George Edward
 B.S.A. (1946) Manitoba; M.Sc. (1950)
 Colo. A. & M.; Ph.D. (1956) Iowa St.
 Born: 20 July 1925
 Winnipeg, Manitoba
 Retired: 29 December 1980
 Address: 2011 - 13 th Avenue South
 Lethbridge, Alberta.
 T1K 0F4

Ed gained some experience with insects while working as an undergraduate student at the University of Manitoba (1944-1945), as a labourer on a fruit farm at Peachland, B.C. and then at the Summerland Research Station (1946-1947). He transferred to the Dominion Entomological Laboratory, Lethbridge, in 1947 to investigate the biology and control of greenhouse and garden insect pests. Much of his research centred on the cabbage maggot: the life history, ovipositional responses and feeding preference to various varieties of rutabagas, chemical control, and insecticide resistance. He has also studied the parasites of the beet webworm and their survival in relation to soil types and moisture. Ed's initial discovery of a pheromone of the bertha armyworm led to his involvement in the development of synthetic attractant systems for noctuid moths. His surveys of six species of cutworms correlated infestations with adult catches in pheromone traps. This led to the use of attractant pheromones as a monitoring system to detect outbreaks and to learn of the flight habits and population changes of pest insect populations. Ed served as President of the Entomological Society of Alberta in 1972.



TELLIER, Arthur
 Dipl. Hort. (1984) Olds
 Born: 31 May 1950
 Grey Municipality, Manitoba
 Address: Alberta Special Crops &
 Hort. Research Centre,
 Bag Service 200
 Brooks, Alberta.
 T0J 0J0

Arthur was first hired as a seasonal worker for the Alberta Horticulture Research Station in 1981. For the next few years (1981-1982) he assisted in the entomology program that included honeybee research, pollen substitute studies, leafcutter bee and honeybee behaviour, and horticultural entomology. In 1982 he became a permanent technologist with the A.S.C.H.R.C. responsible for work related to IPM in commercial vegetable greenhouses and vegetable field crops. Arthur is also in charge of the Dutch Elm Disease beetle surveillance program in southern Alberta.



WEINTRAUB, Jerome (Jerry)
 B.Sc.(Hons.)(1946) Toronto; M.Sc.
 (1949) Minn.
 Born: 7 December 1922
 Radom, Poland
 Retired: 17 October 1987
 Address: 1310 - 29th Street South
 Lethbridge, Alberta.

Arriving in Canada at the age of seven, Jerry spent his boyhood in Toronto, receiving his basic education there. He was a summer student assistant at the Dominion Parasite Laboratory, Belleville, Ontario for four years. Following his University education, and armed with some expertise in insect ecology, he was appointed to the Livestock Insect Laboratory, Kamloops, B.C. in 1949. Here he conducted investigations on the ecology and physiology of warble flies and ticks. He continued this work in Alberta after a transfer to Lethbridge in 1953. Jerry is a world authority on warble fly ecology and physiology; results of his research have been applied in many countries for warble fly eradication and control. He has served on many provincial, national, and international committees involved with livestock insect control. He has served in all executive positions of the Entomological Society of Alberta.



WHITE, Roy Mason (Sam)
 B.S.A. (1924) Manitoba; M.Sc. (1926)
 McGill (Macdonald College)
 Born: 15 December 1888
 Darlingford, Manitoba
 Retired: July 1948
 Died: 4 February 1983
 Penticton, B.C.

Sam was a veteran of World War I, wounded, awarded the Military Medal and Bar, and was discharged in 1919. He began his entomological career in 1922 at the Dominion Entomological Laboratory, Treesbank, Manitoba. Here, under the auspices of Norman Criddle, he investigated the biology and control of field crop insects, principally white grubs, grasshoppers and the wheat stem sawfly. In 1931 he was transferred to Lethbridge, Alberta, and placed in charge of grasshopper investigations in that province. Here he worked to improve the methods of forecasting outbreaks by utilizing more biological information about grasshoppers and by making more detailed abundance surveys. He sought to improve control by modifying existing oil-bran baits and by more extensive use of cultural methods. Sam maintained an interest in the Coleoptera, botany, and ornithology but his greatest contribution to entomology was the expansion of our knowledge of the ecology and distribution of grasshopper species in Alberta.



WILKINSON, Paul Roland

B.A. (1941), M.A. (1945), Ph.D.
(1968) Cambridge
Born: 16 April 1919
Calcutta, India
Retired: April 1984
Address: 305 Ortona Street
Lethbridge, Alberta.
T1J 4K9

Paul has had world-wide experience in veterinary-medical entomology. He served with the Colonial Insecticide Research Unit in Uganda in malaria prevention by dwelling treatment and in tsetse fly-cattle insecticide investigations (1946-1949); with C.S.I.R.O. in Australia working on the ecology and control of *Boophilus* ticks on cattle (1950-1962); and with Canada Agriculture Research Stations in Kamloops, B.C. (1962-1971) and Lethbridge, Alberta (1971-1984), on tick paralysis of livestock and the control of *Dermacentor* ticks. In 1973-1974 he investigated the ecology of ticks in Nova Scotia. All of this experience and research has contributed to the quantification of parameters related to range management; to host resistance of cattle to ticks; to the knowledge of the life histories, host relationships and geographical distribution of ticks; and to improvements in methods of field testing of acaricides.



WONG, Richard Horne

B.S.A. (1947) Manitoba; M.S. (1950)
Mich. St.; Ph.D. (1960) Illinois
Born: 9 January 1923
Hong Kong
Retired: 30 December 1988
Address: Northern Forestry Centre
5320 - 122 Street
Edmonton, Alberta.
T6H 3S5

Dick's interest in insects, especially those of the forest, has remained unabated for more than 40 years of his professional life. He started with Agriculture Canada, Forest Insect Laboratory, Winnipeg, in 1947; headed the Forest Insect Survey (1949-1952), then turned to taxonomic research of forest insect groups. This work was continued when he transferred to Edmonton in 1970. Dick was especially interested in, and worked on the systematics and taxonomy of sawflies, gaining world-wide recognition as an authority of several genera as well as of the insect sub-order Symphyta in North America. He has published a number of papers on the identification and biology of immature and mature insects that attack forest and shade trees on the Canadian prairies. A large monograph containing descriptions of several new genera and species of Tenthredinidae, attest to his expertise of some aspects of systematic forest entomology. Dick served as President of the Entomological Society of Alberta in 1979.