



ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN

NEWSLETTER

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Editors: Peter Kusters, Wayne Goerzen and Mary Matheson, Agriculture Canada
Research Station, 107 Science Crescent, Saskatoon, Sask. S7N 0X2

EDITORS COMMENTS

Another year has almost passed (it probably will by the time we get this newsletter out) and we would like to extend to all a MERRY CHRISTMAS and a HAPPY NEW YEAR.

Enclosed with this fall/winter newsletter you will find not only your Christmas gift (and no, it's not amendments to the constitution) but also the minutes of the fall meeting.

The fall meeting held here in Saskatoon on the 26th and 27th of Oct. was a huge success (except for the dinner). Invited speakers included John Kozial, Alf Arthur and Jeremy McNeil. This year's theme dealt with amateur entomology, and both John and Alf gave very entertaining and interesting talks. John talked enthusiastically about his ongoing hobby as an amateur entomologist (which seems to be more like a full time job). He also displayed his collection of insects, which included an assortment of moths, butterflies and beetles from Sask., and around the world. Needless to say many if not all who viewed the display were very impressed, especially with its neatness (impeccably pinned and presented) and variety. Numerous station personnel also took in the display (we should have charged admission), and a local TV station mysteriously showed up to interview John about his hobby. We doubt very much if Carl had anything to do with this; the provincial exposure was most welcome, especially in light of a declining membership. Certain members of the society became instant celebrities when asked for their comments on the collection. Alf's presentation dealt with collecting "insects on stamps" (not to be taken literally) and seemed to be every bit as interesting a hobby as

collecting real insects. Alf explained to the group that one involved in this hobby had to collect not only stamps that obviously portrayed insects but also those that displayed insects in a more subtle fashion. We wonder how close Alf is to collecting the approximately 4000 known insect stamps. Jeremy also gave a very interesting talk on his research dealing with the factors affecting moth dispersal. His topic was very well presented given the depth and scope of his research which ranges from insect endocrinology to meteorological effects on moth movement. His research covers an equally broad geographical range, extending from Central Europe to the Azores Islands and the Caribbean. A round of applause to Peter Mason for his efforts in getting together such an interesting group of invited speakers. We were also treated to a good variety of student and submitted papers. Student presentations included talks by Will Fick (Dept. Biol. U. of S.)- "Stimulation of Egg Laying in the Greater Wax Moth" and Peter Noble (Dept. Appl. Micro. and Food Sci. U. of S.)-"Factors Contributing to the South Sask. River Black Fly Abatement Program Using Bti." Will ended up winning the student paper presentation; congratulations to both participants. For the duration of the meeting, we enjoyed papers submitted by Ross Weiss (Agric. Canada-Saskatoon)- "Parasitoids Associated with the Lesser Clover Weevil, Hypera nigrirostris in N. E. Sask. Peter Kusters (Agric. Canada-Saskatoon)- "Evaluation of Permethrin Insecticides Used in Backrubbers for Control of Black Flies Attacking Cattle." Gurwattan Miranpuri (Dept. Appl. Micro. and Food Sci. U. of S.)- "Analysis of Hemolymph of the Migratory Grasshopper Melanoplus sanguinipes." Martin Etlandson (Agric. Canada-Saskatoon)-

"Preliminary Characterization of an Iridescent Virus Isolated From Simulium vittatum in Saskatchewan." Merv Atton (Saskatoon Sask.)- "Prairie and Northern Gyrinidae of Western Canada." Peter Mason (Agric. Canada-Saskatoon)- Some Meteorological Factors Influencing the Attack Behaviour of Females of Simulium luggeri." Michael Bidochka (Dept. Appl. Micro. and Food Sci. U. of S.)- "Is the Cuticle of the Migratory Grasshopper a Barrier Against Beauveria bassiana Infection or a Source of Nutrient?" Peter Eckstein (Dept. Appl. Micro. and Food Sci. U. of S.)- "Consideration For Preparation and Bioassay of Aphids." Ken Pivnick (Agric. Canada-Saskatoon)- "The Role of Mustard Oils in Host Plant Location by Crucifer-Feeding Insects."

This year there were no applicants for the Brook's Memorial Prize. It should be pointed out that the onus is now on graduate students to apply for this award. In previous years, students were invited to apply by a committee; however recent amendments to the in the constitution have changed this.

Congratulations to Ross Weiss, who finally finished his M.Sc. after many years of turmoil and anguish (just ask the people who were nearest and dearest to him). On a more serious note congratulations Ross on the completion of your thesis entitled "Ecology of the Lesser Clover Weevil, Hypera nigrirostris (Fabr.) (Coleoptera:Curculionidae) on red clover (Trifolium pratense (L.) crops in Saskatchewan."

Russian Wheat Aphid Project - Saskatoon Mary Matheson

RWA was found in volunteer cereals on summerfallow on Sept. 22 near Consul, Sask. Plants showing RWA damage symptoms had 144 aphids on 45 tillers (3.2 aphids/tiller) while plants sampled at random had only one aphid in 50 tillers. This field was sampled again on Oct.4th and 192 RWA were collected from 18 tillers showing symptoms. A second site of volunteer cereal, also near Consul, has been sampled twice in October with 13.77 and 8.28 aphids/tiller being obtained from plants showing RWA symptoms. No winged forms have been found. Fields of green cereals from the regular sample sites yielded no RWA.

Regular surveys to collect biological control agents have yielded several species of

ladybird beetle, two species of predatory flies, lacewing larvae and several species of parasitic wasps which attack English grain aphid and bird cherry oat aphid. This past summer we released several ladybird beetle species which were from eastern Canada. Included in this were Coccinella septempunctata (C7), Hippodamia variegata and Propylea quatuordecimpunctata. Collections of C7 have been made from widely separated parts of the province, which indicates that this species was here before our release, probably due to natural spread from the U.S.A. and Manitoba where it also occurs.

The four suction traps located at Indian Head, Swift Current, Scott and Saskatoon collected a large assortment of flying insects, including aphids, but to date no RWA have been found in the samples.

We've just had a news flash from Murray Braun who just returned from a RWA hunt in Consul (Dec. 4) where he found live aphids in the plants he sampled.

A Bug By Any Other Name Would Be Less Confusing - K. Pivnick

Nysius niger Baker is a gregarious, black, multivoltine, polyphagous, seed bug (Hemiptera: Lygaeidae) found occasionally in outbreak numbers in Saskatchewan and British Columbia. It is thought to be a vector for a yeast infection which causes problems in the processing of prepared mustard (Burgess *et al.* 1983). It is known to feed on just about anything grown for food in Canada but has a preference for plants of the family Brassicaceae. It is presently referred to as the "false chinch bug", (Beirne, 1972) a name coined by Bruner and Barber (1894) in the U.S. for insects sent to them by workers who thought they were chinch bugs, a serious pest of turfgrass. However, these insects which Bruner and Barber thought were N. angustatus were actually N. raphanus. Milliken (1918), while discussing the same insect (N. raphanus) called it the false chinch bug but referred to it as N. ericae, a European species which was mistakenly thought by Horvath (1908) to be synonymous with the North American species we now call N. niger. Since that time, N. raphanus, N. angustatus and N. niger have often been mistaken for each other, and often mis-identified as N. ericae, and all have been referred to as the false chinch bug. Ashlock (1977) has straightened this mess out, and suggests that N. raphanus, which was first called the "false chinch bug", and which is the biggest North American pest species, be given

this common name. I am going to suggest to the Entomological Society of Canada that this suggestion be followed up and that N. raphanus be officially called the false chinch bug. Therefore, we need a name for N. niger. If you have any suggestions, please let me know. References available upon request.

The 1990 Grasshopper Forecast in Saskatchewan - Ross Weiss

Grasshopper populations are expected to increase in 1990. Consequently we expect an increase in the total area of infestation. This prediction is based on estimates of adult grasshopper density obtained from the annual survey conducted by Saskatchewan Agriculture Soils and Crops Branch, as well as weather and biotic factors that affect grasshoppers. The total area of infestation is predicted to increase to 15.71 million hectares in 1990 as compared with 6.75 million hectares in 1989. The total area of severe and very severe infestations is expected to increase slightly from 2.44 million hectares in 1989 to 2.68 million hectares in 1990. The category with the largest predicted increase is the light category where the total area is expected to increase from 1.76 million hectares in 1989 to 7.6 million hectares in 1990.

The dominant species is the migratory grasshopper, Melanoplus sanguinipes, followed by the clear-winged grasshopper, Camnula pellucida, the two-stripped grasshopper, M. bivittatus, and Packard's grasshopper, M. packardii. A warm dry spring and early summer would enhance nymphal survival and increase damage to crops from infestations. Field margins, fence lines, roadsides and crops grown on stubble must be watched closely when hatching begins in the spring.

A Natural Insecticide - J. Soroka

In the summer of 1984 the Horticulture Department at the University of Manitoba conducted a trial to determine the feasibility of growing species of flowers in Winnipeg for the dried flower market. One of the species in the test was Martynia sp., the Unicorn plant. This annual, native to tropical and subtropical America, was included in the test because its fruit is a beaked, curved capsule. Upon drying, the capsule becomes hard and woody, with the beak splitting and forming two large, opposed, hook-like appendages. The capsule is prized by florists for use in floral

arrangements because of its unusual shape, which resembles a large insect head with two long, curved antennae, and because of its sturdy woody frame, which is not easily damaged in handling.

In the trials all of the unicorn plants froze while in bloom, so that the potential of this species as an outdoor, prairie-grown flower for the dried flower market is nonexistent. However, in the experiment plants of Martynia were grown near Alyssium and other Cruciferae. It was noticed that, while some of the crucifers were badly damaged by crucifer-feeding flea beetles (Coleoptera:Chrysomelidae), not only were Martynia plants not fed upon, but flea beetles landing on unicorn plants appeared to become torpid, and did not jump or fly away when approached.

I grew several plants of Martynia in the winter of 1985 in growth chambers at 20°C and 16 hour day, 8 hour night conditions. I found that, indeed, the flowers produced peculiar-shaped fruits which looked somewhat like an insect head when dry. The plants themselves had rounded leaves which were hairy, clammy, and very glandular; the exudate from these glands was sticky, difficult to wash off, and irritating to the skin and eyes. When the plants flowered they gave off a pungent and unpleasant odour; when I remained in their presence for any length of time I frequently developed a headache.

Unfortunately, I did not have the opportunity to expose these plants to flea beetles under controlled conditions. It may be that this species is pollinated by sarcophagus Diptera in the wild, and the odour of the flowers serves as a pollinator attractant. Whether the torpidity of the flea beetles on Martynia in the flower trials was due to the stickiness of the leaves, to the strong odour of the flowers, or to something else entirely remains a mystery.

News from the PFRA Shelterbelt Center - Bruce Neill

This past summer was a very busy time for the people at the Shelterbelt centre, and it looks like it's not going to slow down for the next few years. The new Federal/Provincial Soils Accord has been signed and part of that agreement deals with incentives for shelterbelt plantings. There is much interest in integrating shelterbelt plantings into soil conservation plans along with trees for rehabilitation of wildlife habitat. To try to meet this demand, we have just finished our