



**SPECIAL POINTS  
OF INTEREST:**

- THE IMPACT OF THE ROSE STEM GIRDLER: A CALL TO ACTION
- PRINCE ALBERT HOSTS DSA ANNUAL MEETING
- RECOGNIZING U OF S ENTOMOLOGY STUDENT ACHIEVEMENT
- INVESTIGATING FIRE PRONE ISLANDS WITH TROUTREACH
- HIGHLIGHTING YOUTH INVOLVEMENT WITH TROUTREACH

## The impact of the Rose Stem Girdler (*Agrilus cuprescens* Ménériés) (Coleoptera: Buprestidae) on prairie rose communities: a call to action.

A massive die-off of prairie roses (*Rosa acicularis* and *R. woodsii*) has continued unabated across southwestern Saskatchewan and southern Alberta since 2000 (Larson 2003, 2009). The causative agent of this die-off is a buprestid beetle, the rose stem girdler (RSG) (*Agrilus cuprescens* Ménériés). The RSG is an invasive species, first introduced into North America in New Jersey in 1923 (Bright 1987). Since that time the species has expanded its North American range to now occur from at least Virginia to southern Ontario and Quebec, and west to Utah and Idaho. The first record of RSG from the Canadian Prairies was 2001 based on adult and larval collections in the Maple Creek, Saskatchewan area, although damage to roses was first noted in 2000 (Larson 2003).

The RSG is generally regarded as a minor pest of roses and to a lesser extent raspberry (*Rubus*) and currant (*Ribes*). Damage is done by the larvae which tunnel in the cambium layer of the stems. The adult lays an egg into a hole in the bark and on hatching the larva tunnels beneath the bark, moving up the stem in a tight spiral. This tunnelling girdles the stem and severs the phloem, killing the stem beyond the point of attack. The stem may become enlarged and gall-like in the area of a tunnel but most often the only indication that a stem is infested is when it dies. Girdling may cause stem death only distal to the point of attack, but in the two prairie rose species the most

usual situation is for the entire stem to die back to ground level. Adult beetles are present on roses in June and early July which is presumably the period of egg laying. However, the effect of the larvae is usually only noticed in mid- to late August and

September when the leaves of infested, dying stems turn prematurely coppery or red. Infested roses are easily identified before the healthy roses develop their fall colors as well as during winter for the prematurely killed leaves become brown and are held on the stem over winter. The presence of a RSG larva in a stem can be easily confirmed by stripping a narrow slice of bark from the length of the stem. A tunnel is dark in color and contrasts with the pale exposed wood or if the slice is so deep that it cuts into the sapwood below the tunnel, at least the tunnel ends are visible as series of parallel dark spots on either side of the cut. One larva will kill a



Rose stem with bark peeled away to show spiral larval tunnel and larva at end of tunnel.



Adult rose stem girdler  
Photos: David Larson





Rose plants showing the premature reddening of leaves characteristic of stems killed by the rose stem girdler.

(Continued from page 1)

stem, but in the current infestation stems with multiple larvae are frequently observed.

It is also possible to determine if a dead stem was killed by RSG. If the bark is still on the stem, gently stripping it off will reveal the tunnel. Even if the bark has flaked off, tunnels are usually lightly engraved into the sapwood so remain recognizable. Dead rose stems break down quickly but generally evidence of stem mortality caused by the RSG is evident as long as the stem is intact.

There are many internet references to the RSG, generally in the area of horticulture and its effect on cultivated roses and other canes. There is little written on its effect on native plants and in fact over much of its range, both native as well as historically invaded areas, the beetle may have little effect. However, in at least southwestern Saskatchewan and adjacent Alberta the presence of the RSG has been a catastrophe to the two principle rose species (the stems of the third native species of the area, *R. arkansana* are probably too small to support larvae). The impact has not been quantified nor is there baseline data on rose abundance and growth forms to allow a quantitative assessment of the impact. Larson (2003, 2009) presented some anecdotal observations and speculation on

the impact of the RSG to regional roses. Recent illustrations of infested and prematurely colored roses (Glen 2013, Massiah 2013) show landscapes in which almost all the roses are dying.

This process of massive die-off has been going on year after year for over a decade. What has been the effect? Roses are still present on the prairies. Stem death does not kill a rose plant. They have persistent roots which continue to send up new shoots. The RSG larva seems to require a stem of a certain minimum diameter in which to develop and new shoots of the year are probably too small and appear too late in the season to be attacked. It is 2 year and older shoots that are killed. Thus, the older stems are killed off leaving younger and smaller stems in patches in which stem density is also reduced. The net result is roses are now found in stands that are lower and more open and the young stems are less strongly armed with spines.

Roses are essentially absent from cultivated land but in waste areas, or areas with natural vegetation, they form an integral part of the plant community and are a principal species (usually in association with snowberry (*Symphoricarpos occidentalis*)) providing a perennial height dimension in the vegetation. In this respect they provide shelter to animals, trap snow and probably help retain soil moisture through shading effect. The dense stands and prickly stems prevent or at least slow ingress of larger animals into stands so



A rose stem from which a strip of bark has been removed. The ends of a tunnel of a rose stem girdler larvae are exposed as dark spots just under the bark (at end of arrows).



that these stands can act as refuges to small prey species, safe nesting and breeding sites for various birds as well as refuges from grazing for various plants. With RSG attack the stands become lower, more open and more succulent so that cattle, which exert a very heavy grazing pressure on almost all natural prairie, can graze these patches. Cattle also consume tender, new rose stems so they in turn contribute to the further demise of the roses. The combined attack, first by the beetle, then grazing pressure against regeneration, produce a situation where patches and banks of roses are converted to grassland with attendant change in plant community structure and composition. This is a double whammy that is further homogenizing the prairie and reducing its diversity and biota.

It is a commonly held maxim that grazing is a natural part of the prairie ecosystem and that grazing of livestock is compatible with prairie conservation. This is probably true up to certain grazing intensity under natural prairie conditions. However, when grazing pressure is maximal (as is generally the case) and a foreign element such as the RSG is added to the mix, rapid and severe change to the prairie environment

can occur. Within the Great Sand Hills, the impenetrable banks of roses of a decade ago are gone. The roses in the draws and coulees of the Cypress Hills uplands as well as along drainage systems of the southwest are in steep decline and will probably soon disappear as a significant component of the ecosystem. As long as the RSG remains a common species in the region, it will have to be taken into account in management plans for natural and conservation areas especially if these also serve as grazing lands.

This paper was prepared in order to:

A. advise as wide an audience as possible of the existence of the RSG in the dry prairie region and to point out the ecological impact of the species, especially in concert



A Cypress Hills landscape showing extent of rose die-off. This site shows the effects of intensive grazing in which roses are the main woody shrub, and almost all of these are dying.

with current livestock management; and

B. develop a plan to at least monitor the distribution of the RSG, along with its abundance and impact on roses and the associated communities. The prairie distribution of the RSG is not known. I have seen infestations from Moose Jaw, SK, west to Lethbridge, AB, and north to the Bow and South Saskatchewan River. Does it occur outside this area, and if so is it at densities that have the impacts described above?

The concerns expressed above regarding the impact of the RSG on prairie environments need to be tested against the observations of others, and ideally quantified either by setting up monitoring stations for rose density or finding sites in which vegetation had been previously studied and against which current observations could be compared. Dr. Chet Neufeld, director Saskatchewan Invasive Species Program, has suggested that the Saskatchewan Invasive Species Council website (<http://www.imapinvasives.org>) be used for compilation of observations on distribution and density as a step towards assessing the extent of the problem.

— David J Larson

Email: [dmlarson@sasktel.net](mailto:dmlarson@sasktel.net)

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## Prince Albert hosts the DSA Annual Meeting 2013



Meeting attendees gather for a photo at the Dragonfly Society of Americas meeting this summer.

The annual meeting of the Dragonfly Society of the Americas was hosted this year 12 – 14 July 2013 in Prince Albert Saskatchewan. The boreal forest of northern Saskatchewan proved to be an attractive destination with approximately 50 participants making the pilgrimage to one of the least explored regions of North America. Even the NWT has received more dragonfly survey interest than northern Saskatchewan! Most of the participants were from the southern U.S. with some European representation from as far away as Denmark.

Two days of pre-meeting were scheduled in advance of the annual meeting to whet the appetites of participants for some of the rarer, more elusive types, of dragonflies. The first day involved a trip to the Gem Lakes where no less than eight species of Emerald (Corduliidae) were captured. Clubtail (Gomphidae) enthusiasts were not to be disappointed either. The North Saskatchewan River had long been suspected as habitat for two species of Stylurid. Adults of the brimstone and elusive clubtail (*Styluris intricatus* and *Styluris notatus*) were both captured inside Prince Albert city limits. As well, the more common boreal snaketail (*Ophiogomphus colubrinus*) and pale snaketail (*Ophiogomphus severus*) generated tremendous excitement among attendees from south-

ern U.S. states who cheerfully added them to their life lists.

Day two saw the variety of interests expanded to include orchids and owls. Keith and Carman Dodge of Nature Prince Albert introduced the group to the rare plants and orchids of MacDowall Bog. At the same time, Harold Fisher took a group of odonatist/ornithologists north to seek out northern hawk owls and barred owls. Unfortunately the bird survey ended in disappointment, but long faces were quickly transformed into smiles when participants were given the opportunity to handle and tag northern saw whet owls at a number of nest boxes Harold maintains for that purpose.

The annual meeting consisted of one day of meetings and presentations hosted by SIAST Technology Division, bookended by two days of survey activities in Prince Albert National Park. I started the formal proceedings off with a welcome and brief overview of reported dragonfly distributions in the region. This was followed by a presentation from Celeste Mazzacano of the Xerces Society on the Dragonfly Migration Partnership and its role in deciphering the mysteries of dragonfly migration. Scott King gave a very informative presentation aimed at untangling phylogenetic confusion around various species of Meadowhawk (*Sympetrum spp.*). Nick Donnelly provided an equally informative discussion on the morphometry and phylogenetic relationships of *Erythemis collo-*



*cata* and *E. simplicicollis*. Ken Tennesen rounded out the formal presentations with an excellent discussion on the coincident distributions of white pine (*Pinus strobus*) and zebra clubtails (*Stylurus scudleri*). Ken was also awarded a much deserved plaque for his many years of service to the society and for his impressive contributions to the study of Odonata. A business meeting followed the proceedings. Guests were then treated to a full-on steak and pickerel supper at Cooke Municipal golf course.

Survey activities in P.A. National Park yielded many rare species of dragonfly and damselfly. The only black-tipped darner (*Aeshna tuberculifera*) of the meeting was captured by Jim Johnson in a parking lot along Highway 263. Boundary bog also yielded some interesting specimens including sweetflag spreadwing (*Lestes forcipatus*) and a low latitude occurrence of Canada whiteface (*Leucorrhinia patricia*). These two rarities were captured by Nick Donnelly and Chris Hill respectively. One of the favourite locations was along the Wasquesiu River trail where Ken Tennesen sampled Hudsonian Emerald (*Somatochlora hudsonica*) larvae.

While the pre-meeting and annual meeting more than satisfied the requirements of this event, it was the unspoiled wetlands of our Canadian shield that really captured the attention of attendees. The post-meeting was held in Missinipe, SK, approximately 80 kilometres north of Lac LaRonge, from 15 – 18 July 2013. Everything exceeded expectations from the luxurious lake-front accommodations at Thompson Cabins to the end-



*Somatochlora cingulata* Lake Emerald  
Photo: Dave Halstead



*Ophiogomphus colubrinus* Boreal Snaketail  
Photo: Dave Halstead

less succession of roadside bogs, fens, lakes, and northern streams. Survey results were also surprising with numerous range extensions and a couple of new provincial records. The plains forktail (*Ischnura damula*) had already been considered an unusual find in the region but the discovery of the eastern forktail (*Ischnura verticalis*) further north had many of us scratching our heads. Perhaps even more surprising was Cary Kearst's discovery of a racket-tailed emerald (*Dorocordulia libera*) on the road to Stanley Mission. Racket-tailed emeralds are normally restricted to the northeastern United States with minor incursions into south-eastern Manitoba.

Hosts for the meeting included yours truly along with some really great volunteers: Jeanette Delisle, Rory Doerksen, Ericka Donald, Blair Hunter, Roy Fremont, Lena Halstead, Nicole Pillipow, Keith Dodge, Carman Dodge, and Harold Fisher. Sponsorship was gratefully received from Prince Albert Destination Marketing, SIAST Technology Division, and Tourism Saskatchewan. I am also grateful to the Travelodge Motor Hotel in Prince Albert, the good people of Prince Albert National Park, and Thompson Cabins in Missinipe for going over and above their usual level of service to make this, by many accounts, the best DSA annual meeting ever.

Note: if you want to experience the meeting through the eyes of one of the attendees you are encouraged to check out DSA Annual Meeting posts 1 to 6 on Bryan Pfeiffer's blog: <http://bryanpfeiffer.com/2013/07/10/dsa-update-no-1-elusive-exclusive/>

— David Halstead

See species list on next page ►

## Species List for Dragonfly Society of America Meeting

### **Calopterygidae – Broad winged Damsels**

*Calopteryx aequabilis* – River Jewelwing

### **Lestidae – Spreadwings**

*Lestes disjunctus* –Common Spreadwing

*Lestes dryas* –Emerald Spreadwing

*Lestes forcipatus* –Sweetflag Spreadwing

*Lestes unguiculatus*– Lyre-tipped Spreadwing

### **Coenagrionidae – Bluets**

*Coenagrion angulatum*–Prairie Bluet

*Coenagrion interrogatum* -Subarctic Bluet

*Coenagrion resolutum* –Taiga Bluet

*Enallagma boreale* –Boreal Bluet

*Enallagma annexum* –Northern Bluet

*Enallagma ebrium* –Marsh Bluet

*Enallagma hageni*–Hagen’s Bluet

*Ischnura damula* –Plain’s Forktail

*Nehalennia irene*–Sedge Sprite

### **Aeshnidae – Darners**

*Aeshna canadensis*–Canada Darner

*Aeshna eremita* –Lake Darner

*Aeshna interrupta*–Variable Darner

*Aeshna juncea* –Sedge Darner

*Aeshna sitchensis* –Zig-zag Darner

*Aeshna subarctica* –Subarctic Darner

*Aeshna tuberculifera* – Black-tipped Darner

*Aeshna umbrosa* -Shadow Darner

*Basiaeschna janata*–Springtime Darner

### **Gomphidae – Clubtails**

*Ophiogomphus colubrinus* –Boreal Snaketail

*Ophiogomphus severus* –Pale Snaketail

*Stylurus intricatus* –Brimstone Clubtail

*Stylurus notatus* –Elusive Clubtail

### **Cordullidae – Emeralds**

*Cordulia shurtleffi* –American Emerald

*Dorocordulia libera*– Racket-tailed Emerald

*Epitheca canis* –Beaverpond Baskettail

*Epitheca spinigera* –Spiny Baskettail

*Somatochlora albicincta* – Ringed Emerald

*Somatochlora cingulata* –Lake Emerald

*Somatochlora forcipata* –Forcipate Emerald

*Somatochlora franklini* –Delicate Emerald

*Somatochlora hudsonica*–Hudsonian Emerald  
(larvae )

*Somatochlora kennedyi* –Kennedy’s Emerald

*Somatochlora minor* –Ocellated Emerald

*Somatochlora walshii* –Brush-tipped Emerald

*Somatochlora williamsoni* –Williamson’s Emerald

### **Libellulidae – Skimmers**

*Leucorrhinia borealis* –Boreal Whiteface

*Leucorrhinia glacialis* –Crimson-ringed Whiteface

*Leucorrhinia hudsonica*– Hudsonian Whiteface

*Leucorrhinia intacta* – Dot-tailed Whiteface

*Leucorrhinia patricia* – Canada Whiteface

*Leucorrhinia proxima* – Red-waisted Whiteface

*Libellula julia* – Chalk-fronted Corporal

*Libellula quadrimaculata* – Four-spotted Skimmer

*Sympetrum danae* – Black Meadowhawk

*Sympetrum internum* – Cherry-faced Meadowhawk

*Sympetrum madidum* – Red-veined Meadowhawk

*Sympetrum obtrusum* – White-faced Meadowhawk



*Enallagma boreale* Boreal Bluet

Photo: Dave Halstead

## University of Saskatchewan Student Successes

Clare Anstead received her PhD in July 2013 following successful defense of her thesis "Comparison of the ticks and tick-borne bacteria of small mammals in western Canada". Neil Chilton supervised the work. In January 2014 Clare will begin a post-doctoral stint at the University of Melbourne Veterinary College, Australia, with Dr. Robin Gasser. Clare will be using bioinformatics to assemble and annotate the genome of the Australian sheep blowfly, one of the country's most notorious pests, as a component of Dr. Gasser's program in the molecular biology of parasites and the diseases caused by them.



Photo: Dale Parker



A tansy bee at Ruddy Duck Lodge.  
Photo: Dale Parker

At the recent Joint Annual Meeting of the Entomological Societies of Canada and Ontario, 20-23 October 2013, Daniel Wiens, a MSc student in Art Davis' lab, took first place in the General Entomology category of the President's Prize Poster Session for his presentation "Honey bees (*Apis mellifera*) pack thrips (Thysanoptera) into pollen pellets while foraging".

— Cedric Gillott and Art Davis

### Some words to ponder

*"Scientists in Croatia have unveiled specially-bred colonies of bees that can detect buried landmines from more than three miles away. The bees are trained by being fed an irresistible sugar solution mixed with the smell of explosives. Experts have spent several years training and perfecting the training technique."*

The full story can be read on The Daily Mail website  
<http://www.dailymail.co.uk/sciencetech/article-2315198/The-bomb-bees-sniff-landmines-THREE-MILES-away.html>

Submitted by Jeff Boone



## Island study on the fire prone landscape of Lac La Ronge

The crew at TRoutreach have expanded their work into the realm of terrestrial entomology. This summer, we launched the Boreal Initiative project on the islands of Lac La Ronge in northern Saskatchewan. The crew is studying ground beetles around the lake to compare the diversity between islands and the mainland. We're interested in whether the distance from mainland, the size of the island, and the fire or harvesting history influences ground beetle diversity.



Commuting by boat to the islands on Lac La Ronge



TRoutreach Boreal Initiative team, Ed Waite (left) and Aaron Bell (right) harvest beetles from pitfall traps (left). Preview of the catch, including a *Pterostichus punctatissimus* and several *P. adstrictus* (right).

habitats and support larger populations. Islands near mainland also tend to be more diverse because they're easier to colonize than distant islands. However, the role of natural disturbance events, such as wildfire, and its impact on island biogeography is not fully understood. Large islands burn more frequently due to increased probability of lightning strikes. Similarly, the chance of embers from other fires landing on an island increases if it is closer. How wildfire affects ground beetles on the islands and mainland is unclear, but the crew at TRoutreach is hoping to shed light on this question.

The theory of Island Biogeography holds that the number of species present on an island is influenced by its size and distance from mainland. Large island are more diverse because they have more resources and



The different wing types exhibited by the wing-dimorphism species, *Agonum retractum*. Brachypterous (flightless; left) individuals are unable to fly due to their reduced wings (outlined in red). Macropterous (right) individuals have fully developed wings. We're hoping to better understand how the beetles move between mainland and the islands by comparing the different wing morphologies exhibited by wing-dimorphic species like this one.



## Youth Involvement with TRoutreach



Left:  
*Ranatra fusca*  
brown water scorpion

Right:  
Iain Phillips teaching  
young students from  
Hafford School about  
biomonitoring in Oscar  
Creek, June 2013.

Below:  
Iain Phillips teaching  
students from La Fleche  
School at Pine Cree  
Creek in early June 2012



TRoutreach Saskatchewan is an NGO created by a few graduate students at the University of Saskatchewan to provide ecology experience for first and second year university students, conduct ground-breaking scientific experiments, and engage primary school kids in science across the province. We have presented our scientific activities in the Newsletter previously, but have never taken the chance to highlight our entomological outreach activities with schools throughout southern Saskatchewan.

We have a passion for impressing upon students the virtues of insects, and hopefully drawing some of them into science and entomology in the future. Since 2012, TRoutreach has engaged schools such as Eastend, Fishing Lake First Nation, La Fleche, Lumsden, Hafford, and Marion Graham in Saskatoon.

In the spring of this past year Iain Phillips travelled to the Redberry Lake Biosphere at Redberry Lake and participated in the development of a film for the preserve: <http://www.youtube.com/watch?v=EcMfZSVODnw>. Throughout a day on Oscar Creek, Iain taught approximately two dozen kids from Hafford School about the use of aquatic insects as forage for resident brook trout, and as biomonitoring tools for assessing the health of flowing waters. Their enthusiasm was inspiring, and they were unreserved about climbing into the stream to find beetles and mayflies of every conceivable type.

During the summer, Brittney Hoemsen conducted presentations at the Ecology Camp for Kids' Insect weeks through the University of Saskatchewan. They sorted through pond samples and the kids were very impressed to see the "shrimps" scurry, the "boatmen" oar, and the "damselfly

babies" wriggle about. The kids impressed Brittney with how much they knew about insects. Their favourites were caddisflies that made their own homes and stick bugs that blend in with the weeds. Above all however, the big winner was the giant water bug (*Lethocerus americanus*) and its immense size for an insect. The kids all marvelled at its size. One kid even claimed he was going to be a scientist and study the life cycle of flies! This fall TRoutreach presented its work to flyfishing societies in Saskatoon and Prince Albert. We are also eager to promote the conservation of streams across southern Saskatchewan for the ecological goods and services they provide. If you have a school group or special interest group that would stand to benefit from a TRoutreach presentation, please contact us at [troutreach.saskatchewan@gmail.com](mailto:troutreach.saskatchewan@gmail.com) or find us on Facebook at <https://www.facebook.com/TRoutreachSaskatchewan>.

— Iain Phillips



## JAM 2014: Entomology in a Changing World

### Looking Forward to the 2014 ESS-ESC Joint Annual Meeting!

Greetings all!

We would like to take this opportunity to thank all of you who have already volunteered to ensure that ESS will be hosting another successful JAM in 2014. The dates of the event are **September 26 – October 1, 2014**. The venue for the event will be the **Radisson Hotel**, Saskatoon, SK.

As mentioned, your response to the appeal for assistance from the organizing committee was much appreciated! The following is a list of positions/activities identified by the committee including the names of individuals who have agreed to lead:

**General Chairpersons:** C. Olivier, J. Soroka, O. Olfert

**Secretary:** O. Olfert

**Treasurer:** D. Hegedus

**Scientific Chair:** C. Gillott, M. Erlandson

**Local Arrangements:** K. Moore

**Local Sub-committees:**

- **Accommodation:** K. Moore
- **Associated Meetings:** A. Davis
- **Audio-Visual, Displays and Posters:** D. Baldwin
- **Banquet – Receptions:** C. Olivier, J. Soroka
- **Tours and Associates Program:** M. Gruber
- **Registration:** Margie Gruber
- **Meeting Awards:** J. Soroka, C. Olivier
- **Fundraising:** J. Boone, I. Phillips
- **Photography:** T. Wist, B Hoemsen
- **Program Printing:** R. Andrahennadi
- **Publicity:** B. Hoemsen, T. Wist

And if you can help out with one or more of these activities, please feel free to contact the lead person in the above list. They would much appreciate the support.

We are also looking for banquet entertainment and potentially a meeting side-trip. So for example you have a dear relative that works for a potash mine and could set up a tour of the mine, keep JAM 2014 in mind!

Thanks,

—Chrystel, Julie, Owen



*Saperda calcarata* Poplar Borer-  
Photo: Dale Parker



*Stylurus notatus* Elusive Clubtail (North Saskatchewan River)

Photo: Nicole Pillipow

## The Dark Hidden Corner

This issue of the ESS Newsletter reveals an interesting trend. People are starting to notice Saskatchewan for its entomological offerings. During this past summer I was honoured to host the annual meeting of the Dragonfly Society of the Americas. The event, described earlier in this issue, attracted more than 40 participants from outside the country and yielded several new species records for the Royal Saskatchewan Museum. These annual meetings have been held at various locations throughout the U.S. and occasionally southern Canada for the past 23 years, and judging from the response of attendees, this year's meeting was among the most successful. I hate to credit our long cold winters, so let me just say part of our entomological attraction has to do with the concentrated explosion of insects we experience over the relatively short summer season. DSA attendees could not believe the numbers of dragonflies bouncing off their windshield as they proceeded north from the Saskatoon airport. The numbers of species may be limited relative to more tropical locations, but what we lack in diversity, we more than make up for in abundance!

Saskatchewan is also finding itself on the map among the Hymenoptera crowd. Many couldn't help but notice when noted hymenopterist Dr. Cory Sheffield was acquired as head curator of the invertebrate collection for the Royal Saskatchewan Museum. Dr. Sheffield has already identified several new records of bee species for the province and is confident many more remain to be discovered. At the same time, Saskatchewan is the second largest producer of honey in Canada after Alberta, and there is growing public interest in the issue of pollinators, varroa mites, and colony collapse disorder. As the student success portion of this and past issues attests, there is a growing commitment to pollinator research. Saskatchewan's concern with these issues combined with its status as a leader in crop pests and agricultural research are bound to generate growing interest among those seeking technical solutions to these problems.

Saskatchewan also demands attention for its position on the front lines of a number potentially devastating insect invasions. Past ESS newsletters have dealt with the impacts of mountain pine beetle and spruce beetle in our forested regions. This issue deals

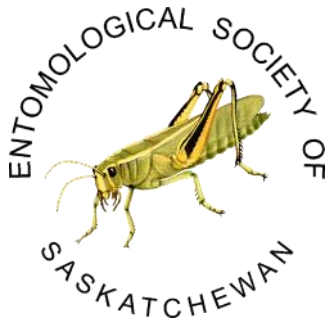
with the less obvious impact of Rose Stem Girdler on the southwest prairie. David Larsen provides an excellent account of the pathology of the Rose Stem Girdler (*Agrilus cuprescens* Ménétriés) and describes the potential devastation this buprestid beetle might have on our native prairie, particularly in combination with intensive livestock grazing. His article really is a call to arms: information and research is desperately needed to define the risk and reduce the impact of this recently recognized invasive.

All of these trends bode well for next year's Joint Annual Meeting. Saskatchewan remains a center of excellence for crop pest research and is fast becoming recognized as an entomological hotspot for insect pollinators and invasive organisms. As the annual meeting of the DSA will attest, Saskatchewan also remains a last frontier for insect inventories and conservation. There has never been a better time for Saskatchewan to lay out the welcome mat for entomological conversation and research. Please let the organizers know how you might be able to assist in making 2014 one of the best JAMs in ESC history.

— Dave Halstead

Email: [halstead@siast.sk.ca](mailto:halstead@siast.sk.ca)





[www.entsocsask.ca](http://www.entsocsask.ca)

**ESS Executive:**

**President**

**Doug Baldwin**

Agriculture & Agri-Food Canada  
107 Science Place  
Saskatoon, SK S7N 0X2  
Ph. (306) 956-7267  
Fax (306) 956-7247  
E-mail: [doug.baldwin@agr.gc.ca](mailto:doug.baldwin@agr.gc.ca)

**Treasurer**

**Dwayne Hegedus**

Agriculture & Agri-Food Canada  
107 Science Place  
Saskatoon, SK S7N 0X2  
Ph. (306) 956-7667  
Fax (306) 956-7247  
E-mail: [dwayne.hegedus@agr.gc.ca](mailto:dwayne.hegedus@agr.gc.ca)

**Secretary**

**Iain Phillips**

Saskatchewan Watershed Authority  
# 101-108 Research Drive  
Saskatoon, SK, S7N 3R3  
Ph. (306) 933-7474  
Fax (306) 933-6820  
E-mail: [Iain.Phillips@swa.ca](mailto:Iain.Phillips@swa.ca)

**President-elect**

**Margaret Gruber**

Agriculture & Agri-Food Canada  
107 Science Place  
Saskatoon, SK S7N 0X2  
Ph. (306) 956-7263  
Fax (306) 956-7247  
E-mail: [margaret.gruber@agr.gc.ca](mailto:margaret.gruber@agr.gc.ca)

**Youth and Amateur Encouragement**

**Chrystel Olivier**

Agriculture & Agri-Food Canada  
107 Science Place  
Saskatoon, SK S7N 0X2  
Ph. (306) 956-7686  
Fax (306) 956-7247  
E-mail: [chrystel.olivier@agr.gc.ca](mailto:chrystel.olivier@agr.gc.ca)

**Awards**

**Jeff Boone**

City of Saskatoon  
1101 Ave. P N  
Saskatoon, SK S7L 7K6  
Ph. (306) 975-2766  
Fax (306) 975-3034  
E-mail: [jeff.boone@saskatoon.ca](mailto:jeff.boone@saskatoon.ca)