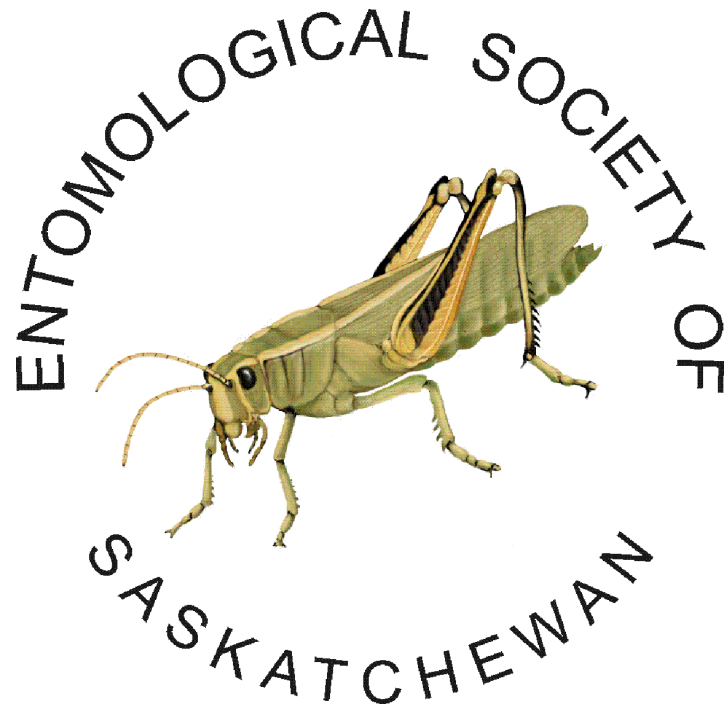


Proceedings of the



Volume 59
2011

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Proceedings of the Entomological Society of Saskatchewan

Volume 59

Editor: Iain Phillips

Contents

Editor's comments	1
Executive, Officers and Committee Members	2
Minutes of the Spring Meeting	3
Committee Reports.....	4
Minutes of the Fall Meeting.....	6
Committee Reports.....	8
Appendix A: Abstracts for Presentations 2011 (Fall)	11
Appendix B: Treasurer's Report 2011 (Fall)	132
Appendix C: Secretary's Report 2011 (Fall)	15
Appendix D: Regional Director's Report 2011 (Fall)	15

Editor's comments

The Society had 54 members including 11 life members in 2010/2011. A copy of the Proceedings of the Entomological Society of Saskatchewan for 2011 was given to the Saskatchewan Archives.

The Joint Annual Meeting between the Entomological Society of Canada and Acadian Entomological Society was held in Halifax from November 6th to November 11th.

An edition of the newsletter was published in January 2011.

Executive, Officers and Committee Members 2010/2011

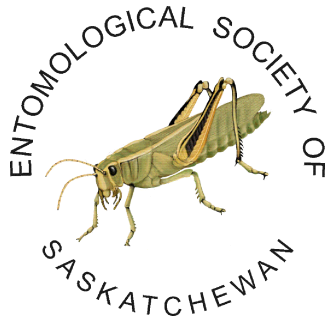
Executive:

President	Ruwandi Andrahennadi
Vice-President	Jeff Boone
Past President	Cedric Gillott
Secretary	Iain Phillips
Treasurer	Dwayne Hegedus

Committee Members:

Youth and Amateur Encouragement	Chrystel Olivier
Newsletter Editor	vacant
Proceedings Editor	Iain Phillips
Regional Director to the ESC.....	Martin Erlandson
Honours and Awards	Cedric Gillott
Microscope	Harvey Anderson
Website	Brian Sarauer
Archives and Heritage	Martin Erlandson and Cedric Gillott

Auditors: Wayne Goerzen and Martin Erlandson



Minutes of the Spring Meeting of
the Entomological Society of Saskatchewan
Room 215
Agriculture Canada Research Station, Saskatoon
13:30 pm, April 15, 2011

PRESENT: Cedric Gillott, Ruwandi Andrahennadi , Dwayne Hegedus, Iain Phillips, Lorraine Braun, Chrystel Olivier, Jeff Boone, Keith Moore, Harvey Anderson, Martin Erlandson, Scott Hartley, Tyler Wist, Anna Leighton

BUSINESS AGENDA:

1. **Call to order:** President Ruwandi Andrahennadi

2. **Introduction of Members**

3. **Agenda:**

Motion: Tyler Wist/Martin Erlandson. THAT the agenda be adopted

CARRIED.

4. **Minutes of the fall meeting:**

Motion: Tyler Wist/Martin Erlandson. THAT the minutes of the Fall 2010 Meeting be adopted.

CARRIED.

5. **Business arising from the minutes:** none

6. **Treasurer's Report – Dwayne Hegedus**

- a. Dwayne handed out report
- b. Members in bad-standing have been removed from the membership list.
- c. Brian Ulmer became a life member.

Motion: Dwayne Hegedus/Cedric Gillott. THAT the Treasurer's report be adopted

CARRIED.

7. **Secretary's Report – Iain Phillips**

- a. Minutes prepared and circulated.

Motion: Iain Phillips/Chrystel Olivier. THAT the Secretary's report be adopted

CARRIED.

8. **Newsletter and Proceedings – Brian Galka**

- a. B. Galka can no longer prepare the Newsletter

- b. Chrystel Olivier may do it in the future.

Motion: Cedric Gillott/Scott Hartley. THAT the Newsletter and Proceedings Report be adopted

CARRIED.

9. Regional Director's Report – Martin Erlandson

- a. Report presented, appended to minutes.

Motion: Iain Phillips/Lorraine Braun. THAT the Regional Director's report be adopted.

CARRIED.

10. Committee Reports

- 10.1) Amateur Encouragement – Chrystel Olivier
- 10.2) Archives/Heritage – Cedric Gillott and Martin Erlandson
One of the archives is missing, from 2001 – Volume 49.
- 10.3) ESS Website – Bryan Sarauer
No report
- 10.4) Microscope – Harvey Anderson
Microscope is in good order
- 10.5) Honours & Awards – Dwayne Hegedus and Cedric Gillott
No nominations

Motion: Ruwandi Andrahennadi/Dwayne Hegedus. THAT the committee reports be adopted.

CARRIED.

11. Other business – ESC-ESS Joint Meeting in 2014

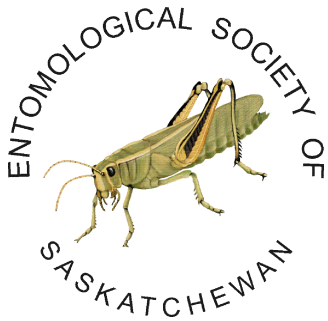
- a. Need to assign major positions
 - i. Chair
 - ii. Science Program – Cedric Gillott volunteers
 - iii. Local Arrangement
 - iv. Treasurer
- b. Keith Moore – concerns about people available to help.
- c. Dwayne. Hegedus – mentions possibility for the University to handle the program.
- d. Martin Erlandson – Look at venue possibilities. Suggests we strike a subcommittee. Look at the hotels (Bessborough and Radisson).
- e. Dwayne Hegedus – suggests we have a second meeting in a couple weeks.

- f. Keith Moore – volunteers to look into the options for a venue and report back to the supplementary meeting to be held on April 29th looking into the

feasibility of hosting the meeting.

12. Adjournment: Ruwandi Andrahennadi/Iain Phillips THAT the meeting be adjourned

Minutes recorded and prepared by Iain Phillips for ESS records.



Minutes of the Fall Meeting of
the Entomological Society of Saskatchewan
Agriculture Canada Research Station, Saskatoon
2nd Floor Conference Room
13:30, December 9, 2011

PRESENT: Doug Baldwin, Chrystel Olivier, Dwayne Hegedus, Art Davis, Julie Soroka, Md. Habibullah Bahar, Harvey Anderson, Muhammad Altaf, Keith Moore, Scott Hartley, Amy Noakes, Danielle Stephens, Martin Erlandson, Cedric Gillott, Tyler Wist, David Halstead, Jeff Boone.

Owen Olfert sends his regrets

The fall meeting opened with a scientific program of exceptional presentations by entomology graduate students. The students, in the order they appeared, were Tyler Wist, Danielle Stephens, Iain Phillips, Daniel Wiens, and Amy Noakes. See Appendix A for a listing of their topics. The business meeting followed at 15:00.

1. **Call to order** at 15:00 by Ruwandi Andrahennadi
2. **Introductions** were made, new members were welcomed. Cedric Gillott and Dwayne Hegedus present Danielle Stephens with a travel award of \$200 to attend the 2011 Entomological Society of Canada Meeting in Halifax. Iain Phillips received a cash award of \$100 for the best student talk. Thank you to Jeff Boone and Chrystel Olivier who kindly agreed to be judges. There was no awarding of the Brooks Award this year as no applications were received before the deadline.
3. **Agenda**—Items added;
 - a. Julie Soroka adds an item under 11.1, a short description by David Halstead.
 - b. Julie Soroka adds an item under 11.2, Progress on the ESS-ESC joint meeting committee update.

Motion: Ruwandi Andrahennadi. THAT the agenda be adopted.

CARRIED.

4. Minutes of Spring Meeting - April 15, 2011

Motion: Tyler Wist/Martin Erlandson. THAT the minutes of the Spring Meeting April 15, 2011, be accepted.

CARRIED.

5. Business arising from the Minutes

5.1 Julie says that we have gone ahead with posting the Curatorial Assistant, but that is a reflection of business arising. Under 11.2.

5.2 Progress of the ESS ESC joint meeting committee.

MOTION: Ruwandi Andrahennadi/Martin Erlandson. THAT we go ahead with posting the Curatorial Assistant.

CARRIED.

6. Treasurer's Report – Dwayne Hegedus

- a. See Appendix B.
- b. 46 members
- c. Brian Ulmer life member and Julie Soroka also joined as member for life.
- d. Will be vigilant in tracking down people to pay.
- e. Chrystel Olivier was successful in getting \$600 from ESC for Youth and Amateur initiatives.
- f. Society NPC status has been renewed.
- g. Dwayne Hegedus has reorganized the way in which the GICs are renewed, this way we can get cash without interest penalty.

MOTION: Dwayne Hegedus/Martin Erlandson. THAT the ESS Treasurer's report be adopted.

CARRIED.

7. Secretary's Report – Iain Phillips

- a. See Appendix C.
- b. Minutes were taken for the ESS executive meeting January 21, 2011, and the spring meeting of the ESS on April 15th, 2011. The agenda for this meeting was prepared and distributed along with the minutes of the spring meeting to all ESS members.

MOTION: Iain Phillips/Chrystel Olivier. THAT the Secretary's report be adopted.

CARRIED.

8. Newsletter and proceedings

- a. No report
- b. Position vacant as we look for replacement
- c. Chrystel Olivier asks if anyone would be interested. Follow up with David Halstead.

9. Regional Director's Report – Martin Erlandson

- a. See Appendix D.
- b. Next year's JAM will be in Edmonton Nov. 3-7, 2012. On the ESC website
- c. In terms of the AGM on the Nov. 5th, and the minutes are on the ESC website.
 - i. The Canadian Entomologist will no longer be published through NRC press, now Cambridge University Press. ESC members receive 10% discount on CUP books.
 - ii. The editor in chief has changed, now it's Chris Buddle. Now a streamlined two tier process with associate editors replaced by subject editors. Because of this, and the CUP change there were many changes to guidelines
 - iii. Kirk Hiller won the C. Gordon Hewitt Award. The Bert and John Carr Award was won by Zoe Lindo.

MOTION: Martin Erlandson/Tyler Wist. THAT the ESS the Regional Director's report be adopted.

CARRIED.

10. Committee Reports

10.1) Youth and Amateur Encouragement

No report, but Chrystel Olivier would receive reports on members' activities from May to December.

Tour of Saskatchewan. Presentations around Saskatchewan. If anyone is interested in participating get a hold of Chrystel Olivier.

10.2) ESS Website

No report

10.3) Microscope Report

Harvey Anderson for Microscope. Microscope and two light sources are available to the membership for use. In safe storage. Dwayne offers to pick it up. Harvey thanks for the use of it.

10.4) Archives and Heritage

Cedric Gillott – no report.

10.5) Honours and Awards

Cedric Gillott—Brooks prize; travel awards; and best student oral presentations.

Unfortunately there were no eligible applications for the Brooks prize this year. Students have a whole year in which to get an application in. If they can't get an application in by the deadline, then the application cannot be accepted. Thus no Brooks this year. Danielle Stephens won the travel award, more money available.

10.6) Nominations Committee

Nomination committee; Names for next executive in the Agenda.

MOTION: Cedric Gillott/Iain Phillips. THAT the Committee reports be adopted.

CARRIED.

11) New business

11.1- Dave Halstead Presentation

Dave Halstead is introducing his new pocket field guide. Edited by Anna Leighton. The book is called "Dragonflies and Damselflies in the H: An Identification Guide to Boreal Forest Odonates in Saskatchewan and Adjacent Regions". It is a useful guide for workers in the field. Published by Nature Saskatchewan

Dave Halstead is in discussion to host the annual conference of the Dragonfly Society of the Americas in Waskesiu in 2013. Dave anticipates 60 or 70 participants from around the U.S.

11.2. Progress of the ESS ESC joint meeting committee.

Chrystel Olivier is presenting. Radisson or Bessborough. Committees have been set up, the information is delivered in the minutes of the November 29, 2011 meeting.

Theme of the meeting: Bugs without Borders. Insects Sans Frontiers.
Keith Moore received a proposal from each of the hotels.

Keith Moore went back to the hotels. How difficult to run the meeting at the hotel, how much are we putting ourselves at risk? Guest room rates. Radisson came back with a better offer, Bessborough did not. Radisson's numbers were consistently better than that of the Bessborough. Guest rooms at the Radisson were cheaper

Overall picture is that the Radisson is a better bet for the meeting. Cheaper, but Keith Moore will confirm the numbers.

12) Installation of new executive

12.1) Spring meeting date

will be decided at the Executive Committee winter meeting, date of which yet to be determined too.

MOTION: Cedric Gillott/Martin Erlandson. THAT the ESS adjourns the Fall meeting 2011.

CARRIED.

APPENDIX A: ABSTRACTS FOR PRESENTATIONS 2011 (FALL)

Determining the role of potential chitin-binding proteins in oral infectivity of the bertha armyworm by the baculovirus *Mamestra configurata nucleopolyhedrovirus* (MacoNPV).

Amy Noakes^{1,2}, Cedric Gillott¹, Dwayne Hegedus^{2,3}, and Martin Erlandson^{1,2}.

¹Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan

²Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan

³Department of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon, Saskatchewan

The bertha armyworm, *Mamestra configurata*, is a sporadic but significant pest of canola and other oilseed crops. Much effort has been devoted to developing biological control strategies to manage this pest, and a promising agent is the baculovirus *Mamestra configurata nucleopolyhedrovirus* (MacoNPV). Two MacoNPV genes have been identified which may encode proteins with chitin-binding domains. These proteins could be involved in initial interaction between the baculovirus virion and the peritrophic matrix, a protein-chitin matrix that lines the insect midgut. Establishing the role these proteins play in the infection cycle could lead to the development of modified baculoviruses with greater efficacy and speed of kill for use as biopesticides.

The influence of the Gardiner Dam on the benthic communities in the Saskatchewan River.

Iain Phillips^{1,2}, Michael Pollock¹, and Doug Chivers²

¹Integrated Water Services, Saskatchewan Watershed Authority, # 101 – 108 Research Drive, Saskatoon, Saskatchewan. S7N 3R3. Canada. Phone: (306) 933-7474, Email: iain.phillips@swa.ca.

²Department of Biology, University of Saskatchewan, Saskatoon, SK, CAN; ²Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan

The South Saskatchewan River is one of the most important waterbodies in western Canada, transporting drinking water to much of Saskatchewan's residents, supporting industrial consumption and irrigation, while providing hydroelectric power in southern Saskatchewan. Because of the dam electricity production in this great river though,

major habitat fragmentation, and abiotic changes occur downstream of the Diefenbaker Lake reservoir; particularly cold-water release to the downstream environment. I conducted an assessment of the impacts of this cold-water release on the benthic macroinvertebrate community, using a reference condition approach and historical data. I find that the instream temperature does not recover until after the City of Saskatoon, and impacts of this thermal stress are apparent for nearly 100km. This reduction in temperature has led to increased benthic macroinvertebrate densities, and an altered community structure. These findings are crucial in setting endangered lake sturgeon recovery strategies and provide a model for the consequences of further hydroelectric development in the Saskatchewan River system.

Who's your pollinator? Patience reveals which flowers visitors to *Vaccinium myrtilloides* and *V. vitis-idaea* (Ericaceae) are pollinating and which are thieves.

Danielle T. Stephens¹ and Arthur R. Davis¹.

¹Department of Biology, University of Saskatchewan, Saskatoon, SK, CAN; ²Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan

Vaccinium myrtilloides Michx. (Velvet-leaf blueberry) and *V. vitis-idaea* L. (Lingonberry) are both widely distributed in the Canadian boreal forest and tundra, yet little is known about their pollinators. The flowers possess poricidal anthers, suggesting that they are likely buzz pollinated by insect species. Flowers also possess nectaries and thus may attract insects intent on that reward. To rank the contributions of the insect visitors as pollinators the technique of allowing single insect visitation (SIV) to bagged, "virgin" flowers was employed. Results of field data (2010, 2011) on insect visitors as well as insect pollinators will be presented.

Mimicking the smell of ash to trick the ash leaf coneroller

Wist Tyler,¹ Regine Gries², and Maya, L. Evenden¹

¹ Department of Biological Sciences, University of Alberta, Edmonton, AB, T6G 2E9, Canada, wist@ualberta.ca, mevenden@ualberta.ca

² Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada

Many herbivorous insects use kairomones released by their hosts to locate suitable plants for oviposition. The monophagous leafminer, *Caloptilia fraxinella* (Lepidoptera:

Gracillaridae) uses a ratio of common plant volatiles to locate its host *Fraxinus* spp. (Oleacea) for oviposition. Two main *Fraxinus* hosts are used in Western Canada, Green, *F. pennsylvanica*, and Black ash, *F. nigra*. Gas chromatography electoantennography (GC-EAD) analysis identified similar blends and ratios of plant volatiles from the two hosts that were antennaly active in female moths. Synthetic blends mimicking the ratio and amount of volatiles found in ash trees elicit host finding behaviour in wind tunnel experiments. Field trapping and wind tunnel experiments suggest that a key element in the host recognition process is missing and needs to be incorporated before a successful attracticide formulation will be effective under field conditions.

APPENDIX B: TREASURER’S REPORT 2011 (FALL)

ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN MEMBERSHIP AND YEAR END FINANCIAL REPORT

01 September 2010 – August 30, 2011

MEMBERSHIP

- In 2010-2011 the ESS has 46 members (41 full and 5 student – 11 Life Members) of which 32 were in good standing. Bryan Ulmer is a new Life Member.

ESS GENERAL ACTIVITIES

- The main sources of income were from membership dues with \$595.00 collected and interest income of \$607.14 during this period. The ESC provided \$600.00 in support of Youth and Amateur Encouragement.

FINANCE

- The ESS total assets are as follows:

Term Deposits	\$37,640.09	(1@\$10,000; 1@\$12,000; 1@\$15,640.09)
Chequing	4,695.94	
Outstanding credits	.00	
Outstanding debits	.00	
<u>Accrued interest</u>	<u>114.39</u>	

Total **42,450.42** (41,671.82 in 2010)

- The Society’s Registered Charity and Non-Profit Corporations status were renewed.

- The Society's Registered Charity Tax Return was filed in November.

Please refer to the enclosed financial statement for further details.

**Financial Statement – Entomological Society of Saskatchewan
01 September 2010 – August 30, 2011**

MAXIMIZER ACCOUNT (ESS)

Receipts:

Memberships	\$ 595.00
Outstanding deposits	.00
Interest (CU Maximizer and Term Deposit)	607.14
Misc. (ESC Youth and Amateur Enc)	600.00
Misc. (Donations – Anderson)	<u>100.00</u>

TOTAL **1902.14**

Expenditures:

Newsletter	8.62
Minister of Finance	10.00
Brooks Award	500.00
Meeting Expenses	67.21
Student Presentation Award	100.00
Travel Awards	500.00
Postage	.00
Bank Charges (cheques)	<u>35.99</u>

TOTAL **1221.82**

Excess of Receipts over Expenditures \$ **680.32**

APPENDIX C: SECRETARY'S REPORT 2011 (FALL)

Secretary's Report – December 2011

Minutes were taken of the Spring Meeting of ESS held April 15, 2011 at Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, SK. The minutes were distributed to the members electronically December 8, 2011.

Minutes were again taken at a supplementary meeting on April 29, 2011 wherein members of the ESS discussed the possibility of hosting the 2014 Joint Annual Meeting of the Entomological Society of Canada and Entomological Society of Saskatchewan. The minutes of this meeting were distributed to the members electronically on November 30, 2011.

Notice of this meeting was provided to the membership electronically on October 25, 2011, followed by an updated notice electronically on November 24, 2011 which included a presentation schedule and list of nominations for executive council positions. No correspondence to report.

Respectfully Submitted,

Iain Phillips,
Secretary, Entomological Society of Saskatchewan

APPENDIX D: REGIONAL DIRECTOR'S REPORT 2011 (FALL)

A. Correspondence with ESC

1. Submitted Regional Director ESS Report for ESC Executive council meeting February, 2011 (summarized below):

ESS Annual Meeting December 3, 2010. Summary Items

a) Election of the Executive Board Members for 2009-2010:

President: Ruwandi Andrahennadi

Vice-president: Jeff Boone

Regional director to ESC: Martin Erlandson

Treasurer: Dwayne Hegedus

Secretary: Iain Philips

ESS newsletter and proceedings editor: Brian Galka

b) ESS Awards presented:

(i) Claire Anstead was the recipient of the ESS Best Student Paper Prize for her presentation entitled: "Morphological and molecular identification of ticks from *Thomomys talpoides* and *Urocitellus richardsonii*".

- (ii) Amy Noakes (University of Saskatchewan) was the recipient of the A.R. Brookes Prize
- (iii) Iain Philips and Tyler Wist were the co-winners of the ESS Travel Award.
- c) The ESS continues to provide \$1000 support towards a student curatorial assistant for Dr. Bob Randell, Honorary Curator of insect collections at the University of Saskatchewan, Department of Biology and AAFC-Saskatoon Research Centre.

2. Submitted Regional Director ESS Report for the ESC Governing Board Meeting – 2011 JAM, Halifax, NS held November 5, 2011.

B. ESC Announcements:

1) The 2012 Joint Annual Meeting between the Entomological Society of Alberta and the Entomological Society of Canada will be held November 3-7, 2012 at the Coast Edmonton Plaza Hotel in Edmonton, Alberta.

C. Summary of the ESC Governing Board and AGM Meeting – November 5 and 8, 2011.

Minutes of the 2011 ESC Governing Board Meeting can be found at:
<http://www.esc-sec.ca/ee/memberfiles/minutes/gb1min11.pdf>

Minutes of the 2011 ESC Annual General Meeting can be found at:
<http://www.esc-sec.ca/ee/memberfiles/minutes/agmmin11.pdf>

a) Publications Committee - A 7-yr contract was signed in July with Cambridge University Press (CUP), which will be the new publisher of *The Canadian Entomologist* (TCE) starting in January 2012. With this transition, there will be no page charges for TCE articles and ESC members will receive a 10% discount on CUP book purchases. The ESC has a revenue sharing agreement for profits mad on publication of TCE. In addition CUP paid the ESC a one-time signing bonus of \$30,000.00. In March, the *Canadian Journal of Arthropod Identification* (CJAI) became one of the Society's core publications through a Memorandum of Understanding between ESC and the Biological Survey of Canada. Although CJAI will not be published by the ESC, the ESC will facilitate printing of a limited number of hard copies.

b) Dr. Chris Buddle is the new Editor-in-Chief of TCE and the structure of the Editorial Board has changed to a more streamlined two-tier review process with "Subject Editors" replacing "Associate Editors". This change along with the contract with Cambridge

University Press required substantial changes to the Standing Rules AND Bylaws which were approved at the AGM held on November 8, 2011.

c) Achievement Awards - the 2011 Gold Medal recipient was Dr. Murray Isman and the C. Gordon Hewitt Award recipient was Dr. Kirk Hillier. The 2011 Criddle Award recipients are Peter and Linda Payzant. The 2011 recipient of the Bert and John Carr award is Zoë Lindo. The details for these award winners were published in the September 2011 ESC Bulletin.