THE SINGAPORE INSTITUTE OF BIOLOGY

SIBiol BULLETIN

Volume 35 Number 1 Oct 2012

Feature story

Team Singapore top in the 23rd International Biology Olympiad 2012

Photo by Jonathan Loh

More in this issue.....

SIBiol Teachers' workshop

SIBiol Public Forum on Conservation in Singapore

Singapore's Sea Shores: Studying Organisms of the Inter-Tidal Zone

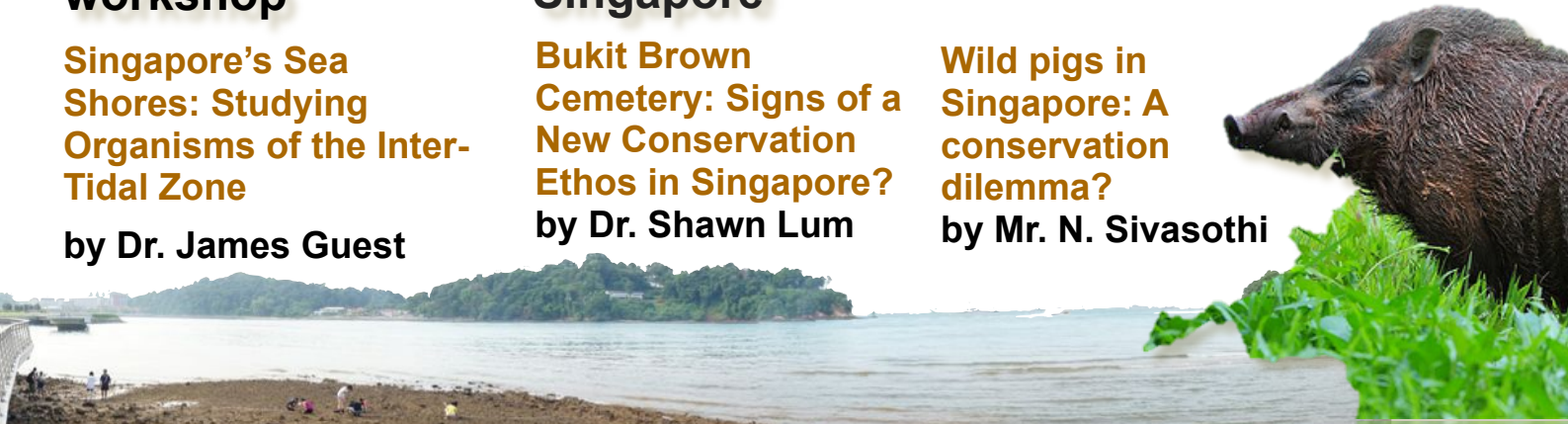
by Dr. James Guest

Bukit Brown Cemetery: Signs of a New Conservation Ethos in Singapore?

by Dr. Shawn Lum

Wild pigs in Singapore: A conservation dilemma?

by Mr. N. Sivasothi



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Dr Benito Tan
Mr Timothy Tan

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Dr Adrian Loo (Editor)
with support from
Dr Darren Yeo
Ms Yong Ann Nee
Mr Timothy Tan

Message from the President of the 38th SIBiol Council

Dear Friends

The Council year 2011/2012 has been productive.

This year, the 38th Council of the SIBiol is proud to announce the best results ever obtained by Singapore in the International Biology Olympiad. Team Singapore attained the top position in IBO 2012 held in Singapore, garnering the Top, 6th, 11th and 23rd Gold Medals, and Singapore ranked 1st out of 59 countries. The excellent result was highlighted by PM Lee Hsien Loong in his National Day Rally Speech in August 2012. This outcome was achieved not only through the hard work of the students in Team Singapore, but more importantly the mentorship provided by SIBiol members, and our partners from DBS (NUS), NSSE (NIE/NTU), the School of Biological Sciences, (NTU), and officers from the Ministry of Education (CPDD). Our growing SBO/IBO Alumni were also instrumental in providing guidance and training to the team. SIBiol can be proud of our unique style of nurturing a dedicated pool of young biologists.

This year also marks the first issue of the Asian Youth Journal of Biology, which highlights several good projects conducted by our high school students and mentored by SIBiol members. We continue to welcome manuscript submissions from members and academics.

The Council has evolved into one with a "younger" mean age group. I have confidence that these new members who have stepped up to serve will bring in fresh ideas, and be instrumental in helping SIBiol evolve to be relevant in the changing environment of biology education and research.

Thank you.

Beverly Goh
President, 38th Council, SIBiol

Lesser Adjutant at Parit Java, Johor Bahru. Photo by Johnny Wee. Enjoy more of his photos on the SIBiol Facebook page and link up with more biologists!

www.sibiol.org.sg

Editor's Note

We have a facebook page anyone can join - https://www.facebook.com/groups/SIBiol/

Since going fully online, a MICA number for the bulletin is no longer needed so you will notice its no longer reflected.

Many thanks to those who have contributed to this issue of the bulletin. Many thanks to Johnny Wee for letting us plaster his beautiful shots of animals all over the bulletin.

THE SINGAPORE INSTITUTE OF BIOLOGY

37th COUNCIL
ANNUAL REPORT (2010/2011)

1. GENERAL REVIEW

The objectives of the Institute were actively promoted during the year as reflected by the activities organized by the Council. These are summarized below.

2. THE 37th COUNCIL

The 37th Council held ten meetings during the year to carry out the business of the Institute. Members of the 37th Council of the Institute for the year 2010/2011 comprised the following Officers:

President:	Dr. Beverly Goh
Vice-President:	Dr. Ng Ngan Kee
Honorary Secretary:	Ms. Karenne Tun
Honorary Treasurer:	Mr. Goh Yan Yih
Council Members:	Dr. Adrian Elangovan
	A/P Koh Chong Lek
	A/P Low Boon Chuan
	Dr. Benito Tan
	Dr. Tan Lik Tong
	Mr. Timothy Tan
	Dr. Darren Yeo
	Ms. Yong Ann Nee

3. MEMBERSHIP

Six new members (2 Ordinary Members, 1 Associate Member, 1 Life Member, 1 Ordinary Member conversion to Life Member and 1 Student Member) were admitted to the Institute during the year:

3.1. Ordinary Member

Lim Chien Fang
Sapna Ananth Naiayan

3.2. Associate Member

Thomas Danny Jeyaseelan

3.3. Student Members

Toh Tai Chong

3.4. Life Members

James Guest
Peter Todd

Five members were removed from the membership list. These members had either not paid subscription over three years, or did not have an active address in Singapore. By-law 5(c) of the Constitution provides the clause that any member whose subscription is two years in arrears may by resolution of the Council be excluded from membership of the Institute after the Council has informed him/her of its intention to do so by letter. Some of these members were not contactable, having relocated without providing a forwarding address.

The membership profile of SIBiol as of **September 30, 2011** is as follows:

Patrons:	2
Honorary Fellows:	3
Fellows:	5
Ordinary Members:	68
Associate Members:	7
Student Members:	18
Life Members:	71
TOTAL	**174**

4. ACTIVITIES OF THE INSTITUTE

4.1. "SIBiol Teachers' Workshop" at National Institute of Education, Nanyang Technological University (24th September 2011, 930am to 1230pm)

SIBiol organized a workshop entitled "The SEEF Way of Teaching Molecular Biology" on Saturday, 24th September 2011. The workshop was coordinated by Dr. Koh Chong Lek and conducted by Dr. Koh and Dr. Sam Choon Kook. Twenty-four teachers from 10 schools/JCs attended the workshop at the National Institute of Education, Nanyang Technological University.

The objective of the workshop was to introduce teachers to the simple, effective, economical and fun (SEEF) way of teaching molecular biology. The workshop included activities that investigated the structure of DNA, the processes of replication, transcription, and translation, point mutations, restriction enzymes, agarose gel electrophoresis, physical mapping of DNA, hybridisation, the polymerase chain reaction (PCR), and DNA sequencing.

4.2. SIBiol Public Forum at Science Centre Singapore (20th August 2011, 930am to 12noon)

This year's Public Forum was organized by SIBiol to celebrate the International Year of the Forests 2011. It was jointly organized by SIBiol and the Science Centre Singapore (SCS), and held at the Maxwell Auditorium, SCS, on Saturday 20th August 2011, from 9:30am to 12noon. Of the 156 registered participants, 120 attended the public forum, and comprised 78 SCS members. SIBiol paid the attendance of 40 adults and 2 children.

The public forum was coordinated and chaired by Dr. Adrian Elangovan, and comprised the following two talks:

1. "Climate Changes and the Ecological Impacts on Singapore"
   Professor Richard Corlett
   Department of Biological Sciences, National University of Singapore

2. "Conservation of Forests in Singapore"
   Dr. Shawn Lum
   Natural Sciences and Science Education Academic Group, National Institute of Education, Nanyang Technological University

4.3 The 11th and 12th Singapore Biology Olympiads (SBO 2010 and 2011) & the 22nd International Biology Olympiad (IBO 2011)

The 11th Singapore Biology Olympiad was held in November 2010 at NUS. In total, 352 students from 20 JCs and through-train schools sat for the Theory Test on 6th November 2010, from which 38 students from 6 JCs were selected for the Practical Test held on 27th November 2010. The 11th SBO saw a total of 8 Gold, 7 Silver, 7 Bronze and 16 Certificates of Merit awarded. Seven gold medallists and 1 silver medallist were shortlisted for the 22nd International Biology Olympiad training in 2011.

The 12th SBO (SBO2011) is also planned to be held at NUS. Dr Darren Yeo and Dr Ng Ngan Kee are coordinating the event and the head of the Department of Biological Sciences, Professor Paul Matsudaira, together with the lab staff, have kindly agreed to help support the event. The theory exam is planned for 12th November 2011 and the practical exam on 7th December 2011. The SIBiol IBO Alumni (comprising past SBO/ IBO participants who are now pursuing higher academic studies, and/or working in Singapore) have mobilised themselves and will be assisting in the annual SBO competition, and IBO training.

The eight shortlisted students for the 22nd International Biology Olympiad (IBO 2011) were trained from March to June 2011 in preparation for the 22nd IBO. The training consisted of intensive theory and practical sessions conducted by various lecturers from NUS and NIE/NTU, ending with a stay-in residential training camp from 30th May – 3rd June 2011 at NIE/NTU. This year, the IBO alumni conducted the training for the plant anatomy and sectioning portion, and helped mentor the students during practice sessions and after hours.

The IBO 2011 team was led by A/P Shirley Lim, Dr Ng Ngan Kee, A/P Lim Tit Meng, Dr Darren Yeo, Ms Yong Ann Nee, Dr Koh Chong Lek, Ms Choong Tsui Wei and 1 representative from the Ministry of Education. Singapore obtained 3 Gold medals and 1 Silver medal and was awarded a ranking of 3rd out of 58 participating countries. This matched the previous Singapore's best IBO results of 3 Gold and 1 Silver medals in 2009.

4.4 The 23rd International Biology Olympiad (IBO 2012), Singapore

Singapore has been selected to host the 23rd IBO in 2012 (IBO 2012), and SIBiol is proud to take the lead in co-organising this event together with the Ministry of Education. IBO2012 will be held from 8 to 15 July 2011.

A/P Lim Tit Meng and A/P Shirley Lim are co-chairs for the IBO 2012 organising committee. The organising committee (comprising the scientific and logistics sub-committees) is being formed and will be confirmed soon, drawing on academics from the Department of Biological Sciences, NUS, and Natural Sciences and Science Education AG, NIE/NTU.

Since the scientific committee members of the IBO 2012 are in the process of being invited and formalised, the annual training committee for the Singapore Biology Olympiad leading up to the annual IBO will be a separate group. The training committee is chaired by Dr. Beverly Goh and comprises the following members; Dr. Sam Choon Kook, Dr. Koh Chong Lek, Dr. Ng Ngan Kee and Dr. Darren Yeo.

The IBO2012 website has been set up by Mr Timothy Tan – www.ibo2012.org.

4.5 IUBMB 2011 Conference

SIBiol is supporting the IUBMB Conference in October 2011 in Singapore, and A/P Lim Tit Meng sits in the working committee, which comprises members from several biology-related societies in Singapore. The secretariat function is by an external vendor.

4.6 9th Annual National Biological Convention (ANBC) of the Singapore Institute of Biology (SIBiol)
The 9th Annual National Biological Convention (ANBC) of the Singapore Institute of Biology (SIBiol) will be held in conjunction with this year's 37th AGM, at the Maxwell Auditorium, Science Center Singapore, 3pm to 4pm, on Saturday, 22nd October 2011. The ANBC is coordinated by Dr Benito Tan, and is open to the public.

Two following speakers are lined up for the ANBC seminar:

1. "Can active restoration reverse the global decline in coral reef health?"
   Dr James Guest
   Department of Biological Sciences, National University of Singapore

2. "Using molecular phylogeny to evaluate supposedly important morphological characters in classification — an example from moss peristome"
   Dr. Ho Boon Chuan
   SING Herbarium, Singapore Botanic Gardens

4.7 Publications and Website
Two issues of the SIBiol Bulletin (Volume 34) were published in 2011, and for the first time, the SIBiol Bulletin as gone paperless. The editorial team comprised Dr Darren Yeo and Ms. Yong Ann Nee. The digital PDF copy of the Bulletin was emailed to all members, with a notification letter informing them of the switch. However, members who still prefer receiving a printed copy of the Bulletin will be sent one. Members can indicate their preference on the SIBiol website at any time. http://www.sibiol.org.sg/bulletin/

SIBiol maintains its own website address with an outsourced website-hosting to a commercial service provider. Work is in progress to upgrade and revamp the SIBiol website. The URL is http://www.sibiol.org.sg/ and was maintained by Mr. Timothy Tan and Ms. Yong Ann Nee.

4.8 Asian Youth Journal of Biology (AYJB)
To expand SIBiol's role in the dissemination of knowledge and to enhance its service to members, the 37th SIBiol Council, in collaboration with the Science Centre Singapore, has initiated a plan to establish an online journal called The Asian Youth Journal of Biology (AYJB).

AYJB is an official journal of The Singapore Institute of Biology and will be distributed as a free online journal. The editorial board for the journal has been formed, comprising academics from NUS and NTU as well as biology teachers from various JC's and schools in Singapore (Annex 1). The e-journal will serve as a platform for the publication of peer-reviewed original articles in the area of biology by young scientists aged 14 to 25. The main objective of AYJB is to increase scientific literacy amongst budding young scientists. In addition to original articles, AYJB will publish review articles and book reviews written by students as well as professional scientists. Each issue will feature a section called "Classroom Sharing" where students and teachers can share their ideas on certain experimental techniques. This section could also profile research centres at JCs and schools.

Currently, manuscripts for the inaugural issue of the AYJB, planned for the 1st quarter of 2012, are being sought through the coordinators of various student research programmes at NUS, NTU and other academic institutes, including JCs and through-train schools.

5. ACKNOWLEDGEMENTS

SIBiol gratefully acknowledges the support and contributions of the following persons and organizations (in alphabetical order) to its various activities during the year 2010/2011:

Ms. P Amuthavali (National Institute of Education, Nanyang Technological University)
Mrs. Chan Yee Ngoh (Dept of Biological Sciences, National University of Singapore)
A/P Chew Fook Tim (Dept of Biological Sciences, National University of Singapore)
A/P Chew Shit Fun (National Institute of Education, Nanyang Technological University)
A/P Chia Tet Fatt (Institute of Education, Nanyang Technological University)
Mr. Chiu Jing Hua (SIBiol IBO Alumni)
Ms. Choong Tsui Wei (IBO 2012 Secretariat, National Institute of Education, Nanyang Technological University)
Prof Richard Corlett (Dept of Biological Sciences, National University of Singapore)
Dr. Adrian Elangovan (Singapore Polytechnic)
Ms. Er Siew Shin (Ministry of Education)
A/P Ge Ruowen (Dept of Biological Sciences, National University of Singapore)
Dr. James Guest (Dept of Biological Sciences, National University of Singapore)
Dr. Beverly Goh (National Institute of Education, Nanyang Technological University)

Ms. Kylie Goh (SIBiol IBO Alumni)
Mr. Goh Yan Yih (ACS Independent)
Dr. Ho Boon Chuan (SING Herbarium, Singapore Botanic Gardens)
Mr. Ho Wah Chai (National Institute of Education, Nanyang Technological University)
Ms. Dorothy Huang (SIBiol IBO Alumni)
Prof. Alex Ip (Dept of Biological Sciences, National University of Singapore)
Dr. Kho Choon Joo (Head of School, School of Life and Physical Sciences, PSB Academy)
A/P Koh Chong Lek (National Institute of Education, Nanyang Technological University)
Prof. Prakash Kumar (Dept of Biological Sciences, National University of Singapore)
Dr. Peter Lee (National Institute of Education, Nanyang Technological University)
Mr. Mobius Leng (National Institute of Education, Nanyang Technological University)
Ms. Liew Chye Fong (Dept of Biological Sciences, National University of Singapore)
A/P Shirley Lim (National Institute of Education, Nanyang Technological University)
Ms. Lim Swee Eng (Dept of Biological Sciences, National University of Singapore)
A/P Lim Tit Meng (Science Centre Singapore and Dept of Biological Sciences, National University of Singapore)
A/P Loh Chiang Shiong (Dept of Biological Sciences, National University of Singapore)
A/P Low Boon Chuan (Dept of Biological Sciences, National University of Singapore)
Dr. Shawn Lum (National Institute of Education, Nanyang Technological University)
Prof. Paul Matsudaira (Dept of Biological Sciences, National University of Singapore)
A/P Rudolf Meier (Dept of Biological Sciences, National University of Singapore)
Mr. Men Yi Fei (SIBiol IBO Alumni)
A/P Henry Mok (Dept of Biological Sciences, National University of Singapore)
Dr. Ng Ngan Kee (Dept of Biological Sciences, National University of Singapore)
Dr. Ong Bee Lian (Dept of Biological Sciences, National University of Singapore)
Dr. Sam Choon Kook (National Institute of Education, Nanyang Technological University)
Mr. Sin Kim Hoe (Ministry of Education)
Mr. Gary Soh (SIBiol IBO Alumni)
Ms. Subha N (Dept of Biological Sciences, National University of Singapore)
Mr. Timothy Tan (National Institute of Education, Nanyang Technological University)
Mr. Allan Tan Jee Hian (Dept of Biological Sciences, National University of Singapore)
A/P Benito Tan (Dept of Biological Sciences, National University of Singapore)
Mr. Tan Han Tong Tommy (Dept of Biological Sciences, National University of Singapore)
A/P Hugh Tan Tiang Wah (Dept of Biological Sciences, National University of Singapore)
Dr. Tan Lik Tong (National Institute of Education, Nanyang Technological University)
Ms. Tan Ming Ming (Ministry of Education)
Mr. Teo Shiyi (SIBiol IBO Alumni)
Mr. Toh Nguk Hwee, David (National Institute of Education, Nanyang Technological University)
Mr. Tong Shaw Wei (National Institute of Education, Nanyang Technological University)
Ms. Karenne Tun (Dept of Biological Sciences, National University of Singapore)
Ms. Wang Siew Ping (Ministry of Education)
Mr. Yan Tie (Dept of Biological Sciences, National University of Singapore)
Dr. Darren Yeo (Dept of Biological Sciences, National University of Singapore)
Ms. Yong Ann Nee (Dept of Biological Sciences, National University of Singapore)
A/P Yu Hao (Dept of Biological Sciences, National University of Singapore)
Mr. Yuan Chengxiang (SIBiol IBO Alumni)
Ministry of Education, Singapore
National Institute of Education, Nanyang Technological University
Department of Biological Sciences, National University of Singapore
Natural Sciences & Science Education, National Institute of Education, Nanyang Technological University
Science Centre Singapore
Singapore National Academy of Sciences

Recorded by Miss Karenne Tun, Honorary Secretary, 37th SIBiol Council
Vetted by Dr. Beverly Goh, President, 37th SIBiol Council

Annex 1

Asian Youth Journal of Biology

Introduction

The **Asian Youth Journal of Biology (AYJB)**, an official journal of The Singapore Institute of Biology (SIBiol), is a free online journal published twice a year. This e-journal was established in September 2011 and serves as a platform for the publication of peer-reviewed original articles in the area of biology by **young scientists aged 14 to 25**. The main objective of AYJB is to increase scientific literacy amongst budding young scientists.

In addition to original articles, the online journal publishes review articles and book reviews written by students as well as professional scientists. Each issue will feature a section called "Classroom Sharing" where students and teachers can share their ideas on certain experimental/pedagogical techniques. This section could also feature Research Centres at the schools.

Subject areas include:

- Biochemistry
- Biodiversity
- Biology education
- Biotechnology
- Cell biology
- Chemical biology
- Ecology
- Evolution
- Genetics
- Immunology
- Microbiology
- Molecular biology
- Physiology

Submission of Manuscript

Please submit manuscripts as an attachment to Tan Lik Tong
Instructions for preparation of manuscript can be found here.

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Visit the Singapore Civet blog to see how you can contribute!

SIBiol Welcomes New Members!

Ordinary Members

Nasrin Adil

Sam Choon Kook

Seet Qihui

Toh Tai Chong (conversion from student member)

Life Members

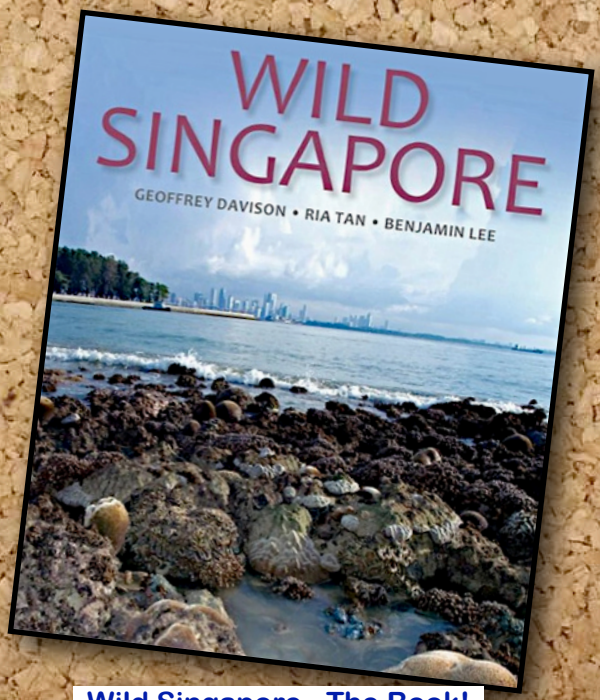
Juliana Chan Shuping

Adrian Loo

Bird and Bee Photos by Johnny Wee

Palm Civet
Photo by Xu Weiting

Black-backed Kingfisher (*Ceyx erithacus*) at Bidadari Cemetery



Wild Singapore - The Book!

SINGAPORE INSTITUTE OF BIOLOGY (SIBIOL)

ANNUAL GENERAL MEETING

22 OCTOBER 2011

SINGAPORE SCIENCE CENTRE

(I) SUMMARY OF GENERAL ACCOUNT FUND MOVEMENTS FOR THE YEAR ENDED 30 SEPTEMBER 2011

(II) STATEMENT OF GENERAL ACCOUNT FUND: INCOME AND EXPENDITURE FOR THE YEAR ENDED 30 SEPTEMBER 2011

SINGAPORE INSTITUTE OF BIOLOGY (SIBIOL)

SUMMARY OF GENERAL ACCOUNT FUND MOVEMENTS
FOR THE YEAR ENDED 30 SEPTEMBER 2011

	Current A/C OCBC	Fixed Deposit A/C OCBC Bank	TOTAL
	$	$	$
BALANCE B/F: 1 OCT 2010	15,220.65	20,000.00	35,220.65
ADD: Income	26,100.23	Nil	26,100.23
SUBTOTAL	41,320.88	20,000.00	61,320.88
LESS: Expenditure	26,097.92	Nil	26,097.92
TOTAL	**15,222.96**	**20,000.00**	**35,222.96**

Prepared by:

Mr Goh Yan Yih
Honorary Treasurer
37th Council, SIBiol.

Audited by:

(1) Dr. Kho Choon Joo
Honorary Auditor
Date: 19/10/2011

(2) Dr. Peter Lee Peng Foo
Honorary Auditor
Date: 18/10/2011

The above statement was adopted at the SIBiol 37th Annual General Meeting held on 22 October 2011 at the Singapore Science Centre.

Dr. Beverly Goh
President, 37th Council, SIBiol.

SINGAPORE INSTITUTE OF BIOLOGY (SIBIOL)

STATEMENT OF GENERAL ACCOUNT FUND: INCOME AND EXPENDITURE
FOR THE YEAR ENDED 30 SEPTEMBER 2011

INCOME	$	EXPENDITURE	$
A. Membership Dues		A. SIBiol Book Prize(s)	50.00
Existing Members	935.00		
New Members	270.00	B. 36th AGM	944.68
B. Committed Funds for FY2010/2011 (Teachers' Workshop 2011, IBO2011)	10,000.00	C. Activities	
		Teachers' Workshop (For 2010)	117.77
		IBO/SBO	11,804.69
C. Banking		Public Forum	1,979.14
Interest from Fixed-Deposits	95.23		
		D. Operation	258.47
D. MOE Funding		Inc. SIBIOL Website & Domain	
IBO training (SBO2010/IBO2011)	10,000.00		
		E. RTF fund transfer	5000.00
E. Activities			
Teacher's workshop	4800.00	F. Income Tax	200.00
		G. RTF Audit	550.00
		H. Teachers' workshop	1193.17
		I. Committed Funds for FY2011/2012 (SBO 2011, IBO2012)	4000.00
Total Income	**$26,100.23**	**Total Expenditure**	**$26,097.92**
Surplus (S$)			**$2.31**

Prepared by:

Goh Yan Yih (Mr)
Honorary Treasurer
37th Council, SIBiol.

Audited by:

(1) _____ 19/10/2011
Dr. Kho Choon Joo — Date
Honorary Auditor

(2) _____ 18/10/2011
Dr. Peter Lee Peng Foo — Date
Honorary Auditor

The above statement was adopted at the SIBiol 37th Annual General Meeting held on 22 October 2011 at the Singapore Science Centre.

Dr. Beverly Goh
President, 37th Council, SIBiol.

1ST IN THE WORLD!

http://www.ibo2012.org

Our Singapore students have won the Top (Nol Swaddiwudhipong), 6th(Mao Haitong), 11th(Zhang Hui Ting) and 23rd(Lim Yuan Wei) Golds, ranking Singapore 1st in the world among 59 participating countries (and 236 participants). This is our best performance since Singapore became a participating member of the IBOs in 2001.

From left - Zhang Hui Ting, Mao Haitong, Nol Swaddiwudhipong and Lim Yuan Wei.

The International Biology Olympiad - a journey for our young biologists

Singapore hosted the 23rd IBO in 2012 (IBO 2012), from 8th to 15th July 2012 at NIE/NTU, which was co-organised by NIE/NTU and NUS. SIBiol supported this event with the Ministry of Education, Singapore. The co-chairs of the IBO 2012 organising committee were A/P Lim Tit Meng (NUS) and A/P Shirley Lim (NIE/NTU). The IBO2012 website was set up by Mr Timothy Tan and Ms Yong Ann Nee – www.ibo2012.org – in support of the event.

The IBO 2012 training team was led by Dr. Beverly Goh and supported by Dr. Sam Choon Kook, Dr. Koh Chong Lek, Dr. Ng Ngan Kee and Dr. Darren Yeo. Under the guidance of SIBiol, the Singapore Team returned the best ever IBO performance, with Singapore ranked first out of 59 countries for the first time, and all four team members awarded Gold medals (1st, 6th, 11th and 23rd Golds). Team Singapore in the 23rd IBO was co-led by Dr Beverly Goh and Dr Ng Ngan Kee, with Dr Sam Choon Kook and Ms Tay Wee Beng (CPDD, MOE) as jury observers. See MOE press release at: http://www.moe.gov.sg/media/press/2012/07/23rd-international-biology-oly.php

"Through the International Biology Olympiad, I was exposed in-depth to numerous areas of Biology that we had not touched on in school, such as Ecology and Plant Diversity. It was definitely a challenge trying to understand the concepts in these diverse fields, and it really helped me appreciate the broad scope of topics that come under the scope of Biology, which was a joy to explore. Of course, all of this would not have been possible without the guidance of the Professors who took time off to train us, as well as the participants from past IBOs, who helped tremendously in getting us acquainted with new concepts and stimulating us to learn more."

Nol, who is also the winner of the 2012 WSPC-ICAAS Most Outstanding JC Science Student Award and will represent Singapore at the 2012 Stockholm International Youth Science Seminar

"IBO for me was a truly wonderful and memorable journey. Although the actual event is only one-week long - a week that flew by far too quickly, as time always does when you're enjoying yourself - the weeks of preparation leading up to IBO were just as intense, challenging and fun. From dissecting mussels to memorizing lists of scientific names, I've learned so much more than I'd ever thought I would. And it's not just knowledge and skills either. I've also met many amazing people along the way, professors and seniors and like-minded friends from all over the world. I am forever grateful for this opportunity."

Haitong

"I really enjoyed the entire IBO (except maybe being overloaded with chips...), but the most exciting times were when I could talk to people from other countries -- about biology, about education, about life in general! It was a great experience, exchanging correspondences with people from all over the world. As for beyond the IBO itself, I feel that my greatest takeaway is how I have been exposed to so many new topics in biology; it has really opened my eyes to the diverse aspects of the field, and I think that it has been an invaluable experience for me."

Hui Ting

"Participating in the International Biology Olympiad has been a truly enjoyable experience. Be it the intensive preparations for the competition or the competition itself, they have been unforgettable moments that I will always cherish. It has provided me the opportunity to explore my passion in biology, and allowed me to interact with peers, seniors and professors. I am grateful for the time and effort the seniors and professors have put in to guide and assist us in our learning process, for it has all the more made it an enriching and worthwhile process."

Yuan Wei

SIBiol Teachers' workshop

Singapore's Sea Shores: Studying Organisms of the Inter-Tidal Zone

Labrador Park and Animal Science Lab NSSE, NIE/NTU, 1 September 2012, Saturday

Workshop Coordinator: **A/P Koh Chong Lek**

Nine participants from eight JCs/schools: NUS High School of Math & Science (2), Hua Yi Secondary School (1), River Valley High School (1), Hong Kah Secondary School (1), National Junior College (1), Hwa Chong Institution (1), Temasek Junior College (1), and St. Joseph's Institution (1).

Name	School/JC
Miss Renata Triani	NUS High School of Math & Science
Mr Robin Seoh Kah Huat	NUS High School of Math & Science
Mdm Pang Sally	Hua Yi Secondary School
Miss Neo Su Hwei	River Valley High School
Ms Lim Siew Ming Joanna	Hong Kah Secondary School
Miss Fiona Tay Su Ming	National Junior College
Mr Law Hock Ling	Hwa Chong Institution
Ms Sharifah Shahidah Bte Syed Khalid Alkaff	Temasek Junior College
Ms Goh Ying Zheng, Charlene	St. Joseph's Institution

Photo by Adrian Loo

by **Dr James Guest**

"We arrived at Labrador Park bright and early on a Saturday morning ready to carry out surveys on the rocky shore. When we arrived there we clambered down to shore to take advantage of the low tide. The tide was fast coming up so we had to work fast.

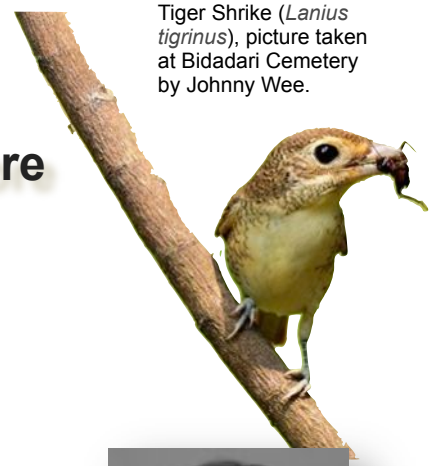
Photo by Adrian Loo

The paticipants were instructed to collect data along transects at different zones of the inter-tidal zone. They divided the shore in to 3 or 4 zones from low to high tide mark by laying a tape measure from the low tide mark up the shore and dividing the heights on the shore into equal width bands or zones.

Within each zone another transect was laid along (perpendicular) to the shore. Using a random number table and a stratified random design ten 1 x 1 m quadrats were placed along each transect. Within each quadrat particpants had count and identify to genus level all all of the decapod crustaceans, gastropod molluscs and anthozoans and estimated the percentage cover of the different taxa of macro-algae.

After some breakfast we returned to the laboratory to analyse our data. We also thought about questions that this experimental design raises. For example why did we use a stratified random sampling design? What other sampling designs could have been used? In the lab we used standard procedures for calculating species diversity and analysis of variance to compare differences among shore heights.

This also raised questions about why we need to calculate a diversity index rather than just counting the number of different species (i.e. species richness)? After paricipants had examined their data we had a round table discussion about how we should interpret the data that we collected. In particular, we were interested to know what might have caused any observed differences."



Tiger Shrike (*Lanius tigrinus*), picture taken at Bidadari Cemetery by Johnny Wee.

SIBiol Public Forum on Conservation in Singapore Science Centre Singapore, 20 Oct 2012

SIBiol Public Forum Coordinators: **Dr Adrian Elangovan and Dr Benito Tan**

Wild pigs in Singapore: A conservation dilemma?
by Mr. N. Sivasothi

Bukit Brown Cemetery: Signs of a New Conservation Ethos in Singapore?
by Dr. Shawn Lum

This year SIBiol is excited to present two erudite and engaging speakers on conservation topics that got us excited this year. Wild Boar sightings became common place at Peirce Reservoir, spilling over to Bishan Park. While some delighted in their presence, others considered them a nuisance. To cull them or not to, that was the dilemma. What about the natural habitats in cemeteries such as Bukit Brown and Bidadari Cemeteries that will soon be cleared for residential use. What about its current resident wildlife? Where will they go? We are glad to have Mr Sivasothi and Dr Shawn Lum shed light on these topics at the Public Forum in the Science Centre, Singapore.

Wild Boar (*Sus scrofa*) at Lorong Halus.
Photo by Johnny Wee

Variable Squirrel (*Callosciurus finlaysoni*) at Bidadari Cemetery.
Photo by Johnny Wee

Extended family of wild boars (*Sus scrofa*) at Lower Peirce.
Photo by Johnny Wee