



INTERNATIONAL SOCIETY ON TOXINOLOGY

NEWSLETTER

May 2013

UPCOMING MEETINGS

The 11th Pan-American Section IST Congress will be held at the Grand Casa Hotel, Guaruja, Sao Paulo State, Brazil, November 3-8, 2013, in conjunction with the 12th Congress of the Brazilian Society of Toxinology.

The next Asia-Pacific Section IST Congress will be held in Changsha, China, June 14-18, 2014.

The next European Section IST Congress will likely be the IST World Congress, in 2015, but location and details are not currently available.

IST Council has agreed to a changed schedule for IST congresses, commencing in 2015 with the World Congress held every second year, rotating between the 3 regions.

AMSEM clinical toxinology workshop, June 4-5, 2013, Malaysia.

10th Australian Peptide Conference, Penang, Malaysia, September 8-13, 2013.

Venoms 2013 Symposium, Oxford, UK, September 24-26, 2013.

3rd Toxinology Society of India conference, Goa, India, December 19-21, 2013.

Clinical Toxinology Short Course, Adelaide, Australia, March 31st to April 5th, 2014.

FROM THE IST EXECUTIVE

Elsevier are still setting up online access to Toxicon for all IST financial members, but their new dedicated website for this service is not yet complete. I will let all financial members know as soon as this service is operational.

The new IST Board of Clinical Toxinology has been established, under the constitution approved by IST Council and provided in the last newsletter. The inaugural Board consists of Julian White (Chairperson), David Warrell, Scott Weinstein, Jean-Philippe Chipaux and Rick Dart. The Board has met and is progressing this important initiative. One part of the clinical toxinology training process may include the current Clinical Toxinology Short Course (next course scheduled for March 31st to April 5th, 2014 - see later in this newsletter).

The next IST regional congress, for the Pan-American Section, is fast approaching (see later in this newsletter). A reminder to members that earlybird registration fees close in a few days time, on May 23rd. The program is developing well and it should be a good meeting, held in conjunction with the Brazilian Toxinology Society.

The Toxinology Society of India is also planning a meeting to be held in December, 2013, in Goa, India (see later in newsletter). Earlybird registration closes September 15th.

Many members have already paid their annual dues to the Society, via our website. To those of you who have not yet paid, please can you do so now.

Julian White, Secretary/Treasurer, IST

CONTENTS

Membership update & notices	2
Special Interest Group - Student Members	2
President's column	3
Council meeting summary March/April 2013	4
Toxins available for research	5
Clinical Toxinology Initiative	7
IST Pan-American Section congress, Brazil 2013	8
IST Asia-Pacific Section congress, China 2014	19
AMSEM Workshop, Malaysia June 2013	22
Venoms 2013 meeting, Oxford, 2013	29
3rd Toxinology Society of India Conference, Goa 2013	30
10th Australian Peptide Conference, Malaysia 2013	41
Clinical Toxinology Short Course, Adelaide 2014	42
Phisalix & Caius paper, 1916 (historic paper series)	44
Adverts for venom/fractions	54

MEMBERSHIP ANNOUNCEMENTS

The IST Membership Database has been updated, a process that will be ongoing. Please let the IST Secretary know if you change any of your contact details (email, phone, address etc). The Membership Database is available to all IST members via the IST website, with password protection for access. User name and password details have been sent out to all IST members previously. Please keep these details safe. If you cannot find your details then please email Dr. David Bates (Chief Scientist in my Toxicology Dept.) on david.bates@adelaide.edu.au.

Because of file size, the Newsletter is too big to email and so it is more practical to post the

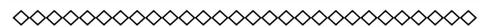
Newsletter on the IST website and just email members advising it is ready to download, via a link.

As discussed in an email to members earlier in 2011, changes at my workplace meant that as of June 2011 I was no longer able to use my hospital to collect IST dues by credit card. We now have an online payment system for all IST dues, on the IST website. This commenced in early January, 2012. The old system, of sending in forms for credit card payments, or cheques, no longer apply. ALL payments must be through the online website system.

Julian White
Secretary/Treasurer IST

IST Council 2012-2016

President: A Harvey
Secretary/Treasurer: J White
President Elect: J Fox
Immediate Past President: P Gopalakrishnakone
Toxicon Editor: A Harvey
President European Section: J Calvete
Secretary European Section: R Harrison
President Pan-American Section: D Tambourgi
Secretary Pan-American Section: Y Cury
President Asia-Pacific Section: E Grishin
Secretary Asia-Pacific Section: vacant
General Councillors
Europe: D Warrell & R Stocklin
Pan-America: JM Gutierrez & L Posani
Asia-Pacific: G King & M Kini



IST STUDENT MEMBERS - THIS IS FOR YOU - The Special Interest Group for Student Toxicologists Establishment of a special wiki site

Students have been an important and valued part of IST since the inception of the Society in 1962. To emphasize the importance of the role of students in the IST, the Society has created a Special Interest Group for Student Toxicologists.

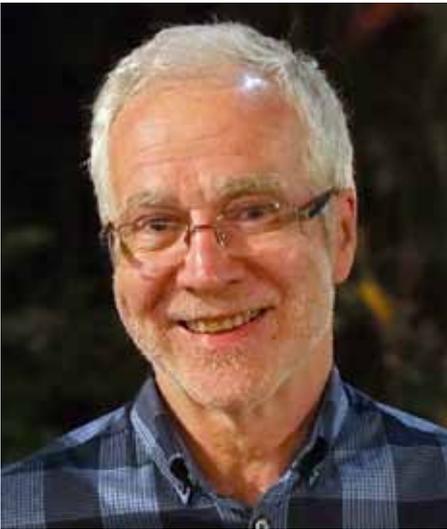
The aims of the Special Interest Group for Student Toxicologists include: to increase opportunities for students to network with possible collaborators and employers; to work with the Executive and Council, IST to ensure students are included and supported in future decisions of the IST; and to train students to become contributing members to the IST and other professional societies.

As part of the process of developing the student group, we have established a special wiki site which will allow student members to interact directly with fellow students. Student members will soon receive an email giving them details on how to access this site. We are also investigating a way of interfacing student members with established members prepared to answer questions on methodology. Established members prepared to engage in such a process should let the IST Secretary know of their interest.

A number of student members have expressed interest in being a part of such a network, but we continue to encourage other students to become involved. Any students interested in participating in such a network should contact the following by email (please send your email to the Secretary, IST, with cc to the President, IST and to student member Maggie Gentz):

julian.white@adelaide.edu.au
a.l.harvey@strath.ac.uk
m.gentz@uq.edu.au

MESSAGE FROM THE PRESIDENT (I.S.T)



Dear IST members,

This issue of the Newsletter gives information about several upcoming conferences of relevance to members and information about changes to the Society. The last World Congress saw adoption of a new constitution and this has allowed us to change and evolve in a number of areas.

Council has decided to change the schedule for Society meetings, introducing a 6 year cycle that will see us hosting a World Congress every 2 years instead of the previous 3 year interval. It will be interesting to see how

this change develops. If we find it doesn't work well, we can reconsider our options.

One of the pleasures of belonging to the IST has been to mix with colleagues from many different disciplines and see how experimental and clinical science can be mutually beneficial. It has been a continuing struggle in recent years, however, to maintain a high profile for the clinical aspects of toxicology within the IST. For this and other reasons, Council has also adopted a constitution for a Board of Clinical Toxicology. You can find more information elsewhere in the Newsletter and I hope that this initiative will make a substantial impact on the future development of clinical toxicology.

You will also find information in this Newsletter of other Council discussions. The Council is now meeting, electronically, on a regular basis, and I hope that this will allow the Society to progress effectively. The membership of Council is shown on the opening page of the Newsletter. If you have any matters that you would like discussed,

you should contact one of your regional representatives so that they can bring it to Council's attention.

The Pan-American section of the IST will be returning to Brazil in November when the regional meeting will be held in conjunction with the Brazilian Society of Toxicology. The preliminary programme is contained in the Newsletter and it promises to be an exciting and important gathering of toxicologists.

It is also good to see the growth of interest in toxicology at the national level in a number of nations, as shown in this newsletter by notices of meetings in the UK, India and Malaysia. I hope we can persuade most of the participants in these meetings to also participate in toxicology at the international level, by joining the IST.

With best wishes

Alan Harvey
President, IST
Email: A.L.Harvey@strath.ac.uk

THE FUTURE OF THE IST NEWSLETTER

The IST Newsletter needs input from IST members to make it a more effective communication tool within the Society. The move to electronic format may open up opportunities for new sections. For instance, it might be possible to have annotated bibliographies of recent toxicology publications from other journals, or reports of other meetings with toxicology content. Available toxicology-related jobs and student postings could be listed. There are doubtless many other possibilities members may think of.

So I ask all IST members to consider what they want from the Newsletter and let me know by email. I also want to hear from IST members prepared to contribute regular sections to the Newsletter. To be vibrant and relevant the Newsletter must become more than just a brief report on IST business by myself and our President, but that requires your input.

Julian White
Secretary/Treasurer IST
julian.white@adelaide.edu.au

IST Council Minutes March/April 2013

IST COUNCIL MEETING SUMMARY

The IST Council now meets regularly via email, to discuss, decide and act on matters pursuant to Society affairs.

Council has decided to trial release of a summary of minutes of Council meetings, via the Society newsletter, to keep members informed about Society business. The full minutes may, from time to time, contain matters of a sensitive or contractual nature, such as finances and agreements pertaining to Society congresses, which cannot be given unrestricted release. Council has yet to determine if and how full minutes might be made available to members.

INTERNATIONAL SOCIETY ON TOXINOLOGY COUNCIL MEETING

March 12th to April 11th, 2013

Meeting held via email

SUMMARY OF MINUTES

1. **Those participating:** J White, G King, J Fox, J Calvete, D Warrell, J Gutierrez, P Gopalakrishnakone, L Possani, A Harvey, E Grishin, M Kini, D Tambourgi, Y Cury, R Harrison
2. **IST World Congress 2012, Hawaii:** Council discussed budget issues concerning finalisation of the congress accounts and agreed to provide further support, to a limited extent.
3. **President's report:** A Harvey provided a report on Society affairs, including an update on progress with Elsevier in establishing online access to Toxicon for all financial members. This access is still being developed by Elsevier.
4. **Secretary/Treasurer's report:** J White outlined the current state of IST finances. The issue of problems with online payment from certain countries, such as Nigeria, was discussed and interim solutions are being implemented.
5. **Clinical toxinology initiative:** J White outlined plans to progress this initiative, particularly Council adopting a constitution to cover a Board of Clinical Toxinology. After discussion the draft constitution for the Board was adopted without dissent and Council then established the inaugural Board of Clinical Toxinology. After discussion of possible inaugural members of the Board, Council appointed J White (Chairperson), D Warrell, S Weinstein, JP Chippaux & R Dart to the Board.
6. **IST Pan-American Congress 2013:** Council discussed progress with this meeting, thanked the organisers and voted to provide limited funding support for the meeting.
7. **IST Asia-Pacific Congress 2014:** Council discussed progress with this meeting and voted to offer limited funding support to the organisers.
8. **IST European Congress/World Congress 2015:** Council discussed the current lack of firm proposals and requested the European Section Executive (J Calvete & R Harrison) urgently seek suitable proposals for consideration at the next Council meeting in July.
9. **Schedule of IST congresses:** Council discussed options for future scheduling of IST congresses, both regional and world congresses, as a number of Councilors expressed concern that the present 3 year cycle was proving

IST Nomenclature Committee

At the last IST World Congress held in Recife, Brazil in March 2009, a symposium devoted to the topic of toxin nomenclature received significant interest from IST members. The IST Council subsequently decided to form a nomenclature committee to examine the issue of toxin naming standards and recommend possible solutions. The mandate of this committee was to propose a nomenclature system, with interim reports to IST Council and a "final" report to be delivered at the IST World Congress in 2012. This deadline was not met, but it is hoped progress will be made in the following triennium. If you have any comments or suggestions on toxin nomenclature, could you please send them to a member of the nomenclature committee, which is currently comprised of the following members:

Dr Gerardo Corzo, Mexico (Email: corzo@ibt.unam.mx)

Dr Florence Jungo, Switzerland (Email: Florence.Jungo@isb-sib.ch)

Dr Evanguedes Kalapothakis, Brazil (Email: ekalapo@icb.ufmg.br)

Prof. Glenn King, Australia (Chairman; Email: glenn.king@imb.uq.edu.au)

Prof. Manjunatha Kini, Singapore (Email: dbskinim@nus.edu.sg)

Prof. Graham Nicholson, Australia (Email: graham.nicholson@uts.edu.au)

Prof. Toto Olivera, USA (Email: olivera@biology.utah.edu)

Prof. Jan Tytgat, Belgium (Email: jan.tytgat@pharm.kuleuven.be)

ArachnoServer spider toxin database

ArachnoServer is a manually curated database that provides detailed information about proteinaceous toxins from spiders. Key features of ArachnoServer include a new molecular target ontology designed especially for venom toxins, the most up-to-date taxonomic information available, and a powerful advanced search interface. Toxin information can be browsed through dynamic trees, and each toxin has a dedicated page summarising all available information about its sequence, structure, and biological activity. ArachnoServer currently manages 567 protein sequences, 334 nucleic acid sequences, and 51 protein structures. ArachnoServer is available online at www.arachnoserver.org.

The IST has established a special wiki site for members of this Nomenclature Committee to use to both communicate and develop information and recommendations. Members of the committee will soon receive an email detailing how they may access this site.

IST Snake Taxonomy Advisory Group

Keeping up with changes in taxonomy for venomous animals is always a challenge for toxinologists, but it is important to do so, if published research is to maintain viability longer term, as taxonomy evolves. To improve dissemination of information on taxonomic changes the IST is trialling an internet-based process for taxonomists to interact through.

The first stage is a small invited group of experts on snake taxonomy, who can interact through a special wiki site and develop updates and recommendations for dissemination to all IST members through the main IST website or the Newsletter. This group is in its formative stages at present and our experiences with this will be used to guide establishment of similar groups in the future to cover other areas of taxonomy, such as scorpions, spiders, marine organisms etc.

Once this early stage has allowed us to develop a viable structure and processes the IST will invite members to submit names of taxonomists in each major taxa who could then be approached re involvement in this initiative. Until then I ask that members do not send me names or indicate their own interest in this area, but rather allow me to work with this initial trial group to iron out details of how to make the process deliver results.

Julian White, Secretary IST

CLINICAL TOXINOLOGY INITIATIVE

The new Board of Clinical Toxinology has commenced meeting and working through the many matters to be considered in developing a viable long-term training and accreditation scheme for clinical toxinology.

One issue being considered is how to provide training, both at the academic/knowledge base level, and at the practical clinical experience/skills level. Each will require a tailor-made solution that will likely involve members across many nations.

For the academic/knowledge base portion of training, one option may be to develop a formal Graduate Diploma in Clinical Toxinology, probably as a one year full-time-equivalent university course. This possibility is being actively explored with a university, though no decisions have yet been made by the Board or the university. Such a Graduate Diploma would likely incorporate a number of training elements and amongst these might be the existing Clinical Toxinology Short Course run through the University of Adelaide since 1997. This week-long intensive course is international in scope and clinical in focus and provides a solid introduction to all main aspects of clinical toxinology. The next course is scheduled for March 31st to April 5th, 2014 (see later in this newsletter).

For the clinical skills/experience portion of training, it may be necessary to establish a series of training facilities in "hot spots" for toxinology cases, with trainees rotating through a series of these facilities, gaining different experience in each. Many potential "hot spots" are located, not in western developed nations, but in developing nations in the rural tropics, and it is likely the Board will seek existing members in these areas to become part of this training program and recruit suitable clinicians from these areas as new members of IST, to participate in this process.

The inaugural Board of Clinical Toxinology has just 5 members (Julian White as Chairperson, David Warrell, Scott Weinstein, Jean-Philippe Chippaux and Rick Dart). All 5 are experienced clinicians with many years involvement in clinical toxinology and all are current or past faculty of the Clinical Toxinology Short Course. It is likely the Board will soon seek further members to help with the substantial workload involved in developing, then maintaining the clinical toxinology training and accreditation scheme. This process will probably take several years to establish. The Board will appoint a Board Censor and a Director of Training who will coordinate respective aspects of this scheme.

As discussed in the last newsletter, this scheme is aiming to develop a recognised and accredited area of medical expertise covering diseases caused by animal, plant and mushroom toxins. Recognised medical practitioners who are or become members of IST will be eligible to undertake this training program and on satisfactory completion will be accredited by IST as Clinical Fellows. However, the success of this scheme is dependent on development of a cooperative arrangement between IST, through the Board, and existing national medical institutions, such as those accrediting expertise in general/internal medicine, emergency medicine, tropical medicine etc. At the local (national) level it is these organisations which will provide accreditation in clinical toxinology, using the program developed and administered by the IST Board of Clinical Toxinology. At least, that is the theory. The challenge for the Board and concerned IST members is to make this process function in practice.

Though this is a separate initiative from the Global Snakebite Initiative, it is clear both can work together to achieve a common goal; improving outcomes for patients with toxin-induced diseases such as snakebite.

Julian White, Chair, IST Board of Clinical Toxinology



XI Congress of the Pan-American Section of the International Society on Toxinology

XII Congress of the Brazilian Society of Toxinology

Envenomation by poisonous animals: a neglected disease

November 3-8, 2013
Casa Grande Hotel
Guarujá - SP - Brazil



The city of Guarujá, State of Sao Paulo, will host the XI Congress of the Pan American Section of the International Society on Toxinology and the XII Congress of the Brazilian Society of Toxinology. The theme of the meeting is "Envenomation by poisonous animals: a neglected disease".

Important names of the Toxinology field will be present in this multidisciplinary event. It aims to serve as a platform for the discussion of results and promotion of collaboration networks.

The goal is to deepen the understanding of the structural, molecular and clinical aspects associated with toxins and venoms. The results will be presented in the form of plenary sessions, symposia and poster sessions, and the event will feature national and international speakers.

We are certain that we will have an event of high scientific level in an environment of friendliness, since we will be celebrating the 25th anniversary of the founding of the Brazilian Society of Toxinology.

From 3 to 8 November 2013, come and enjoy with us a carefully elaborated scientific program and the beauty of one of the most delightful beaches in São Paulo, Brazil. We count on your presence!

PROGRAM

- Antivenoms
- Biology of venomous/poisonous animals
- Caterpillar toxins and envenomation
- Clinical aspects of scorpion envenomation
- Clinical aspects of snake envenomation
- Clinical aspects of spider envenomation
- Drug design based on venom components
- Education and diffusion in Toxinology
- Marine toxins
- Mechanism of action of toxins
- Others
- Plant toxins
- Scorpion toxins
- Spider toxins
- Structure and function of toxins
- Toxin genomics
- Toxin proteomics
- Toxins and evolution
- Toxins and haemostasis
- Toxins and inflammation
- Toxins and ion channels
- Toxins and pain
- Toxins from microbes

SCIENTIFIC COMMITTEE

- Alan Harvey - University of Strathclyde, Glasgow, UK
- Carl W. Vogel - University of Hawaii Cancer Center, Honolulu, USA
- Carlos Alvarez-Valcárcel - Universidad de la Habana, Cuba
- Consuelo Latorre Fortes Dias - Fundação Ezequiel Dias, MG, Brazil
- Denise V. Tambourgi - Instituto Butantan, SP, Brazil
- Frank Mari - Florida Atlantic University, FL, USA
- Gilberto B. Domont - Universidade Federal do Rio de Janeiro, RJ, Brazil
- Jay W. Fox - University of Virginia, VA, USA
- Jorge Kallil - Instituto Butantan, SP, Brazil
- Jose Maria Gutierrez - Instituto Clodomiro Picado Institute, San Jose, Costa Rica
- Lourival D. Possani - Universidad Nacional Autonoma de Mexico, Cuernavaca, Mexico
- Marcos R.M. Fontes - Universidade Estadual Paulista, SP, Brazil
- Yara Cury - Instituto Butantan, SP, Brazil

REGISTRATIONS

Category - values in Reals (R\$)	Until 05/23/2013	Until 07/26/2013	Until 10/18/2013	At venue
Undergraduate student - Member* from SBTx	R\$ 150,00	R\$ 180,00	R\$ 200,00	R\$ 225,00
Undergraduate student - Non-member	R\$ 230,00	R\$ 270,00	R\$ 300,00	R\$ 340,00
Graduate Students (MsC/PhD) - Members* from SBTx** or IST***	R\$ 340,00	R\$ 410,00	R\$ 480,00	R\$ 510,00
Graduate Students (MsC/PhD) - Non members	R\$ 420,00	R\$ 490,00	R\$ 550,00	R\$ 590,00
Members * from SBTx or IST	R\$ 520,00	R\$ 600,00	R\$ 660,00	R\$ 700,00
Nonmembers	R\$ 700,00	R\$ 840,00	R\$ 880,00	R\$ 920,00
Accompanying person	R\$ 220,00	R\$ 280,00	R\$ 290,00	R\$ 300,00

*up to date with the annual fees till 2012 | ** SBTx- Sociedade Brasileira de Toxinologia | *** IST- International Society on Toxinology

www.jzbrasil.com/congressos/toxinologia

Executive Secretariat:

JZBRASIL

toxinology2013@jzbrasil.com
Rua Joaquim Floriano, 466 / sl. 1002
Complexo Brascan Century Plaza
Itaim Bibi | SP | 04534-002
Tels: 11-2532-6227

Organized by:



Supported by:



**XIth Congress of the Pan-American Section of IST
and
XIIth Congress of the Brazilian Society on Toxinology**

PRELIMINARY PROGRAM

**November, 3rd 2013 - Sunday
AFTERNOON**

14h00 - 17h00

Satellite meeting

Meeting from the Iberoamerican network Biotox-CYTED - "Toxins of interest for Biomedicine"

14h00 - 17h00

Meeting registration

18h30 - 20h30

OPENING CEREMONY

OPENING CONFERENCE: To be announced

20h30 –Cocktail

**November, 4th 2013 - Monday
MORNING**

07h30 – 8h10: Course # 1 Ferramentas ômicas aplicadas ao estudo de venenos (course will be presented in portuguese)

07h30 – 8h10: Course # 2 A Citometria de Fluxo e sua aplicabilidade na Toxinologia (course will be presented in portuguese)

08h30 - 09h30

**CONFERENCE #1: OVERVIEW OF CLINICAL FEATURES AND THERAPY OF SNAKE-BITE
ENVENOMING IN THE AMERICAS**

Chair: Julia Prado Franceschi (Brazil)

Speaker: David Warrell (UK)

10h00 - 12h00

SESSION # 1: INTEGRATIVE TOXINOLOGY

Chairs:

1- Jay Fox (USA)

2- Carlos Sevcik (Venezuela)

Speakers:

1- Stephen Mackessy (USA) "Effects of positive selection on structure/function evolution of colubrid three-finger toxins: coevolutionary adjustments?"

2- Carlos Sevcik (Venezuela) - Title to be announced

3- Inácio Junqueira de Azevedo (Brazil) "Combining transcriptomics, proteomics and

functional characterization to a better knowledge of colubrid venoms”

- 4- André Pereira P. Zelanis (Brazil) “Systemic approaches in Toxinology: perspectives and implications of omics methodologies on the study of snake venom toxins”
- 5- To be selected from the abstracts

10h00 - 12h00

SESSION # 2: CLINICAL ASPECTS OF SNAKE ENVENOMATION

Chairs:

- 1- Fan Hui Wen (Brazil)
- 2- Abdulrazaq G. Habiib (Nigeria)

Speakers:

- 1- Fan Hui Wen (Brazil) “Clinical Toxinology in a globalized world”
- 2- Abdulrazaq G. Habiib (Nigeria) “Overview of clinical features and therapy of snakebite envenoming”
- 3- Marcos Lacerda (Brazil) “Snakebites in the State of Amazonas: a preliminary analysis of a largely neglected problem”
- 4- Steven Seifert (USA) “A new dosing regimen for a Fab antivenom in rattlesnake bite with recurrent venom effects”
- 5- To be selected from the abstracts

10h00 - 12h00

SESSION # 3: MARINE TOXINS

Chairs:

- 1- Frank Mari (USA)
- 2- P. Gopalakrishnakone (Singapore)

Speakers:

1. Frank Mari (USA) “Adventures with marine toxins from the Americas: the discovery of Conotoxin structures and their functional implications”
2. María E. Lanio (Cuba) “Novel approaches for nanobiotech applications of Sticholysins, two pore-forming toxins”
3. Kathleen Rein (USA) - Title to be announced
4. To be selected from the abstracts
5. To be selected from the abstracts

AFTERNOON

13h30 - 14h30

CONFERENCE #2: VENOMICS OF SNAKES FROM THE AMERICAS

Chair: Jonas Peralez (Brazil)

Speaker: Juan Calvete (Spain)

15h00 - 17h00

SESSION # 4: TOXIN PROTEOMICS

Chairs:

- 1- Gilberto Domont (Brazil)
- 2- Bruno Lomonte (Costa Rica)

Speakers:

- 1- Gilberto Domont (Brazil) “Discovery driven-venomics: poisons of Brazilian rattle and coral snakes”
- 2- Bruno Lomonte (Costa Rica) “Venomous snakes of Costa Rica: taxonomical, biological, and clinical implications of their proteomic profiling through the strategy of “snake venomomics”

- 3- Mario Sérgio Palma (Brazil) “Proteomics as experimental strategy for proofing the functional targets of mastoparan peptides”
- 4- Alexandre K. Tashima (Brazil) “Venom peptidomics of the Brazilian spider *Acanthoscurria gomesiana*”
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 5: TOXINS AND ION CHANNELS

Chairs:

- 1- Paulo Sérgio Beirão (Brazil)
- 2- Jan Tytgat (Belgium)

Speakers:

- 1- Jan Tytgat (Belgium) “Cone snail venom peptides: an inexhaustible treasury for drug leads”
- 2- Paulo Sérgio Beirão (Brazil) - To be announced
- 3- Frank Bosmans (USA) “ μ -Diguetoxin-Dc1a promotes BgNav1 opening by influencing the domain II voltage sensor”
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 6: TOXINS FROM MICROBES

Chairs:

- 1- Wilmar Dias da Silva (Brazil)
- 2- Celia Carlini (Brazil)

Speakers:

- 1- Wilmar Dias da Silva (Brazil) - To be announced
- 2- Jorge Kalil (Brazil) “How M Protein from *Streptococcus* causes Human Diseases”
- 3- Celia Carlini (Brazil) “Ureases are multifunctional toxins”
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

17h00 - 19h00 Poster Session 1

18h30 - 20h00 General Meeting - IST

20h00 SBTx Jovem – Happy hour

November, 5th 2013 - Tuesday MORNING

07h30 – 8h10: Course # 1 Ferramentas Ômicas aplicadas ao estudo de venenos (course will be presented in portuguese)

07h30 – 8h10: Course # 2 A Citometria de Fluxo e sua aplicabilidade na Toxinologia (course will be presented in portuguese)

07h30 – 8h10: Course # 3 Bioinformática estrutural aplicada ao estudo de toxinas (course will be presented in portuguese)

08h30 - 09h30

CONFERENCE #3: SNAKE VENOM PROTEINASES DEGRADOMICS: TOWARDS UNDERSTANDING THEIR EFFECTS UPON HUMAN PLATELETS AND PLASMA, AND MOUSE SKIN

Chair: Gilberto Domont (Brazil)
Speaker: Solange Serrano (Brazil)

10h00 - 12h00

SESSION # 7: STRUCTURE AND FUNCTION OF TOXINS

Chairs:

- 1- Marcos Fontes (Brazil)
- 2- Carlos Alvarez (Cuba)

Speakers:

- 1- Marcos Fontes (Brazil) "Proposition of novel comprehensive model for myotoxic activity on bothropic phospholipases A2"
- 2- Carlos Alvarez (Cuba) - To be announced
- 3- To be announced
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

10h00 - 12h00

SESSION # 8: ANTIVENOMS

Chairs:

- 1- Jorge Kalil (Brazil)
- 2- José María Gutiérrez (Costa Rica)

Speakers:

- 1- José María Gutiérrez (Costa Rica) "New antivenoms for sub-Saharan Africa: Key issues related to their design and evaluation"
- 2- Carlos Sevcik (Venezuela) - To be announced
- 3- Carla Cristina Squaiella Baptista (Brazil) "Anticomplementary activity of horse IgG and F(ab')₂ antivenoms"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

10h00 - 12h00

SESSION # 9: TOXINS AND INHIBITORS

Chairs:

- 1- Consuelo Latorre Fortes Dias (Brazil)
- 2- Jonas Perales (Brazil)

Speakers:

- 1- Consuelo Latorre Fortes Dias (Brazil) "Inhibitors of Phospholipases A2 in the blood plasma of Brazilian snakes"
- 2- Jonas Perales (Brazil) "Inhibitors of snake venom metalloproteinases: state of the art and perspectives"
- 3- Paulo Melo (Brazil) "Ability of some natural and synthetic substances to antagonize toxins"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

AFTERNOON

13h30 - 14h30

CONFERENCE #7: SNAKE VENOM PROTEINS AFFECTING PLATELET RECEPTOR FUNCTION

Chair: Ana Marisa Chudzinski Tavassi (Brazil)
Speaker: Kenneth J. Clemetson (Switzerland)

15h00 - 17h00

SESSION # 10: TOXINS AND HAEMOSTASIS

Chairs:

- 1- Russolina B. Zingali (Brazil)
- 2- R. Manjunatha Kini (Singapore)

Speakers:

- 1- R. Manjunatha Kini (Singapore) "Toxins in thrombosis and hemostasis"
- 2- Russolina B. Zingali (Brazil) "Antithrombotic agents isolated from venoms and bacteria"
- 3- Ivo Francischetti (USA) "Antihemostatics from Blood-Sucking Arthropods"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 11: CLINICAL ASPECTS OF ARTHROPODS ENVENOMATION AND THERAPEUTICS

Chairs:

- 1- Mario Sérgio Palma (Brazil)
- 2- Julian White (Australia)

Speakers:

- 1- Fábio Bucarechi (Brazil) - To be announced
- 2- Julian White (Australia) - "Treating arthropod envenoming; do we have a clearly appropriate management strategy?"
- 3- Ceila Malaque Sant'Ana (Brazil) "Loxoscelism: how to evaluate the safety and efficacy of antivenom in clinical practice?"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 12: TOXINS AND EVOLUTION

Chairs:

- 1- Inácio Junqueira (Brazil)
- 2- Lisle Gibbs (USA)

Speakers:

- 1- Lisle Gibbs (USA) "Phylogeny-based comparative analysis of venom proteome variation in a clade of rattlesnakes (*Sistrurus* sp.)"
- 2- Inácio Junqueira (Brazil) "Snake toxin genes origins and evolution in the light of toxin-related genes background"
- 3- To be announced
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

17h00 - 19h00 Poster session 2

18h30 - 20h00 General Meeting - SBTx

20h00 SBTx jovem – Happy hour

November, 6th 2013 - Wednesday
MORNING

07h30 – 8h10: Course # 1 Ferramentas Ômicas aplicadas ao estudo de venenos (course will be

presented in portuguese)

07h30 – 8h10: Course # 2 A Citometria de Fluxo e sua aplicabilidade na Toxinologia (course will be presented in portuguese)

07h30 – 8h10: Course # 3 Bioinformática estrutural aplicada ao estudo de toxinas (course will be presented in portuguese)

08h30 - 09h30

CONFERENCE #5: To be announced

Chair: Solange Serrano (Brazil)

Speaker: Jay Fox (USA)

10h00 - 12h00

SESSION # 13: TOXINS AND INFLAMMATION

Chairs:

1- Catarina Teixeira (Brazil)

2- Thereza Christina Barja Fidalgo (Brazil)

Speakers:

1- Catarina Teixeira (Brazil) - To be announced

2- Thereza Christina Barja Fidalgo (Brazil) “Pro-inflammatory response of vascular cells to toxins: the early beginning of everything”

3- Jay Fox (USA) - to be announced

4- Sandra Coccuzo (Brazil) “Modulatory action of Crotoxin on events involved in the tumour progression. In vitro assay”

5- To be selected from the abstracts

SESSION # 14: DRUG DESIGN BASED ON VENOM COMPONENTS

Chairs:

1- Ana Marisa Chudzinski Tavassi (Brazil)

2- Carl W. Vogel (USA)

Speakers:

1- Ana Marisa Chudzinski Tavassi (Brazil) “Amblyomin-X: development of a factor Xa inhibitor as a new antitumor molecule”

2- Carl W. Vogel (USA) “Intelligent drug design from a venom component: humanized Cobra Venom Factor for immunotherapy of diseases with complement pathogenesis”

3- P. Gopalakrishnakone (Singapore) “Pip Peptides: Novel Leads for Treatment of Inflammation Relating to PLA2”

4- To be selected from the abstracts

5- To be selected from the abstracts

10h00 - 12h00

SESSION # 15: EDUCATION AND SCIENCE DIFFUSION IN TOXINOLOGY

Chairs:

1- Norma Yamanouye (Brazil)

2- Julian White (Australia)

Speakers:

1- Norma Yamanouye (Brazil) “The Post-graduation Program in Toxinology”

2- Julian White (Australia) “New developments in clinical Toxinology education and training”

3- Martha Marandino (Brazil) “Education and Science Diffusion in Toxinology”

4- Rejane Maria Lira da Silva (Brazil) - To be announced

5- To be selected from the abstracts

AFTERNOON

12h00 - 13h00 – Meeting of the SBTx jovem

Free afternoon

14h00 - 17h00 - Satellite meeting

Annual Meeting from the National Institute of Science and Technology on Toxins (INCTTox) - Brazil

November, 7th 2013 - Thursday
MORNING

07h30 – 8h10: Course # 1 Ferramentas Ômicas aplicadas ao estudo de venenos (course will be presented in portuguese)

07h30 – 8h10: Course # 2 A Citometria de Fluxo e sua aplicabilidade na Toxinologia (course will be presented in portuguese)

08h30 - 09h30

CONFERENCE #6: SCORPION VENOM COMPONENTS

Chair: Paulo Sérgio Beirão (Brazil)

Speaker: Lourival Possani (Mexico)

10h00 - 12h00

SESSION # 16: SCORPION TOXINS

Chairs:

1- Lucia Helena Faccioli (Brazil)

2- Lourival Possani (Mexico)

Speakers:

1- Lucia Helena Faccioli (Brazil) “CD14, TLR2 and TLR4 are essential to macrophages recognize Tityus serrulatus venom and its toxin 1 and to release lipid mediators, IL-6 and TNF α ”

2- Gina D’Suze (Venezuela) “Macrophage activation by inflammatory toxins isolated from Tityus discrepans scorpion venom. The role of Na⁺/Ca²⁺exchangers”

3- Fernanda C.V. Portaro (Brazil) “Insights into scorpion venom peptides: A new naturally occurring bioactive pentapeptide has resulted from the alternative processing of β -KTx propeptide from Tityus serrulatus venom”

4- To be selected from the abstracts

5- To be selected from the abstracts

10h00 - 12h00

SESSION # 17: TOXINS AND PAIN

Chairs:

1- Yara Cury (Brazil)

2- Richard J. Lewis (Australia)

Speakers:

1- Richard J. Lewis (Australia) “Analgesic x-conopeptides”

2- Gisele Piccolo (Brazil) “Interaction of the cannabinoid and opioid systems in the modulation of antinociception induced by crotalphine”

3 - To be announced

4 - To be selected from the abstracts

5- To be selected from the abstracts

10h00 - 12h00

SESSION # 18: TOXIN GENOMICS

Chairs:

- 1- Paulo Lee Ho (Brazil)
- 2- Juan Calvete (Spain)

Speakers:

- 1- Juan Calvete (Spain) "Omic and structural studies evidence two clades of independently evolving short-sized disintegrins"
- 2- Matheus F. Fernandes Pedrosa (Brazil) "Profiling the venom gland of the scorpion *Tityus stigmurus* through a transcriptomic survey: new peptides potentially applicable in pharmaceutical research and biotechnology"
- 3- To be announced
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

AFTERNOON

13h30 - 14h30

CONFERENCE #7: UNDERSTANDING LOCAL TISSUE PATHOLOGY INDUCED BY SNAKE VENOMS: UNSOLVED ISSUES

Chair: Catarina Texeira (Brazil)

Speaker: Jose Maria Gutierrez (Costa Rica)

15h00 - 17h00

SESSION # 19: SNAKE TOXINS

Chairs:

- 1- Ana Maria Moura da Silva (Brazil)
- 2- Heloisa Selistre de Araújo (Brazil)

Speakers:

- 1- Ana Maria Moura da Silva (Brazil) "Diversity of snake venom metalloproteinases targeting hemostasis: an adaptive advantage for Viper snakes with consequences for human pathology"
- 2- Heloisa Selistre de Araújo (Brazil) "RGD disintegrins and the effects of v3 integrin blockade in the tumour microenvironment"
- 3- Danielle Paixão Cavalcante (Brazil) "Biochemical characterization of African adders' venoms (*Bitis ssp*)"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 20: ARTHROPOD TOXINS

Chairs:

- 1- Elizabeth F. Schwartz (Brazil)
- 2- Maria Elena de Lima (Brazil)

Speakers:

- 1- Elizabeth F. Schwartz (Brazil) "α-KTx isolated from scorpion venoms and their potential therapeutic use"
- 2- Maria Elena de Lima (Brazil) "Spider toxins: exploring new peptides to possible drug models"
- 3- Adolpho Borges (Venezuela) "Towards a risk map for scorpionism in tropical America: a proposal for a toxinological partitioning of the *Tityus* scorpion fauna"

- 4- Denise Tambourgi (Brazil) - To be announced
- 5- To be selected from the abstracts

15h00 - 17h00

SESSION # 21: ENVENOMATION AND THERAPEUTICS

Chairs:

- 1- Vidal Haddad Junior (Brazil)
- 2- David Warrell (UK)

Speakers:

- 1- Vidal Haddad Junior (Brazil) "Stings of freshwater stingrays as a real neglected problem in North, Midwest and Southeast regions of Brazil"
- 2- David Warrell (UK) "Challenges in the management of envenoming in developing countries"
- 3- Fábio Tozzi (Brazil) "Assistance to riverside communities in the Amazon and its implications for snakebites"
- 4- To be selected from the abstracts
- 5- To be selected from the abstracts

17h00 - 19h00 Poster Session 3

20h00 Galla Dinner

**November, 8th 2013 - Friday
MORNING**

08h30 - 09h30

CONFERENCE #8: WHAT CAN TOXINS PROVIDE FOR DRUG DISCOVERY

- Chair: Yara Cury (Brazil)
Speaker: Alan Harvey (UK)

10h00 - 12h00

SESSION # 22: INITIATIVES IN TOXINOLOGY

Chairs:

- 1- Osvaldo Sant'Anna (Brazil)
- 2- Alan Harvey (UK)

Speakers:

- 1 - Osvaldo Sant'Anna (Brazil) "Five years of the National Institute of Science and Technology on Toxins [INCTTOX]"
- 2 - Hugo Harmelin (Brazil) "Toxins and Cell Signalling Networks"
- 3 - Carlos Alvarez (Cuba) "Iberoamerican Network BIOTOX "
- 4 - Abdulrazaq G. Habiib (Nigeria) "Initiatives for snakebite management in sub-Saharan Africa: The EchiTab study Group (Nigeria-UK)"
- 5 - David Warrel (UK) "The Global Snakebite Initiative"

12h00 - 14h00

Celebrating 25 years of SBTx

- Chair: Lea Simioni (Brazil)
Speaker: Julia Prado Franceschi (Brazil)

Closing Session
Awards

Invited and confirmed speakers

Abdulrazaq G. Habib (Nigeria)
Adolfo Borges (Venezuela)
Alan Harvey (UK)
Alexandre K. Tashima (Brazil)
Ana Maria Moura da Silva (Brazil)
Ana Marisa Chudzinski Tavassi (Brazil)
André Pereira P. Zelanis (Brazil)
Bruno Lomonte (Costa Rica)
Carl W. Vogel (USA)
Carlos Alvarez (Cuba)
Carlos Sevcik (Venezuela)
Catarina Teixeira (Brazil)
Consuelo Latorre Fortes Dias (Brazil)
Danielle Paixão Cavalcante (Brazil)
David Warrell (UK)
Denise V. Tambourgi (Brazil)
Elizabeth F. Schwartz (Brazil)
Fábio Bucarechi (Brazil)
Fábio Tozzi (Brazil)
Fan Hui Wen (Brazil)
Fernanda C.V. Portaro (Brazil)
Frank Mari (USA)
Gilberto Domont (Brazil)
Gina D'Suze (Venezuela)
Gisele Piccolo (Brazil)
Heloisa Selistre de Araújo (Brazil)
Hugo Harmelin (Brazil)
Inácio Junqueira (Brazil)
Jan Tytgat (Belgium)
Jay Fox (USA)
Jonas Perales (Brazil)
Jorge Kalil (Brazil)
Juan Calvete (Spain)
Julian White (Australia)
Lisle Gibbs (USA)
Lourival Possani (Mexico)
Lucia Helena Facioli (Brazil)
Marcos Fontes (Brazil)
Marcos Lacerda (Brazil)
María E. Lanio (Cuba)
Maria Elena de Lima (Brazil)
Mario Sérgio Palma (Brazil)
Marta Marandino (Brazil)
Matheus F. Fernandes Pedrosa (Brazil)
Norma Yamanouye (Brazil)
Osvaldo Sant'Anna (Brazil)
P. Gopalakrishnakone (Singapore)
Paulo Lee Ho (Brazil)
Paulo Sérgio Beirão (Brazil)
R. Manjunatha Kini (Singapore)
Rejâne Lira Casais (Brazil)
Russolina B. Zingali (Brazil)
Sandra Coccuzo (Brazil)
Solange Serrano (Brazil)
Vidal Haddad Junior (Brazil)
Yara Cury (Brazil)



Changsha

A promotional graphic for the Maple Forest Hotel. It features a dark blue background with several images: a night view of the hotel building with green and yellow lights; a large conference room with many tables and orange chairs; a smaller conference room with tables and purple floral centerpieces; and another large conference room with many green chairs and a stage at the front. Text in the top right corner reads: 湖南枫林宾馆, Maple Forest Hotel, and the website <http://www.fenglinhotel.com>.

Maple Forest Hotel

NEXT ASIA-PACIFIC SECTION OF IST CONGRESS
**The 10th IST – Asia Pacific Meeting on Animal, Plant &
Microbial Toxins**

June 14th –18th, 2014

Changsha, China

Organized by:

College of Life Sciences, Hunan Normal University

Co-organized by :

Key Laboratory of Tropical Biological Resources of Ministry of Education,
Hainan University

The Bio-toxin Committee of the Chinese Society of Biochemistry and Molecular
Biology

Congress Chairman:

Songping Liang
Sulan Luo
Yun Zhang

Hunan Normal University
Hainan University
Yunnan Zoology Institute, Chinese
Academy of Science

International Scientific Committee:

Baldomero Olivera, USA
Gleen F. King, Queensland, Australia
Pierre Escoubas, Nice, France
Eugene Grishin, Moscow Russia
Anthony T Tu, Fort Collins, USA
Jan Tytgat, Leuven Belgium
Julian White, North Adelaide, Australia
P. Gopalakrishnakone, Singapore
Hodgson Wayne, Clayton Australia
Reto Stocklin, Switzerland
Songping Liang, Changsha, China
Sulan Luo, Haikou China
Yun Zhang, Kunming, China

Organizing Committee

Sulan Luo,	Yun Zhang,	Songping Liang
Dongyi Zhang,	Zhonghua Liu,	Yingliang Wu,
Xiongzhi Zeng,	Xianchun Wang,	Ren Lai,
Chunguang Wang,	Jiuping Ding,	Maikun Teng,
Yonghua Ji,	Shuanglin Xiang,	Zuohong Chen,
Zhen Liu,	Ying Wang,	Ping Chen,
Wenxing Li,		

Conference Venue

Maple Forest Hotel, Yuelu Mountain, Changsha City, China

Something important about the meeting:

1. About the meeting venue:
Changsha is the capital city of Hunan province, in south-central China, with the population of three millions. The Maple Forest Hotel is a quasi-five star hotel, located in the beautiful hill of Yuelu mountain, in Changsha City. The hotel has 400 bedrooms and 8 meeting rooms, which can hold 500, 300, 150, and 50 people, respectively. The price for a double bed room is about 70 USD. There are also three other hotels near the Maple Forest Hotel with the price of about 40-50 USD, which are good for students.
2. The registration fee of the meeting will be about 450-500 USD, which includes all of the food, bus fee between Changsha airport and the hotel for all the attendees.
3. We are going to invite about 30 outstanding scientists worldwide as invited speaker for the meeting. We will pay the hotel fee and the registration fee for all the invited speakers.

Venue



Lost World of Tambun
Perak Darul Ridzuan
MALAYSIA

Affiliated Hotel & Location Map:
<http://sunwaylostworldoftambun.com/>

Early bird Registration fee:

International Participants:
USD 250.00 per person

Local Participants:
RM 500.00 per person

For more information please contact:

Ms Hilyahnor Abdul Manaf
Phone: +60391456577
Mobile: +60196997154
hilyahnorabdulmanaf@gmail.com



**Bitten By
The Rare Beauties™**

**2nd Advanced workshop on
Marine Animal & Snake
Envenomation Management**

4th-5th JUNE 2013

Organized by:
Department of Emergency
Medicine
UKM Medical Centre
Kuala Lumpur



In collaboration with:



Objectives:

1. To identify the various species of marine animals and snakes of medical importance in SEA.
2. To obtain current information and practice on the emergency and definitive management of envenomation
3. To forge good networking and sharing of information between participants and faculty members for optimal treatment of envenomed patients.

Note:

- ❖ Places are limited.
- ❖ Please return the application form with payment receipt to confirm your participation as soon as possible.

PAYMENT METHOD

*CHEQUE/BANK TRANSFER/LO
OR CREDIT CARD*

CLOSING DATE

FOR EARLY BIRD REGISTRATION

Sunday, 5th May 2013



Facebook

Advanced workshop on Marine animal &
Snake Envenomation Management
AMSEM

www.facebook.com/AMSEMUkMMC



Journal of Venom Research

<http://www.libpubmedia.co.uk/JVR/JVRHome.htm>



Application form

Name: _____

Doctor Paramedic Student

others: _____

Affiliation: _____

Address: _____

Office number: _____

Mobile number: _____

Fax number: _____

E-mail: _____

Fee: RM/USD _____

Payment method: LO Cheque

Bank transfer Credit Card

Number: _____

CCV number: _____

Please return to:
Ms Hilyahnor Abdul Manaf
hilyahnorabdulmanaf@gmail.com



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management

2nd Advanced workshop on Marine animal and Snake Envenomation Management (AMSEM) 2013

Date: 4-5th June 2013

Venue: Lost World Hotel, Lost world of Tambun, Ipoh, Perak.

Organizer: Department of Emergency Medicine, UKMMC

CPD points: 6 points awarded by MMA to participants

Contact person for registration: Ms Hilyahnor

Contact number: +60 196997154

Contact e-mail: hilyahnorabdulmanaf@gmail.com

Description:

AMSEM was synthesized following the demand and the pressing need for a more comprehensive session and platform to share and discuss the clinical issues of envenomation from marine animals and snakes in Malaysia and SEA. AMSEM 2013 discusses issues relevant for healthcare providers in the primary care and in settings with more advanced facilities. This workshop will benefit master's students, senior medical officers, senior paramedics, specialists/consultants, medical lecturers, pharmacists, poison centre officers, related scientists, veterinarians and interested individuals from Malaysia and abroad. This workshop combines interactive talks, forum and practical sessions by prominent local and international faculty members who are experts in their field. AMSEM aspires to bring biologist, taxonomist, toxinologist, pharmacologist, pharmacist and clinicians closer and encourages sharing of information and experience. The number of participants for each workshop is limited to ensure sufficient opportunities for interaction with all faculty members. It is hoped that this annual meeting and workshop will form a viable platform for further growth of Clinical Toxinology.

Objectives:

1. To identify the various species of marine animals and snakes of medical importance in Malaysia and neighboring SEA countries.
2. To increase the knowledge, understanding and skills about emergency and definitive treatment of envenomation by marine animals and snakes.
3. To forge good communication link (networking) and sharing of information between participants and faculty members for optimal treatment of envenomed patients.

Outcome:

Upon completion of the various activities in this event, participants will be able to:

1. Identify the various species of marine animals and snakes of medical significance in Malaysia/SEA
2. Obtaining a clearer understanding of the complexities of toxins, venoms and envenoming.
3. Identify clinical manifestations of envenomation from various marine animals & snakes in Malaysia/SEA
4. Identify the indications for anti-venom therapy, surgical intervention and other treatment options.
5. Identify the appropriate anti-venom therapy, including initial dosing, monitoring, and assessment of response.
6. Review strategies to determine discharge criteria and discharge planning following anti-venom therapy.
7. Establish a good network and support with experts in the field and other participants with similar interests.

Thank you for your support

More info at

<http://www.facebook.com/amsemukmmc>



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management

AMSEM 2013 FACULTY MEMBERS

1. **Dr. Ahmad Khaldun Ismail** - *Department of Emergency Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*
2. **Professor Dr. Gopalakrishnakone** - *Department of Anatomy & Venom and Toxin, Yong Loo Lin School of Medicine, National University of Singapore,*
3. **Professor Dr. Tan Nget Hong** - *Department of Molecular Medicine, University of Malaya, Kuala Lumpur, Malaysia*
4. **Professor Dr. Sumana Khomvilai** - *Queen Saovabha Memorial Institute, Thai Red Cross Society, Bangkok, Thailand*
5. **Professor Dr. Indraneil Das** - *Institute of Biodiversity and Environmental Conservation, UNIMAS, Kota Samarahan, Sarawak, Malaysia*
6. **Assist. Prof. Dr. Suchai Suteparuk** - *Division of Toxicology, Department of Medicine, Chulalongkorn University School of Medicine Bangkok, Thailand*
7. **Dr. Anisah Adnan** - *Trauma & Emergency Department, Melaka General Hospital, Melaka, Malaysia.*
8. **Dr. Scott A. Weinstein** - *Department of Toxinology, Women's & Children's Hospital, North Adelaide, South Australia, Australia*
9. **Dr. Tan Choo Hock** - *Department of Pharmacology, Faculty of Medicine, University of Malaya, Kuala Lumpur*
10. **Dr. Taksa Vasaruchapong** - *Queen Saovabha Memorial Institute, Thai Red Cross Society, Bangkok, Thailand*

More info at

<http://www.facebook.com/amsemukmmc>



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management

AMSEM 2013 INTERNATIONAL ADVISORY MEMBERS

1. **Professor Dr. Julian White** - *Toxinology Department, Women's and Children's Hospital, North Adelaide, SA, 5006, Australia*
2. **Professor Dr. Visith Sitprija** - *Queen Saovabha Memorial Institute & Division of Nephrology, Department of Medicine, Chulalongkorn University School of Medicine, Bangkok 10330, Thailand.*
3. **Assoc. Prof. Dr. Peter J Fenner** – *School of Public Health, Tropical Medicine and Rehabilitation Sciences, James Cook University, 1 James Cook Dr, Douglas QLD 4811, Australia.*
4. **Dr. Mark Auliya** - *Dept Naturschutzforschung, Helmholtz-Zentrum für Umweltforschung GmbH-UFZ, Permoserstraße 15104318, Leipzig, Germany*
5. **Dr. Jeffrey Fung Hin Tat** - *Tun Muen Hospital, Tsing Chung Koon Road, Tuen Mun, New Territories, Hong Kong.*
6. **Dr. Kenneth D Winkel** – *Australian Venom Research Unit, Department of Pharmacology, University of Melbourne, VIC 3010 Australia.*
7. **Dr. Lisa-ann Gershwin** – *Australian Marine Stinger Advisory Services, 3/127 George Street, Launceston, Tasmania 7250 Australia.*

More info at

<http://www.facebook.com/amsemukmmc>



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management




2nd Advanced Workshop on Marine Animal & Snake Envenomation Management

4th – 5th June 2013

FINAL ANNOUNCEMENT

Venue

Lost World of Tambun,
Perak Darul Ridzuan.



Early Bird Registration fee:

International Participants: 250 USD

Local Participants : RM 500

Payment method: Cash/ Cheque/ Bank
Transfer/ LO/ Credit Card

CLOSING DATE

FOR EARLY BIRD REGISTRATION & PAYMENT

5th May 2013

For more information please contact:

AMSEM Secretariat

Tel: 03-91735308/019-6997154

Email: hilyahnorabdulmanaf@gmail.com

**Bitten By
The Rare Beauties™**




Facebook:
Advance Management of Marine Animal & Snakes
Envenomation in Malaysia (AMSEM)
www.facebook.com/AMSEMUKMMC
www.ppukm.ukm.my



Organized by:
Dept of Emergency Medicine
UKM Medical Centre
Kuala Lumpur

More info at
<http://www.facebook.com/amsemukmmc>



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management

<h1 style="margin: 0;">2nd ADVANCED WORKSHOP ON MARINE ANIMAL & SNAKE ENVENOMATION MANAGEMENT</h1> <p style="font-size: 24px; color: red; margin: 10px 0;">4th – 5th June 2013</p> <p style="margin: 0;">Venue: Lost World of Tambun, Perak Darul Ridzuan.</p>		
<p>Organized by: Dept of Emergency Medicine UKM Medical Centre Kuala Lumpur</p>	<p>Early Bird Registration fee:</p> <p>International Participants : 250 USD</p> <p>Local Participants : RM 500</p> <p>Payment method: <i>Cash/Cheque/Bank transfer/LO/Credit Card</i></p>	
<p>Facebook: Advance Management of Marine Animal & Snakes Envenomation in Malaysia (AMSEM) www.facebook.com/AMSEMUKMMC www.pptukm.ukm.my</p>	<p style="text-align: center;">CLOSING DATE FOR EARLY BIRD REGISTRATION & PAYMENT</p> <p style="font-size: 24px; color: red; text-align: center;">5th May 2013</p> <p style="font-size: 12px;">For more information please contact: AMSEM Secretariat Tel: 03-91735308/019-6997154 Email: hilyahnorabdulmanaf@gmail.com</p>	

More info at
<http://www.facebook.com/amsemukmmc>



Bitten By The Rare Beauties™

Advanced Workshop on Marine Animal & Snake Envenomation Management

Bitten By The Rare Beauties™ Advanced workshop on Marine animal & Snake Envenomation Management



Date	Registration category	Registration Fee
Before 5 th May 2013	Earlybird Registration	Local: RM500 International: USD250
Before 4 th June 2013	Extended Registration	Local: RM750 International: USD300
On the 4 th June 2013	Walk-in registration	All participants: RM950

More info at

<http://www.facebook.com/amsemukmmc>

2nd Oxford World Symposium on Venoms

Venoms2013

Making Sense of Venoms in Health & Disease

Web: <http://lpmhealthcare.com/Venoms2013/venomshome.htm>**Twitter:** @VenomsOxford

24-26 September 2013

St Hilda's College
Oxford, UK

Distinguished Keynote Speakers



Prof Dietrich Mebs



Prof David Warrell



Prof Chris Shaw



Symposium Chair
Dr Edward Rowan

Distinguished Faculty

Dr Edward Rowan, UK

Professor Dr Cesare Montecucco, Italy

Professor Dr Juan Calvete, Spain

Professor Jan Tytgat, Belgium

Professor Alan Harvey, UK

Professor Dr Philippe Billiald, France

Professor Michael Eddleston, UK

Professor Dr Igor Križaj, Slovenia

Dr Thomas Junghanss, Germany

Professor Dr Eric Lingueglia, France

Professor Robert Harrison, UK

Dr Wolfgang Wüster, UK

Dr Nicholas Casewell, UK

Dr Ulrich Kuch, Germany

..more on the symposium website...



Deadlines:

Early Registration

27 May 2013

Poster Abstracts

17 July 2013

Group discounts
available

Contact:

Dr M Sohail, St Hilda's College, Oxford, UK

Email: VenomsOxford@gmail.com

**3rd ANNUAL CONFERENCE OF THE TOXINOLOGICAL
SOCIETY OF INDIA (TSICON)**



&

**1ST INTERNATIONAL CONFERENCE ON
'BIOLOGY OF NATURAL TOXINS'**



**THE DEPARTMENT OF BIOLOGICAL SCIENCES,
BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI,
K K BIRLA GOA CAMPUS, GOA, INDIA**

19th to 21st DECEMBER, 2013

Organising Secretary: Dr. Dibakar Chakrabarty; diba27@yahoo.com



TSICON 2013



3rd Annual Conference of the Toxinological Society of India
& 1st International Conference on
"Biology of Natural Toxins"



With great pleasure, we invite you all to the 3rd Annual Conference of the Toxinological Society of India and 1st International Conference on **"Biology of Natural Toxins"** to be held in BITS Pilani K K Birla Goa Campus, Goa, India from **19-21 December, 2013**. This conference aims to provide a common platform for all researchers, clinicians, students, conservationists and industries working on different aspects of natural toxins of animals, microbes and plant, snake bite management and related environmental issues to discuss their research findings. The conference will consist of plenary sessions, invited lectures, oral and poster presentations.

OBJECTIVES

To create awareness and understanding of issues related to natural toxins (animal, microbial, plant) and snake bite management.

To discuss:

- ❖ Current research trends in natural toxins
- ❖ Management of envenomation/intoxication of biological origin
- ❖ Applications of biological toxins in drug discovery and as research tools
- ❖ Anti-venom production and related issues
- ❖ Conservation of poisonous and venomous species
- ❖ Ethics in toxin research

TSICON 2013

Organizing Secretary & President Elect

Dr. Dibakar Chakrabarty
Associate Professor,
Department of Biological
Sciences, BITS Pilani K.K
Birla Goa Campus.

Email:
tsicon2013@gmail.com

Phone:
+91 832 2580173



SCIENTIFIC AREAS TO BE COVERED

- ❖ Venomics
- ❖ Clinical toxinology
- ❖ Characterization of natural toxins
- ❖ Pharmacology, pharmacokinetics and drug discovery
- ❖ Anti-venom/Antidotes and Industry
- ❖ Ethics, Conservation and more...

REGISTRATION INFORMATION

Advance registration is encouraged. Registration fee includes cost towards conference material, beverages and all meals from dinner on 18 December till farewell high-tea on 21 December except conference dinner on 20 December.

CATEGORY	Registration till 15 th September, 2013		Late registration between 16 th September to 15 th October 2013	
	Indian Delegates (INR)	Foreign Delegates* (USD)	Indian Delegates (INR)	Foreign Delegates (USD)
Delegates	4000 (TSI Members) 5000 (Non Members)	500	4500 (TSI Members) 5500 (Non Members)	550
Student	3500	300	4000	350
Accompanying person	3500	300	3500	300
Corporate	10000	1000	12000	1200
Conference Dinner (On the Cruise)	150/person	5/person	150/person	5/person

* Registration fees for delegates from Nepal, Bangladesh, Myanmar, Sri Lanka and Pakistan: USD 250 (regular), USD 300 (late) and accom. person USD 200.

MODE OF PAYMENT

Indian Delegates: Demand Draft/Multi-city Crossed Cheque in favour of **Director, BITS Pilani K K Birla Goa Campus**, payable at **State Bank of India, Goa**.

International Delegates: Online transfer to be made to **State Bank of India, Commercial Branch, Vasco da Gama**, using the following details:

Beneficiary Name: BITS Pilani K K Birla Goa Campus
Beneficiary Account Number: 30803684122
IFSC Code: SBIN0010720
SWIFT Code: SBININBB229
Remarks: TSICON 2013

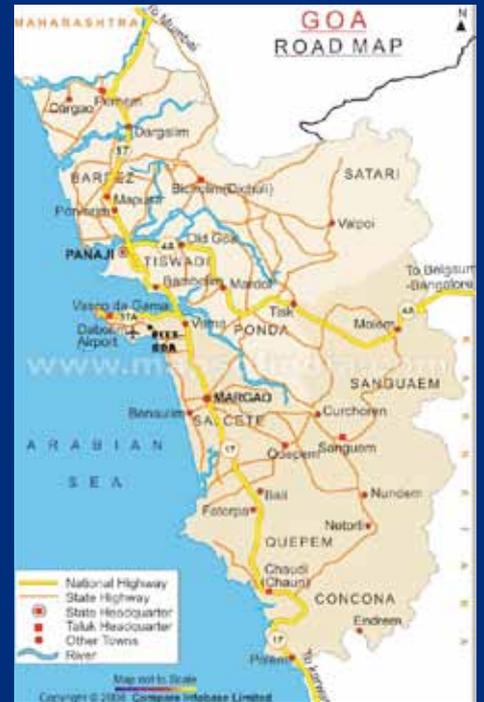
STEP BACK AND FEEL THE SAND BETWEEN YOUR TOES...UNPLUG, UNWIND, STEP OUT IN THE SUNSHINE...

Goa dubbed as the 'Pearl of the Orient' is one of the most sought after holiday destination in India. This tiny but beautiful state located in the western coast of Indian peninsula is full of surprises that leave every visitor spell bound with its magical charm and splendor. Goa is resplendent with picturesque palm dotted beaches, fascinating forts, churches, breathtakingly beautiful waterfalls, absorbing wildlife parks, sanctuaries and much more.

East and west come together in this sun-soaked state, where the beaches have long served as a magnet for hedonists and Indian culture intertwines with Portuguese influences left over from a 450 year occupation. The state of Goa has 39 beaches and all of them are famous for their own unique charm and tranquility. Some of the top beaches that are visited by tourists all the year round are Arambol, Vagator, Calangute, Baga and Bambolim. These are the north Goa beaches and are popular for their striking features and are regular host of all the happening activities and festivals that take place in Goa. Some of the most visited beaches in South of Goa which are perfect for tourists looking forward to experience the tranquility of the beaches and nature are Bogmalo, Majorda, Palolem and Cavellissim Beach. These beaches are ideal for water sports as well as adventurous activities.

Churches of Goa are a reflection of Portuguese dominance in the area. Be sure to visit Basilica of Bom Jesus, Church of St. Alex, Church of St. Cajatan, Convent & Church of St. Francis of Assisi and Se Cathedral. An evening cruise in the river Mandovi with local folk songs and dance add to the tourist attractions in Goa. Other major attractions in Goa are the exotic seafood and the festivals. Goa maintains a festive mood round the year.

During Christmas and New Year, it seems all roads lead to Goa...



BITS Pilani K K Birla Goa Campus from:

- Goa Airport (Dabolim) – 5 Kms
- Vasco da Gama Railway Station – 10 Kms
- Madgaon Railway Station – 25 Kms

Taxi Tariff (Source to Venue)

- Goa Airport (Dabolim) – INR 200-250
- Vasco da Gama Railway Station – INR 300-350
- Madgaon Railway Station – INR 500-550

WEATHER IN DECEMBER

With plenty of sun shine seen each day, the weather remains pleasant throughout with barely any rain seen during the month. This may be winter, but the temperatures remain high, so expect beach weather.

The average daily temperature for this month in Goa is 27°C which can reach 32°C or drop to 21°C. There is an average of 10 hours of sunshine each day in Goa. The average temperature of the sea during this month is 27°C.



BITS Pilani a university of excellence in Technology and Sciences. It is ranked as the best private university in India. BITS Pilani has four campuses in Pilani, Dubai, Goa and Hyderabad. The university is committed to generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. BITS Pilani K K Birla Goa Campus boasts of its innovative teaching methods and state of the art infrastructure. It seeks to develop in each member of its community the ability and passion to work wisely, creatively and effectively for the betterment of mankind.



TSICON 2013**REGISTRATION FORM**

Name _____

Organization _____

Street _____

City _____ State _____

Postal Code _____ Country _____

Telephone Number _____ Fax Number _____

Email Address _____

Please tick

 I will attend Conference Dinner on Friday evening, 20 December 2013 - INR 150/USD 5 per person. I will bring an accompanying guest for the Conference Dinner - INR 150/USD 5 per person. Vegetarian Non Vegetarian**PAYMENT DETAILS****INDIAN DELEGATES**

DD/Multi-city Crossed Cheque Number _____ Amount _____

Bank _____ Date _____

Signature _____

Send to: Dr. Angshuman Sarkar, Treasurer TSICON 2013, Department of Biological Sciences, BITS Pilani
K K Birla Goa Campus, Zuarinagar 403726, Goa, India.

INTERNATIONAL DELEGATES

Transaction ID _____ Amount _____

Date _____ Signature _____

Duly filled registration forms should be emailed to Treasurer (treasurersicon2013@gmail.com)
and Cc to Organizing Secretary (tsicon2013@gmail.com).

ABSTRACT* (TEMPLATE)

Submission Category: _____

Preference for Presentation (Oral/Poster): _____

Title: _____

Author(s) **: _____

Affiliation: _____

Abstract (Max. 250 words):

ABSTRACT

*Indian delegates presenting paper(s) must obtain TSI membership (annual/life). Form attached.

**Presenting author's name should be underlined.

(The abstract should be typed using Times New Roman font size 12. Please do not include figures in the abstract. The abstract should be sent to tsicon2013@gmail.com in .doc/.pdf format before 15 June 2013. Hard copy of abstracts will not be accepted)



Toxinological Society of India

(Registered under West Bengal Society Act : No. S/1L/77216)

MEMBERSHIP APPLICATION

To
The Secretary
Toxinological Society of India
Department of Biochemistry
KPC Medical College & Hospital
1F, Raja S.C. Mallick Road, Jadavpur
Kolkata – 700 032

Dear Sir,

I wish to be Annual Member / Life Member / Corporate Member of the Toxinological Society of India. I am furnishing the required particulars below, and request you to kindly allow me to be a member of the Society. The fee* for Annual Membership / Life Membership / Corporate Membership is enclosed as a Demand Draft (No. _____ Dt _____), in the name of "Toxinological Society of India" payable at Kolkata. I am also enclosing a copy of my Curriculum Vitae and two recent Passport size photographs for your record. Yours sincerely,

Place :

Date : (Signature of the Applicant) (Signature of the Nominating member of TSI)

Particulars of applicant

Full Name (in Block Letters) : _____

Date of Birth : _____ Qualifications (Name of University, Year) _____

Present Designation/ Department/ Institute/ Place : _____

Permanent Address : _____

Address for Correspondence (With Phone No., & Email ID) : _____

----- For Official Use Only -----

Membership No. [] Approved [] Disapproved

Secretary, TSI

Note : Duly filled application form along with the Bank Draft should be forwarded to :

Prof. Antony Gomes

Secretary, Toxinological society of India

Lab. Of Toxinology & Exp. Pharmacodynamics,

Department of Physiology, University of Calcutta

92, A. P. C. Road, Kolkata – 700 009

E-mail : secretary.tsi@gmail.com

Mobile : +91-9433139031

Fax : 91-033-23519755

*Rs.1000 /4000 / 20,000 for Annual / Life / Corporate Membership respectively.

TENTATIVE LIST OF SPEAKERS

1. Anthony T. Tu

Professor Emeritus, Department of Biochemistry and Molecular Biology, Colorado State University - Fort Collins, USA.

Prof. Tu was bestowed The Order of the Rising Sun by the Japanese Emperor Akihito in November, 2009 for solving case of sarin-gas attacks in Japan in 1994 and 1995

Lifetime Special Recognition and Awards: NIH Merit Award, NIH Career Development Award.

Research Interests

Sea snake neurotoxins, Raman spectroscopy, structure-function relations of toxins, chemical weapons defense, NBCR anti-terrorism.

2. Alan L. Harvey

Professor of Pharmacology in Strathclyde Institute of Pharmacy and Biomedical Sciences and Vice Dean of Research in The Faculty of Science, University of Strathclyde Glasgow, UK

President, International Society on Toxinology and Editor-in-Chief, Toxicon

Research Interests

Physiology and Pharmacology of synaptic signaling, with particular interests in drugs and toxins affecting receptors and ion channels

3. P. Gopalakrishnakone

Professor, Department of Anatomy, Yong Loo Lin School of Medicine, National University Health System, Singapore.

Research Interests

Mechanism of action of venoms and toxins from various marine creatures, mechanism of venom secretion, venom and toxin induced muscle damage, immunology and cloning of toxins, microarray technology for proteomics and genomics, biosensors and biomedical applications.

4. Julian White

Professor and Head of Toxinology, Women's & Children's Hospital, Adelaide, Australia

Secretary/Treasurer of International Society on Toxinology.

Research Interests

Envenomation by snakes and other venomous animals and their clinical implications.

5. Shripad B. Deshpande

Professor of Physiology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India.

Fellow of Indian Academy of Neuroscience
Editor, Indian Journal of Physiology and Pharmacology

Research Interests

Neuroscience, Electrophysiology, Toxicology and Toxinology.

6. Antony Gomes

Laboratory of Toxinology & Experimental Pharmacodynamics, Department of Physiology, University of Calcutta, India.

Fellow of the Indian Pharmacological Society

Research Interests

Snake venom hemorrhagins, antivenom from plants, therapeutic uses of venom, nanopeptides for applications in iron deficiency anemia and snakebite in animal models, Anticancer potential of animal venoms and toxins, Toxins from Indian toad, Indian monocellate cobra and Indian black scorpion.

7. Glenn F. King

Institute for Molecular Bioscience, The University of Queensland, Australia.

Research Interests

Structure-function characterisation, and therapeutic development of venom peptides from the venoms of spiders, scorpions, centipedes, and other venomous animals.

8. Jay W. Fox

Professor & Associate Dean of Research of Microbiology, Immunology & Cancer Biology, University of Virginia School of Medicine.

Research Interests

Basement Membrane Structure & Metalloproteinases.

9. R. Manjunatha Kini

Professor, Department of Biological Science, National University of Singapore. Affiliate Professor in the Department of Biochemistry at Virginia Commonwealth University.

Founder and Chief Scientific officer of Pro-Therapeutics Private Ltd.
Chairman and co-chairman of the Registry of Exogenous Hemostatic factors.

Research Interests

Structure-function relationships and mechanism of action of proteins especially snake venom toxins, Protein-protein interaction and Protein design and engineering.

10. Romulus Whitaker

Noted Herpetologist and conservationist. Founder of Irula Snake Catchers' Co-operative Society and Madras Snake Park. World renowned expert on King Cobra behavior. Known as savior of gharials of India.

11. Gerry Martin

Founder Director of The Gerry Martin Project (TGMP)

Herpetologist, Naturalist, Wildlife conservation expert and educationist.

In 2000, Martin became the first Indian Adventurer for the National Geographic Channel and worked with them in India.

12. Manas Mandal

Associate Professor of Pharmaceutical Sciences, College of Pharmacy, University of Southern Nevada, South Jordan UTAH, USA.

Research Interests

Cellular immunology, vaccine development and cancer immunotherapy.

18-Dec-13				
5.30-7.30 pm	7.45-9.30pm			
Registration	Welcome Dinner			
19-Dec-13				
8.00-9.00am	9.00-9.50am	9.50-10.20am	10.20-10.30am	10.30am-11.15am
Breakfast	Inauguration by Prof. Alan L. Harvey (President IST)	Plenary Lect. I	Tea	S.C Lahiri Memorial Oration
11.15-12.00pm	12.00-1.00pm	1.00-2.00pm	2.15-2.45pm	2.45-3.45pm
Lectures (3X2)	Poster Session I	Lunch	Plenary Lect. II	Lectures (4X2)
3.45-4.00pm	4.00-5.00pm	5.00-6.15pm		
Tea	Lectures (4X2)	Lectures (5X2)		
20-Dec-13				
8.00-9.00am	9.00-9.45am	9.45-10.15am	10.15-10.30am	10.30-11.30am
Breakfast	A.K Nag Chaudhuri Memorial Oration	Plenary Lect. III	Tea	Lectures (4X2)
11.30am-12.30pm	12.30-1.30pm	1.30-2.00pm	2.00-4.00pm	4.00-4.15pm
Poster Session II	Lunch	Plenary Lect. IV	Lectures (8X2)	Tea
4.15-5.15pm	5.15-6.30pm	6.30 pm onwards		
Lectures (4X2)	Annual General Meeting	Gala Dinner		
21-Dec-13				
8.00-9.00am	9.00-10.00am	10.00-11.15am	11.15-11.30am	11.30am-1.00pm
Breakfast	Lifetime Achievement Award to Prof. Anthony T. Tu	Lectures (4X2)	Tea	Lectures (6X2)
1.00-2.00pm	2.00-2.45 pm	2.45-3.00pm	3.00-3.30pm	3.30-4.30pm
Lunch	Student Lectures (Best Poster Winners-3)	Tea	Plenary Lect. V	Validictory Ceremony
4.30pm onwards				
Farewell High Tea				



Dear Colleagues,

With just under four months to go before the commencement of the 10th Australian Peptide Conference (<http://www.peptideoz.org/>), we are pleased to report that the preparations are continuing to go smoothly and we are assured of a scientifically stimulating and rewarding meeting at this spectacular venue to celebrate the 10th meeting, and 21st anniversary of the Association.

EARLY BIRD REGISTRATION

The "early bird" deadline of 31st May is now just three weeks away. Later registration is, of course, possible up to the time of the conference but at a higher cost.

ABSTRACT SUBMISSION

The 31st May is also the closing date for the submission of abstracts for ORAL presentations. We have secured an outstanding list of invited speakers and will be selecting the remaining oral presentations from the submitted abstracts. As always the poster sessions will be a major focus of the meeting and poster abstracts will be accepted up until Friday 30th August.

PROTEOMICS FORUM, MALAYSIA

We are pleased to announce that the Proteomics Forum, Malaysia will be incorporated into the 10th Australian Peptide Conference, with a full days program on Sunday 8th Sept. This forum is at no charge for all delegates registered attending the 10th Australian Peptide Conference. For those wishing only to attend the Proteomics Forum there will be a one day registration fee of \$150 (students \$75). Full details on registration and abstract submission can be found on our home page (<http://www.peptideoz.org/>).

INTERNATIONAL CONFERENCE ON NATURAL PRODUCTS AND HEALTH 2013

This appealing satellite meeting will be held from the 5th -7th September, 2013 at the School of Biological Sciences (SBS), Nanyang Technological University (NTU) and will cover the most recent and impressive developments in the area of natural products and health. It will examine current practices and advances in new generations small molecules, peptides and protein biologics from plants and animals. Their impact on western and eastern medicine and healthcare will be discussed. Full conference details can be found at <http://www.nph2013.org/>

STUDENT & EARLY CAREER TRAVEL BURSARIES

There will be a limited number of Travel Bursaries available to postgraduate students and early career researchers (must be within 3 years of completing a PhD) to help towards the cost of attendance at the 10th Australian Peptide Conference. Applications should be made by email to Mibel Aguilar at mibel.aguilar@monsh.edu including; A letter of request; A copy of your submitted abstract; If you are a PhD student, a letter of support from your PhD supervisor confirming your status as a PhD student; If you are an early-career researcher, a letter of support from your immediate supervisor and evidence of your graduation.

ACCOMMODATION

Accommodation is available at the [Shangri-La Rasa Sayang resort](#) and the [Shangri-La Goldens Sands resort](#) for reduced conference rates! We encourage all participants to book accommodation now via their registration or by revisiting their registration dashboard, as once the earlybird deadline (31st May) hits unfortunately we can not guarantee these reduced rates. Please note, due to the currency conversion you will not be required to make payment until your arrival at the resort - to secure your booking, credit card details will be required in due time. To view hotel rooms, and rates available- please [click here](#).

TRAVEL ARRANGEMENTS

Those of you who have yet to book your travel should do so as soon as possible as flights are currently reasonably priced but will inevitably become more expensive as the seats are filled. Those delegates traveling internationally are asked to ensure that their [travel requirements](#) are correct.

Please do not hesitate to contact us if you have any problems (mm@asnevents.net.au or jackie.wilce@monash.edu) and we will help you in every way we can.

We look forward to catching up with you all in September for outstanding science and great camaraderie in the beautiful setting of the Golden Sands resort. Until then, very best wishes to you all



University of Adelaide
Faculty of Health Sciences



CLINICAL TOXINOLOGY SHORT COURSE 2014

Women's & Children's Hospital
Adelaide, Australia

March 31st to April 5th
2014



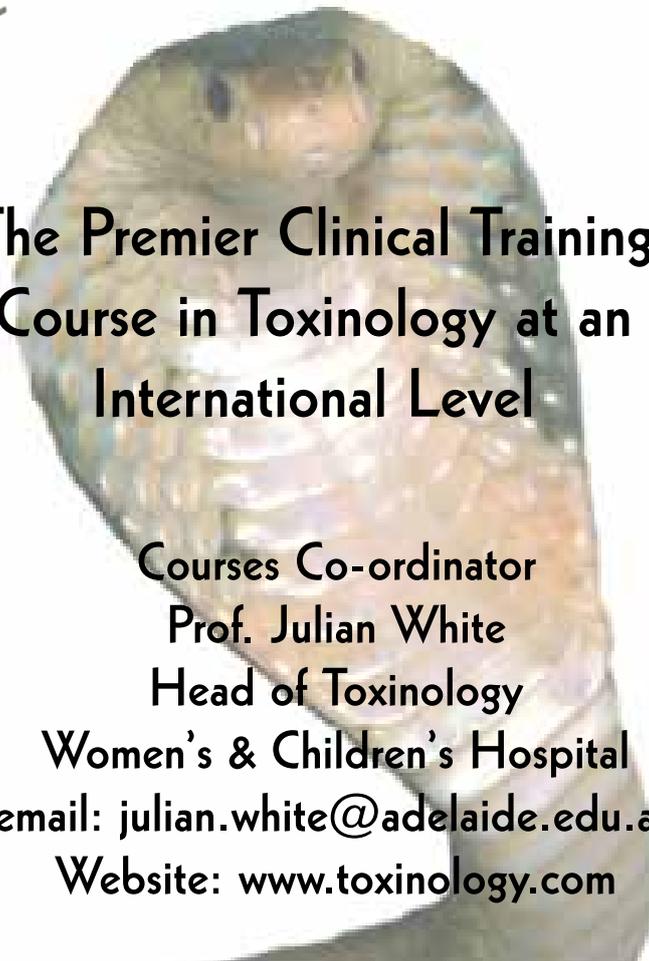
The Premier Clinical Training
Course in Toxinology at an
International Level

Courses Co-ordinator
Prof. Julian White
Head of Toxinology

Women's & Children's Hospital

email: julian.white@adelaide.edu.au

Website: www.toxinology.com



IMPORTANT COURSE INFORMATION

COURSE RELATED QUESTIONS:

Who is this course designed for?

Primarily for doctors/health professionals requiring detailed and practical information on snakebite, spiderbite, scorpion stings, marine envenoming, poisonous plants & mushrooms and related topics with a global and Australian perspective. It is particularly relevant for those working in emergency medicine, toxicology, intensive care, or in rural practice. Throughout there will be an emphasis on practical clinical issues and development of clinically relevant skills. It will also be of interest to poisons information pharmacists and graduate nurses in emergency medicine and toxinology scientists. You should be fluent in English, as no language translation will be available.

When and where are the courses held?

The course runs over 6 days; Monday March 31st to Saturday April 5th, 2014. The venue is the Women's and Children's Hospital, North Adelaide, SA, Australia

What does the course cover?

We cover terrestrial & marine animals, plants & mushrooms, including extensive sessions on venomous snakes by region. Detailed sheets on course content will be available on the web at <http://www.toxinology.com>.

Is the course accredited in any way?

The course is a University of Adelaide postgraduate training course. We are seeking formal accreditation of continuing education points with relevant colleges and possible incorporation within some college specialist training schemes.

How many people can attend the course?

The maximum course capacity is 50 registrants, to ensure a chance for interactions with faculty. Previous courses filled early, so early registration is advisable.

How much does the course cost and what does this cover?

The course costs Aus\$2,200 (+GST for Australians only); the fee covers the full course, course notes, field trip, morning and afternoon teas and light lunches. It does not cover the course dinner or accommodation.

Are there any course notes or reading material available prior to the course?

We produce course notes for registrants prior to the course, which will include recommended textbooks and reading list. You are still strongly advised to take notes during all sessions. (The 2012 Course Handbook exceeded 500 pages.)

What sort of practical clinical sessions are included?

The programme includes many interactive sessions discussing "clinical evolving problems" (CEPs) to develop registrant's understanding of clinical skills in toxinology and test those skills in a group setting. These are all based on real patients contributed by faculty members, drawn from their own clinical experience.

Is there any formal evaluation of my performance on the course?

Yes! Faculty will be evaluating all registrants on their interactions, especially during the clinical evolving problem sessions. On the Saturday there will be a written examination.

For further information contact Prof. White (julian.white@adelaide.edu.au) or Dr. David Bates (david.bates@adelaide.edu.au).

SEMINAL TOXINOLOGY PAPER FROM THE PAST PROVIDED BY Max Goyffon (Paper provided first in original French, then translated to English by Max)

Propriétés venimeuses de la salive parotidienne chez les Colubridés aglyphes des genres *Tropidonotus* Kuhl,
Zamenis et *Helicops* Wagler

par Mme M. PHISALIX et le R.P. F. CAIUS

Bull. Soc. Pathol. exot., 1916, **9** : 369-375

Au petit nombre d'espèces de Colubridés aglyphes chez lesquels la venimosité de la salive parotidienne a été constatée, soit par les effets de la morsure, soit par ceux de l'inoculation de cette salive, nos recherches nous permettent de ajouter trois nouvelles et d'étendre pour une quatrième les résultats précédemment acquis.

Préparation du venin. — La glande parotidienne des Colubridés aglyphes est massive et les lumières glandulaires étroites ne peuvent, comme chez les grands serpents venimeux, servir de réservoir à sa propre sécrétion. Nous avons dû pour obtenir celle-ci faire un extrait de la glande. A cet effet, la pulpe est additionnée d'une petite quantité d'eau distillée. Après une demi-heure de contact, le mélange est filtré sur papier ou exprimé dans un nouet de toile fine. Le liquide obtenu est généralement incolore, visqueux, neutre ou légèrement alcalin au tournesol ; il est doué de propriétés venimeuses.

1° ZAMENIS GEMONENSIS LAUR.

Chez ces couleuvres, les parotides sont petites et le poids des deux glandes à l'état frais ne dépasse pas 20 à 22 mg chez les plus gros sujets.

Action sur le cobaye. — L'extrait aqueux correspondant aux deux glandes tue le cobaye d'un poids de 3 à 500 g en 1 h. et demie par injection intra-péritonéale, et en 3 h. par inoculation sous-cutanée.

Au bout d'une dizaine de minutes, le sujet envenimé présente de la paralysie du train postérieur du corps, puis de la paralysie, en même temps que se manifestent des accidents respiratoires : le rythme est saccadé ; le sujet, tête dressée, se tient relevé sur les pattes antérieures, en perpétuelle imminence d'asphyxie ; il a de l'hypersécrétion nasale, puis il survient du rhoncus, des hoquets, et la respiration finit par s'arrêter, un peu avant le cœur.

A l'autopsie, on constate un œdème sous-cutané hémorragique au lieu d'inoculation, avec une coloration violacée de la peau, une vive congestion des vaisseaux de l'intestin grêle, dont une portion contient un peu d'épanchement sanguin, des hémorragies ponctiformes sur les parois intestinales. En arrière, les poumons présentent quelques lobules d'hépatisation rouge.

2° ZAMENIS HIPPOCREPIS LINN.

Les sujets employés étaient de taille moyenne ne dépassant pas 80 cm de longueur ; le poids moyen des glandes variait de 15 à 18 mg.

Action sur le cobaye. — La dose d'extrait qui correspond aux deux glandes fait périr en 24 h. un cobaye de 350 à 500 g. qui le reçoit sous la peau.

A cette moindre toxicité près, les symptômes et les lésions d'autopsie sont identiques à ceux que détermine l'espèce précédente.

Mais nous n'avons jamais observé avec le venin de ces deux espèces de *Zamenis* les violentes convulsions que ALCOCK et ROGERS ont signalées chez la souris avec le venin de *Zamenis mucosus*.

3° TROPIDONOTUS PISCATOR SCHNEIDER

Chez cette espèce, la toxicité salivaire a été pour la première fois constatée par ALCOCK et ROGERS.

Les parotides sont assez volumineuses ; le poids des deux réunies peut atteindre à l'état frais 72 mg.

Action sur les Lézards. — Un sujet femelle de l'espèce *Calotes versicolor* KELAART, très commune aux Indes anglaises, et pesant 5 g., reçoit par injection intra-péritonéale la dose correspondant à 4 glandes pesant ensemble 53 mg.

Le lézard ne manifeste aucun trouble dans la première demi-heure qui suit l'inoculation : mais examiné quelques heures après, on le trouve inerte, ne répondant plus aux excitations ; les mouvements respiratoires ralentis s'effectuent bouche ouverte, à intervalles réguliers de 90 secondes et redeviennent plus fréquents vers la fin. La mort arrive par arrêt de la respiration, et presque aussitôt après le cœur s'arrête à son tour, 5 h. environ après l'inoculation. A l'autopsie pratiquée aussitôt, le cœur est immobile et exsangue, les poumons fortement congestionnés.

Action sur les Oiseaux. — Un petit passereau de l'espèce *Ploceus baya* BLYTH, pesant 21.5 g, reçoit dans le pectoral l'extrait d'une glande qui pesait 19 mg. à l'état frais. Comme chez le lézard, l'inoculation n'a pas d'autre effet primaire que de stupéfier l'oiseau qui reste immobile, dressé sur ses pattes. Mais au bout d'une dizaine de minutes, survient de la faiblesse musculaire et des troubles respiratoires : le passereau s'affaisse sur les tarses, la respiration s'accélère et devient anhérente ; puis les accidents paralytiques s'accusent et intéressent les muscles de la nuque : l'oiseau, tête pendante, affaissé sur toute la face ventrale, tente vainement de se relever ; il pousse de petits cris plaintifs en tombant sur le dos. La mort arrive par arrêt de la respiration, au bout de 22 min, précédée de hoquets et de quelques soubresauts convulsifs.

L'autopsie, faite aussitôt, montre que l'arrêt du cœur suit de très près celui de la respiration ; les poumons sont congestionnés.

Deux autres sujets, pesant respectivement 23 et 19.5 g sont morts l'un en 13 min, l'autre en 11 min, avec la dose correspondant à 24 mg de glande.

Un corbeau indien, *Corvus splendens* VIEILL., du poids de 291 g, s'est montré relativement plus sensible encore que les petits passereaux : il est mort en 7 min, après avoir reçu dans le pectoral la dose d'extrait correspondant à 48 mg de glande.

Les symptômes ont d'ailleurs évolué de la même façon : stupeur au début, affaiblissement musculaire et respiratoire, mort par arrêt de la respiration, sans convulsions. Le cœur continue à battre 2 min encore après l'arrêt de la respiration ; les poumons sont congestionnés.

Action sur les petits rongeurs — Ils présentent, comme les lézards, une assez grande résistance au venin ; un petit rat des palmiers, *Sciurus palmarum* L., du poids de 114 g., reçoit sous la peau du dos la dose d'extrait de 2 glandes pesant ensemble 72 mg.

Aussitôt après l'injection, l'animal est très agité : il est pris de tremblements de ses membres, ses oreilles frémissent ; mais bientôt tout semble rentré si complètement dans l'ordre qu'on cesse l'observation continue. Cependant l'animal meurt dans le courant de la nuit et l'autopsie, faite le matin, ne montre pas de lésions macroscopiques.

Chez les espèces sur lesquelles le venin de *Tr. piscator* a été essayé, nous n'avons constaté comme lésion locale qu'un œdème modéré et incolore sans tendances hémorragiques comme en produisent les venins des espèces *Tr. natrix* et *Tr. viperinus* sur le cobaye.

4° HELICOPS SCHISTOSUS DAUDIN

La fonction venimeuse n'a jusqu'à présent été recherchée ni constatée dans aucune espèce du genre *Helicops*.

Chez *H. schistosus*, la glande parotide est assez grosse ; elle s'étend en longueur sous les trois dernières labiales et s'arrête au bord postérieur de l'œil. Son poids, chez les sujets employés et qui étaient de tailles diverses, a varié de 1 à 13 mg. La sécrétion en est d'ailleurs très toxique.

Action chez les Oiseaux — Un *Ploceus baya* du poids de 20 g. est tué en 2h. 15 min par la dose d'extrait qui correspond à 1 mg de glande fraîche et en 16 min avec une dose de 6 mg inoculées l'une et l'autre dans le muscle pectoral.

L'inoculation est douloureuse et suivie immédiatement d'une période d'excitation pendant laquelle le sujet s'agite et crie. Il tombe bientôt sur le flanc, se relève, circule, retombe, les pattes faiblissant de plus en plus ; il pique

avec fureur quand on l'approche. En même temps se produisent des troubles de la respiration ; il y a de la dyspnée, des mouvements du bec, de la trémulation des ailes ; puis une paralysie croissante des membres et de la respiration qui s'arrête.

A l'autopsie, le cœur exsangue bat encore, les oreillettes 6 fois plus vite que les ventricules ; les poumons sont congestionnés et recouverts d'ecchymoses. Le muscle pectoral, à l'endroit inoculé, est infiltré d'un liquide visqueux et hémorragique.

Action sur les petits rongeurs — Ils sont plus résistants que les oiseaux au venin de l'Helicops : il faut la dose correspondant à 20 mg de glande pour tuer en 24 h. un *Sciurus palmarum* pesant 106 g., alors que 7 mg ne produisent aucun effet morbide immédiat ou éloigné.

Après une période de stupeur qui se prolonge environ 1 h. et demie après l'inoculation, il se produit quelques symptômes d'affaiblissement musculaire et d'accélération respiratoire ; mais ces phénomènes sont peu marqués et fugaces ; le sujet, semblant complètement revenu à son état normal, n'est plus observé que le jour suivant : on le trouve immobile dans la torpeur ; il répond encore aux excitations ; mais bientôt les troubles respiratoires de la veille reparaissent et s'accroissent. Vers le milieu de la matinée, les réflexes s'affaiblissent, toute la région postérieure du corps devient paralysée ; le sujet respire difficilement, bouche ouverte ; puis il a du hoquet et meurt par arrêt de la respiration avec un peu de clonisme des pattes antérieures.

A l'autopsie, qui n'a pu être pratiquée qu'une demi-heure après, on trouve le cœur arrêté et rempli de sang noir, ainsi que les gros vaisseaux. L'action locale est marquée par une infiltration gélatineuse et hémorragique de toute la région ventrale.

Les résultats des expériences précédentes portent à 9 le nombre des espèces de Colubridés aglyphes chez lesquels la venimosité a été dûment constatée ; ces espèces appartiennent à cinq genres dont la liste suivante donne le résumé.

Xenodon BOÏE : *Xenodon severus* LIN. (1)

Tropidonotus KUHL : *Tr. natris* LIN. (2)

Tr. viperinus LATR. (id)

Tr. piscator SCHN. (4)

Zamenis WAGLER : *Z. mucosus* LIN. (4)

Z. gemonensis LAUR.

Z. hippocrepis LIN.

Coronella LAURENTI *C. austriaca* (5)

Helicops WAGLER : *H. schistosus* DAUD.

Chez toutes ces espèces, la venimosité salivaire est corrélative de l'existence de la glande salivaire, glande que ne possèdent pas tous les Colubridés aglyphes ; mais on ne sait pas encore si cette glande a toujours une fonction toxique : la morsure de certaines couleuvres opisthoglyphes des genres malgaches *Ithycyphus* et *Eteirodipsas* (couleuvres constamment pourvues d'une parotide déversant sa sécrétion par un crochet sillonné) n'est effectivement pas considérée comme venimeuse par les indigènes ; toutefois aucune expérience n'ayant été faite à leur sujet, ce cas négatif ne juge pas la question ; mais l'exemple, plus éloigné, de Batraciens tels que *Rana temporaria* et *R. esculenta*, où la sécrétion cutanée muqueuse est inoffensive chez la première, alors qu'elle est hautement toxique chez la seconde (6), montre qu'en ce qui concerne la venimosité d'une même sécrétion, on ne peut conclure d'une espèce à une autre espèce, même très voisine, d'un même genre.

L'opinion de M. JOURDAIN (3), qui considère la salive de tous les Ophidiens comme plus ou moins venimeuse, demande pour chaque espèce une vérification expérimentale ; et les faits que nous avons mis en lumière doivent rendre circonspects dans la généralisation de quelques résultats dont la signification biologique dépasse de beaucoup les faits eux-mêmes, puisqu'il s'agit en l'espèce de savoir si, chez les Colubridés aglyphes où apparaît la fonction venimeuse en ce qu'elle a d'essentiel, cette fonction est primitive ou secondairement acquise.

(1) JJ QUELCH. — Venom in harmless snakes *Zool.* (3) XVII, p. 30, 1893.

(2) C PHISALIX et G BERTRAND. — Recherches sur les causes de l'immunité naturelle des couleuvres contre le venin de vipère. Toxicité du sang et des glandes. *Arch. de Physiol.* (5), VI, pp. 423-432, 1894.

(3) C JOURDAIN. — Quelques observations à propos du venin des serpents. *CR Acad Sci*, CXVIII, pp. 207-208, 1894.

(4) A ALCOCK et L ROGERS. — On the toxic properties of the saliva of certain « non poisonous Colubrids ». *Proc of the R Soc of London*, t. LXX, p. 446, 1902.

(5) Mme MARIE PHISALIX. — Propriétés venimeuses de la salive parotidienne d'une couleuvre aglyphe, *Coronella austriaca* LAUR. *CR Acad Sci*, CLIV, p. 1450, 1914.

(6) *Id.* — Action physiologique du mucus des Batraciens sur ces animaux eux-mêmes et sur les serpents ; cette action est la même que celle du venin de vipère. *Journ de Physiol et de Path gén*, pp. 326-330, mai 1910.

Dénomination actuelle des espèces de serpents citées :

Zamenis gemonensis = *Hierophis viridiflavus*. L'identification est certaine : les serpents proviennent de la Vendée (ouest de la France) et sont désignées dans un autre article comme étant *Z. viridiflavus*. (*Bull Mus Hist Natur*, Paris, 1916, même contenu que cet article).

Zamenis hippocrepis = *Coluber hippocrepis*, d'Afrique du Nord et d'Espagne. C'est le « Horseshoe whip snake »

Zamenis mucosus = *Coluber mucosus*, *Ptyas mucosa*. Oriental ratsnake or Indian ratsnake.

Tropidonotus piscator Schneider = natriciné, *Xenochrophis Piscator*, d'Asie, Indonésie.

Tropidonotus natrix = *Natrix natrix* (grass snake)

Tropidonotus viperinus = *Natrix maura* (viperine snake)

Helicops schistosus Daudin = *Atretium schistosum*, Inde.

Venomous properties of the parotid saliva in Colubridae aglyphous genera

Tropidonotus Kuhl, *Zamenis* and *Helicops* Wagler

M. PHISALIX and F. CAIUS

Bull. Soc. Pathol. Exot., 1916, **9** : 369-376

There is a small number of aglyphous Colubridae in which a toxicity of the parotid saliva was found either by the effects of a bite or by those of an experimental injection. Our research allowed us to add three new observations and to extend for one fourth our previous results.

Preparation of venom. — The parotid glands of aglyphous Colubridae are generally massive, but their narrow ports cannot be used as a reservoir for their venoms, as in the great venomous snakes. We had to get a gland extract. So, the pulp gland was mixed with a small amount of distilled water. After half an hour of contact, the mixture was filtered on paper or on a fine linen. The liquid was usually colorless, viscous, neutral or slightly alkaline with litmus solution and was endowed with toxic properties.

1°) *ZAMENIS GEMONENSIS* LAUR.

In these snakes, the parotid glands are small and the weight of two fresh glands did not exceed 20-22 mg in larger specimens.

Effects on guinea pig. — The aqueous extract corresponding to two glands killed guinea pigs weighing 300-500 g in 1 hour and half injected by intraperitoneal route, and 3 hours by subcutaneous route.

After about 10 min, the hindquarters of injected animals was paralysed, then the paralysis extended, accompanied with respiratory accidents : spasmodic respiratory rhythm, head erect, animals standing on their forelegs, constant impending suffocation, nasal hypersecretion, hiccups and finally stopped breathing just before the heart.

The autopsy showed a subcutaneous edema at the infection site with a purpish discoloration of the skin, a severe congestion of small intestine vessels with punctuate hemorrhages. The lungs have some lobular red hepatization.

2°) *ZAMENIS HIPPOCREPIS* LIN.

The specimens used were of average size not exceeding 80 cm in length. The average weight of glands ranged from 15 to 18 mg.

Effects on guinea pig. — The extract dose corresponding to the two glands injected by subcutaneous route killed in 24 hours guinea pigs weighing 300-500 g. Except this slower toxicity, the symptoms and the post-mortem lesions were identical with those of the previous case.

But we have never observed with the venoms of both species *Zamenis* violent convulsions reported by ALCOCK and ROGERS (1902) with the venom of *Zamenis mucosus*.

3°) *TROPIDONOTUS PISCATOR* SCHNEIDER

In this case, the saliva toxicity was first observed by ALCOCK and ROGERS (1902).

The parotid glands are quite large ; the weight of two fresh glands can reach 72 g.

Effects on lizards. — A female *Calotes versicolor* KELAART very common in British India and weighing 5 g. was given by intraperitoneal injection a dose corresponding to 4 glands extract weighing 53 mg. The lizard showed no trouble in the first half hour after the injection but examined a few hours later, it was inert, no longer responding to stimuli, open mouth, with slow breathing movements at regular intervals of 90 sec, more rapidly towards the end. Death occurred by breathing arrest, and almost immediately heart stopped about 5 hours after the venom injection. At autopsy

immediately performed, the heart was still and bloodless, the lungs were highly congested.

Effects on birds. — A small passerine species *Ploceus baya* BLYTH, weighing 21.5 g received in the pectoral muscle the extract of a fresh gland weighing 19 mg. As in the lizard, inoculation had the same first effect of amazement : the bird remained motionless, standing on its hind legs. But after ten minutes, muscle weakness and respiratory disorders occurred. The bird collapsed on its tarsi, breathing became faster, and the neck was paralysed and, head hanging, tried in vain to recover. Growing small plaintive cries, it fell on the back. Death occurred by breathing arrest after 22 min, preceded by convulsive gasps and jolts.

The autopsy made immediately showed that the heart failure followed closely that of the breathing. The lungs were congested.

Two other specimens, weighing respectively 23 and 19.5 g died one in 13 min, the other in 11 min with a dose corresponding to 24 mg gland extract.

An Indian crow, *Corvus splendens* VIEILL. weighing 291 g was even more sensitive than the relatively small passerines : it died 7 min after receiving by intramuscular route an extract dose corresponding to 48 mg glands.

Symptoms have also evolved in the same way : amazement at first then respiratory muscle weakness, and finally death by respiratory arrest without convulsions. The heart continued to beat about 2 min after, the lungs were congested.

Effects on small rodents. — They were like lizards with a fairly high resistance to venom. A small palms rat, *Sciurus palmarum* L., weighing 114 g., received by subcutaneous route an extract dose corresponding to two fresh glands weighing 72 mg.

Immediately after the injection, the rat was very agitated. Its limbs and its ears were trembling, but soon it recovered so completely that we stopped continuous observation. However, the animal died during the night. The autopsy done in the morning did not show macroscopic lesions.

In the species used to try the *Tr. piscator* venom, we have not seen any other local lesion that a moderate colorless edema without bleeding tendencies, as produced by the venoms of European species, *Tr. natrix* and *Tr. viparina* on the guinea pigs.

4°) *HELICOPS SCHISTOSUS* DAUDIN

The venomous function has so far not been sought or found in any species of the genus *Helicops*.

In *H. schistosus*, the parotid gland is large : it extends lengthways in the three last labial scales and stops at the rear edge of the eye. Its weight in specimens used which were of various size ranged from 1 to 13 mg. The secretion is also very toxic.

Effects on birds. — A specimen of *Ploceus baya* weighing 20 g was killed in 2 h 15 min after a dose extract corresponding to 1 mg fresh gland, and in 16 min with a dose of 6 mg by intramuscular route.

Injection was painful and immediately followed by a period of excitement during which the bird moved and screamed. It soon fell on the side, rose, run, fell again, weakening the legs more and more. It struck with fury when approached. At the same time, breathing difficulties occurred accompanied with beak motions, wings tremor, and increasing limbs paralysis, then a final breathing stopping.

At autopsy, the bloodless heart was still beating, the atria six times faster than the ventricles, the lungs were congested with many ecchymosis. The injected site, in the pectoral muscle, was infiltrated with a viscous bleeding liquid.

Effects on small rodents. — They are more resistant than the birds. A dose corresponding to 20 mg fresh gland must be used to kill in 24 hours a *Sciurus palmarum* weighing 106 g while a dose of 7 mg produce no immediate or remote morbid effects.

After a period of stupor that lasted about 1 hour and a half, there was some muscular weakness and a respiratory acceleration, but these moderate symptoms were subtle and fleeting. The animal seemed completely back to normal state and was no longer observed. The following morning, it was still, in torpor. He could respond to stimuli, but soon respiratory disorders occurred again and increased. At mid-morning, reflexes weakened, the hindquarters was paralysed, the animal was dyspneic, breathing was difficult, open mouth. After a short period of hiccups, breathing stopped and the

animal died with little twitching of the forelegs.

At autopsy, which was practiced half an hour later, the heart was stopped and filled of black blood as well as the large vessels. Local effects were marked by a gelatinous and hemorrhagic infiltration of the entire ventral region.

The results of previous experiments carry to 9 the number of aglyphous Colubridae species the venomosity of which being duly noted. These species belong to five genera of which the following list provides the names :

<i>Xenodon</i> BOÏE :	<i>X. severus</i> LIN. (1)
<i>Tropidonotus</i> KUHL	<i>Tr. natrix</i> LIN. (2)
	<i>Tr. viperinus</i> LATR. (id.)
	<i>Tr. piscator</i> SCHN. (4)
<i>Zamenis</i> WAGLER	<i>Z. mucosus</i> LIN. (4)
	<i>Z. gemonensis</i> LAUR.
	<i>Z. hippocrepis</i> LIN.
<i>Coronella</i> LAUR.	<i>C. austriaca</i> LAUR. (5)
<i>Helicops</i> WAGLER	<i>H. schistosus</i> DAUD.

In all these species, toxic saliva is correlative to the existence of the parotid gland, that all the aglyphous Colubridae do not possess. But we do not know yet if this saliva gland is always toxic. The bite of certain ophoglyphous snakes of Madagascar genera *Ithycyphus* and *Eteirodipsas* (snakes always equipped with a parotid gland pouring its secretion by a groove fang) are not currently considered venomous by the natives. However, no experiment has been done about them, so this negative case do not consider the question. But the farther example from Amphibians such as *Rana temporaria* and *R. esculenta*, of which the cutaneous secretion is harmless (the former) or highly toxic (the latter) shows that for the toxicity of the same secretion we cannot conclude that all the species of a same genus, even very similar, will provide the same result.

The opinion of Mr JOURDAIN (3) who considers the saliva of all Ophidians as more or less toxic, demands for each species an experimental control. The facts that we have brought to light must make everybody cautious for generalizing some results of which the biological significance is far beyond the facts themselves as it is in this case to know if among aglyphous Colubridae the venomous function is primitive or secondarily acquired.

REFERENCES

- (1) JJ QUELCH – Venom in harmless snakes. *Zool.* (3), XVII, p.30, 1893
- (2) C PHISALIX C and G BERTRAND — Research on the causes of natural immunity of Colubridae against Viperinae venom. Toxicity of blood and glands. *Arch de Physiol* (5) VI, pp 423-432, 1894. (in French)
- (3) C JOURDAIN — Some observations on the venom of snakes. *CR Acad Sci*, CXVIII, pp. 208, 1894 (in French)
- (4) A ALCOCK and L ROGERS On the toxic properties of the saliva of certain « non-poisonous Colubridae ». *Proc of the R Soc of London*, t. LXX, p. 446, 1902.
- (5) Ms Marie PHISALIX. — Venomous properties of the parotid saliva of a aglyphous Colubridae, *Coronella austriaca* LAUR. *CR Acad Sci*, CLIV, p. 1450, 1914. (in French)
- (6) *Id.* — Physiological action of Amphibian mucus on the animals themselves and on snakes : this action is the same as viper venom. *Journ de Physiol et de Path gén.*, pp. 326-330, mai 1910. (in French).

Current names of snakes species quoted :

Zamenis gemonensis = *Hierophis viridiflavus*

Zamenis hippocrepis = *Coluber hippocrepis*, “Horseshoe whip snake”, North Africa, Spain.

Zamenis mucosus = *Coluber mucosus*, *Ptyas mucosa*, “Oriental or Indian ratsnake”.

Tropidonotus piscator Schneider = *Xenophis piscator*, Natricinae, Asia, Indonesia.

Tropidonotus natrix = *Natrix natrix natrix*, “grass snake”

Tropidonotus viperinus = *Natrix maura*, “viperine snake”

Helicops schistosus Daudin = *Atretium schistosum*, India



1961 West Brichta Dr.
Tucson, AZ 85745, USA
Tel: 1 520 884-9345
Fax: 1 520 884-9345
ponerine@dakotacom.net

Southwest Venoms

CATALOGUE OF INSECT VENOMS (2012-2013)

Prices in U.S. dollars. All venoms are pure venoms (not venom sac or apparatus homogenates) collected according to the methods of Schmidt (1986. *In: Venoms of the Hymenoptera* [T. Piek, ed.], pp. 425-508. Academic Press: London.).

Prod. No.	VENOM	(LD ₅₀ mg/kg, mice)	VENOM PRICE			
			1 mg	5 mg	25 mg	100 mg
SOCIAL WASPS		(LD ₅₀)				
Yellowjackets -- <i>Vespula</i>						
W-10	<i>V. pensylvanica</i>	(6.4)	50	225	1000	*
W-19	other species**		*			
Hornets -- <i>Vespa</i>						
W-20	<i>V. mandarina</i>	(4.1)	50	225	1000	*
W-21	<i>V. tropica</i>	(2.8)	50	225	1000	*
W-29	others **		*			
Paper wasps -- <i>Polistes</i>						
W-30	<i>P. comanchus navajoe</i>	(5)	40	180	800	*
W-31	<i>P. flavus</i>	(3.8)	40	180	800	*
W-32	<i>P. canadensis</i>	(2.5)	50	225	*	
W-33	<i>P. erythrocephalis</i>	(1.5)	50	225	*	
W-39	<i>Polistes</i> sp. as available**		30	135	600	2100
New World Polybiine wasps						
W-40	<i>Brachygastra mellifica</i>	(1.5)	60	270	1200	*
W-50	<i>Synoeca septentrionalis</i>	(2.7)	60	270	1200	*
W-60	<i>Parachartergus fraternus</i>	(5)	70	300	1400	*
W-70	<i>Polybia sericea</i>	(6)	80	350	*	
W-71	<i>P. simillima</i>	(4.1)	80	350	*	
W-72	<i>P. occidentalis</i>	(5)	100	*		
W-80	<i>Agelaia myrmecophila</i>	(5.6)	140	*		
Old World Polybiine wasps						
W-90	<i>Belonogaster juncea colonialis</i>	(3)	80	350	*	
SOCIAL BEES						
Honey bees -- <i>Apis</i>						
B-10	<i>A. mellifera</i>	(2.8)	20	90	400	1400
B-11	<i>A. mellifera</i> Africanized bees	(2.8)	20	90	400	1400
B-12	<i>A. mellifera</i> queens		40	180	800	2800
B-13	<i>A. dorsata</i>	(2.8)	50	225	1000	3500
B-14	<i>A. cerana</i>	(3.1)	55	245	*	
B-19	others (<i>A. florea</i> , etc.)**		*			
Bumble bees -- <i>Bombus</i>						
B-20	<i>B. sonorus</i>	(12)	50	225	1000	*
B-21	<i>B. impatiens</i>	(12)	50	225	*	
B-29	other species**		30	*		

Prod. No.	VENOM	(LD ₅₀ mg/kg, mice)	VENOM PRICE			
			1 mg	5 mg	25 mg	100 mg
ANTS -- FORMICIDAE		(LD ₅₀)				
<i>Pogonomyrmex</i> -- harvester ants						
A-10	<i>P. barbatus</i>	(0.6)	50	225	1000	3500
A-11	<i>P. maricopa</i>	(0.12)	60	270	1200	4200
A-12	<i>P. occidentalis</i>	(0.5)	70	315	1400	*
A-13	<i>P. rugosus</i>	(0.7)	50	225	1000	3500
A-15	<i>P. desertorum</i>	(0.7)	160	*		
A-19	<i>Pogonomyrmex</i> sp. as available		45	200	900	3200
<i>Myrmecia</i> -- bull ants						
A-20	<i>M. gulosa</i>	(0.18)	60	270	1200	4200
A-21	<i>M. tarsata</i>	(0.18)	60	270	1200	*
A-22	<i>M. browningi</i>	(0.18)	70	315	*	
A-23	<i>M. rufinodis</i>	(0.35)	70	315	*	
A-24	<i>M. simillima</i>	(0.21)	70	315	*	
A-25	<i>M. pilosula</i>	(5.7)	100	*		
A-30	<i>Pachycondyla (Neoponera) villosa</i>	(7.5)	60	270	*	
A-31	<i>P. (Neoponera.) apicalis</i>	(> 16)	70	*		
A-32	<i>P. crassinoda</i>	(2.8)	80	*		
A-33	<i>P. (Megaponera) foetens</i> (Metabele ant)	(130)	70	315	*	
A-34	<i>P. (Paltothyreus) tarsatus</i> (stink ant)	(64)	50	225	1000	3500
A-35	<i>P. (Bothroponera) strigulosa</i>	(9)	70	*		
A-36	<i>Termitopone commutata</i>	(10)	70	315	1400	*
A-40	<i>Platythyrea lamellosa</i>	(11)	70	315	*	
A-50	<i>Diacamma</i> sp.**	(35)	100	450	*	
A-60	<i>Dinoponera gigantea</i>	(11)	60	270	1200	4200
A-70	<i>Paraponera clavata</i> (bullet ant)	(6.0)	60	270	1200	4200
A-80	<i>Ectatomma tuberculatum</i>	(1)	60	270	*	
A-81	<i>E. quadridens</i>	(17)	60	270	*	
A-90	<i>Odontomachus</i> sp.**	(33)	60	275	*	
A-110	<i>Tetraponera</i> sp.**	(.35)	140	600	*	
A-120	<i>Streblognathus aethiopicus</i>	(8.0)	80	360	*	
SOLITARY WASPS AND BEES						
Spider wasps -- Pompilidae						
SW-10	<i>Pepsis</i> sp.**	(65)	60	270	1200	4200
Mutillid wasps -- Mutillidae						
SW-20	<i>Dasymutilla</i> sp.**	(71)	70	315	1400	*
SW-39	Other wasps (Scoliidae, Tiphiidae, Sphecidae, Eumenidae, etc.)**		*			
Carpenter bees -- <i>Xylocopa</i>						
SB-10	<i>X. californica</i>	(21)	50	225	1000	*
SB-11	<i>X. veripuncta</i>	(33)	55	245	*	
SB-20	<i>Proxycopa rufa</i>	(11)	100	450	*	
SB-39	Other bees**		*			

*Inquire for prices and availability.

**Available species provided; exact determinations usually included.

Natural Toxins

Research Center
(NTRC)

TEXAS A&M UNIVERSITY
KINGSVILLE

VENOM QUALITY GUARANTEE

Authenticity of Species • Purity of Venom
Maximum Biological Activity • Our Venom is Never Pooled

Snake venoms contain important molecules which are valuable for researching the treatments of strokes, heart attacks, and cancer.

The Natural Toxins Research Center (NTRC) at Texas A&M University-Kingsville is dedicated to providing high quality snake products for biomedical research. We are committed to the procurement and distribution of venoms, venom fractions and tissue for biomedical research. Venoms from the same species can be different, and therefore extracted venoms are never pooled. Each vial contains venom from a single snake, and venoms of the same species are never mixed. The vials are labeled with the snakes' scientific and common names, ID tag number and sex. The ID tag number can be traced back to the NTRC Internet Database (ntrc.tamuk.edu/cgi-bin/serpentarium/snake.query) for additional information about each snake.

Southern Copperhead - <i>Agkistrodon contortrix contortrix</i>	\$75 ⁰⁰ /1g	\$50 ⁶³ /500mg		
Broad-Banded Copperhead - <i>Agkistrodon contortrix laticinctus</i> ..	\$100 ⁰⁰ /1g	\$67 ⁵⁰ /500mg		
Northern Copperhead - <i>Agkistrodon contortrix mokasen</i>	\$50 ⁰⁰ /1g	\$33 ⁷⁵ /500mg		
Trans-Pecos Copperhead - <i>Agkistrodon contortrix pictigaster</i>	\$75 ⁰⁰ /1g	\$50 ⁶³ /500mg		
Florida Cottonmouth - <i>Agkistrodon piscivorus conanti</i>	\$60 ⁰⁰ /1g	\$40 ⁵⁰ /500mg		
Western Cottonmouth - <i>Agkistrodon piscivorus leucostoma</i>	\$56 ⁰⁰ /1g	\$37 ⁸⁰ /500mg		
Eastern Diamondback Rattlesnake - <i>Crotalus adamanteus</i>	\$50 ⁰⁰ /1g	\$33 ⁷⁵ /500mg		
Western Diamondback Rattlesnake - <i>Crotalus atrox</i>	\$45 ⁰⁰ /1g	\$30 ³⁸ /500mg		
Sonoran Sidewinder - <i>Crotalus cerastes cercobombus</i>	\$125 ⁰⁰ /1g	\$84 ³⁸ /500mg		
Timber Rattlesnake - <i>Crotalus horridus</i>	\$70 ⁰⁰ /1g	\$47 ²⁵ /500mg		
Mottled Rock Rattlesnake - <i>Crotalus lepidus lepidus</i>	\$125 ⁰⁰ /1g	\$84 ³⁸ /500mg		
Blacktail Rattlesnake - <i>Crotalus molossus molossus</i>	\$400 ⁰⁰ /1g	\$270 ⁰⁰ /500mg	\$72 ⁹⁰ /100mg	\$49 ²¹ /50mg
Great Basin Rattlesnake - <i>Crotalus oreganus lutosus</i>	\$125 ⁰⁰ /1g	\$84 ³⁸ /500mg		
Grand Canyon Rattlesnake - <i>Crotalus oreganus abyssus</i>	\$250 ⁰⁰ /1g	\$168 ⁷⁵ /500mg	\$45 ⁵⁶ /100mg	\$30 ⁷⁵ /50mg
Texas Coral Snake - <i>Mircrurus tener tener</i>	\$2000 ⁰⁰ /1g			
Florida Coral Snake - <i>Mircrurus fulvius</i>	\$1800 ⁰⁰ /1g			
Southern Pacific Rattlesnake - <i>Crotalus oreganus helleri</i>	\$400 ⁰⁰ /1g	\$270 ⁰⁰ /500mg	\$72 ⁹⁰ /100mg	\$49 ²¹ /50mg
Northern Pacific Rattlesnake - <i>Crotalus oreganus oreganus</i>	\$400 ⁰⁰ /1g	\$270 ⁰⁰ /500mg	\$72 ⁹⁰ /100mg	\$49 ²¹ /50mg
Mohave Rattlesnake - <i>Crotalus scutulatus scutulatus</i> (A).....	\$250 ⁰⁰ /1g	\$168 ⁷⁵ /500mg	\$45 ⁵⁶ /100mg	\$30 ⁷⁵ /50mg
Mohave Rattlesnake - <i>Crotalus scutulatus scutulatus</i> (B).....	\$1000 ⁰⁰ /1g	\$675 ⁰⁰ /500mg	\$182 ²⁵ /100mg	\$123 ⁰² /50mg
Prairie Rattlesnake - <i>Crotalus viridis viridis</i>	\$70 ⁰⁰ /1g	\$47 ²⁵ /500mg		
Red Spitting Cobra - <i>Naja pallida</i>	\$100 ⁰⁰ /1g	\$67 ⁵⁰ /500mg		
Desert Massasauga - <i>Sistrurus catenatus edwardsii</i>	\$1000 ⁰⁰ /1g	\$675 ⁰⁰ /500mg	\$182 ²⁵ /100mg	\$123 ⁰² /50mg
Western Massasauga - <i>Sistrurus catenatus tergeminus</i>	\$1000 ⁰⁰ /1g	\$675 ⁰⁰ /500mg	\$182 ²⁵ /100mg	\$123 ⁰² /50mg
Bushmaster - <i>Lachesis muta muta</i>	\$2000 ⁰⁰ /1g	\$1350 ⁰⁰ /500mg	\$364 ⁵⁰ /100mg	\$246 ⁰⁴ /50mg

(A) - neurotoxic venom
(B) - non-neurotoxic venom
*Subject to availability

Venom is collected under stringent laboratory conditions using disposable labwear for each extraction. Venom is collected in new, non-reusable plastic cups with parafilm coverings. Snakes are allowed to bite into the parafilm diaphragm and the venom glands are not massaged. Immediately following collection, each venom sample is clarified by centrifugation at 500 x g for 5 minutes to remove cellular debris and frozen at -90° C until lyophilized.

Foreign Investigators: Please note that your order may be subject to import duties, taxes, tariffs, customs charges, DDP, VAT, and the like, once your package reaches your country. It is your responsibility to pay for these charges. The Natural Toxins Research Center will not be responsible for paying these charges, and we will not bill you for such charges when you place your order.

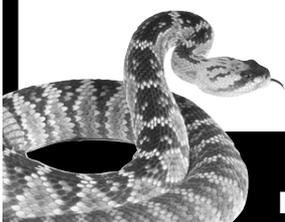
Venom glands and fractions also for sale - call for pricing & availability

If you're interested in study or research opportunities at the NTRC, call us at the number below!

www.ntrc.tamuk.edu

Please Contact Us for More Information:

Phone: (361) 593-3082 • Fax: (361) 593-3798 • Email: kanmd00@tamuk.edu





Venom Supplies Pty Ltd

ABN number 39 458 465 843

PO Box 547
 Tanunda
 South Australia
 Phone 08 8563 0001
 +61 8 8563 0001
 Fax 08 8563 0020
 +61 8 8563 0020

Email: venoms@venomsupplies.com

Web: www.venomsupplies.com

Lyophilised Venoms Snakes

Scientific name	Price(US\$)/200mg	Price(US\$)/gm
<i>Acanthophis antarcticus</i>	\$170	\$745
<i>Acanthophis praelongus</i>	\$210	\$845
<i>Agkistrodon billineatus</i>	\$50	\$200
<i>Austrelaps superbus</i>	\$400	\$1,600
<i>Austrelaps labialis</i>	\$700	\$3,000
<i>Bitis arietans</i>	\$70	\$300
<i>Bitis rhinoceros</i>	\$75	\$340
<i>Bitis nasicornis</i>	\$75	\$340
<i>Bothriechis schlegelii</i>	\$200	\$850
<i>Crotalus adamanteus</i>	\$100	\$450
<i>Crotalus unicolor</i>	\$200	\$900
<i>Crotalus vegrandis</i>	\$160	\$700
<i>Hoplocephalus stephensii</i>	\$220	\$900
<i>Hoplocephalus bitorquatus</i>	\$220	\$900
<i>Naja kaouthia</i>	\$60	\$250
<i>Naja melanoleuca</i>	\$50	\$200
<i>Naja mossambica</i>	\$60	\$250
<i>Naja siamensis</i>	\$60	\$250
<i>Notechis ater humphreysi</i>	\$350	\$1,600
<i>Notechis ater niger</i>	\$350	\$1,600
<i>Notechis ater serventyi</i>	\$350	\$1,600
<i>Notechis scutatus</i>	\$300	\$1,445
<i>Ophiophagus hannah</i>	\$200	\$850
<i>Oxyuranus microlepidotus</i>	\$300	\$1,300
<i>Oxyuranus scutellatus</i>	\$260	\$1,250
<i>Oxyuranus scutellatus canni</i>	\$400	\$1,500
<i>Pseudechis australis</i>	\$110	\$520
<i>Pseudechis butleri</i>	\$160	\$700
<i>Pseudechis colletti</i>	\$110	\$500
<i>Pseudechis guttatus</i>	\$110	\$500
<i>Pseudechis porphyriacus</i>	\$140	\$650
<i>Pseudechis papuanus</i>	\$288	\$1,380
<i>Pseudonaja affinis</i>	\$800	\$3,900
<i>Pseudonaja aspidorhyncha</i>	\$800	\$3,990
<i>Pseudonaja inframacula</i>	\$800	\$3,990
<i>Pseudonaja nuchalis</i>	\$800	\$3,990
<i>Pseudonaja textilis</i>	\$760	\$3,700
<i>Tropidechis carinatus</i>	\$300	\$1,500

Spider Venom

Lampona cylindrata \$360 / 10sac contents \$720 / 25sac contents
Latrodectus hasseltii \$500/50 sac contents.

Bee Venom

Pure bee venom (*Apis mellifera*)
 250mg \$58
 (1-5gm) \$130/gm
 (6-10gm) \$116/gm
 (60gm and over) \$95/gm

Amphibian Venoms

Bufo marinus \$95/200mg \$450/gm

5% discount will apply for all orders over 5 gm and 7% will apply to orders over 15gm for venoms produced at Venom Supplies Pty Ltd.

Medtoxin Venom Laboratories
2710 Big John Drive
Deland, Florida 32724
Phone: 386-734-3049
386-740-9143
Fax: 386-734-4163
elapid33@aol.com
www.Medtoxin.com

VENOM PRICELIST SPRING/SUMMER 2009

Dendroaspis polylepis	\$550.00
Dendroaspis angusticeps	\$400.00
Dendroaspis viridis	\$750.00
Naja nivea	\$205.00
Naja melanoleuca	\$205.00
Naja nigricollis (Tanzania)	\$205.00
Naja nigricollis (Ghana)	\$205.00
Naja h. annulifera	\$125.00
Naja kaouthia	\$205.00
Naja naja (Pakistan)	\$250.00
Ophiophagus hannah	\$150.00
Micrurus f. fulvius	\$2100.00
Bitis arietans	\$150.00
Bitis g. gabonica	\$150.00
Bitis g. rhinoceros	\$150.00
Crotalus adamanteus	\$150.00
Crotalus atrox	\$150.00
Crotalus h. atricaudatus	\$150.00
Crotalus h. horridus	\$150.00
Crotalus s.scutulatus	\$450.00
Crotalus d. terrificus	\$450.00
Sistrurus m. barbouri	\$450.00
Agkistrodon c.contortrix	\$190.00
Agkistrodon c. laticinctus	\$190.00
Agkistrodon c. mokasen	\$100.00
Agkistrodon p. conanti	\$100.00

Many other venoms available in limited quantity, please inquire
 Special orders to meet research needs

Exact locality data on most species available, Species are guaranteed

Prices are quoted per gram in U.S. dollars, subject to change without notice

Payment terms net 30 days check, money order, or wire transfer

Shipping is free in the U.S. may be extra for international orders

Kentucky Reptile Zoo

Venom Price List 2009-2010

200 L and E Railroad

Slade, KY 40376

Tel:606-663-9160

Fax: 606-663-6917

Web: www.kyreptilezoo.orgEmail: reptilezoo@bellsouth.net**Crotalidae**

<i>Agkistrodon contortrix contortrix</i>	\$60.00
<i>Agkistrodon contortrix mokasen</i>	\$55.00
<i>Agkistrodon contortrix laticinctus</i>	\$70.00
<i>Agkistrodon contortrix phaeogaster</i>	\$70.00
<i>Agkistrodon contortrix pictigaster</i>	\$70.00
<i>Agkistrodon piscivorus leucostoma</i>	\$45.00
<i>Agkistrodon piscivorus piscivorus</i>	\$45.00
<i>Bothrops asper</i>	\$100.00
<i>Bothrops atrox</i>	\$100.00
<i>Bothrops moojeni</i>	\$100.00
<i>Crotalus adamanteus</i>	\$60.00
<i>Crotalus atrox</i>	\$70.00
<i>Crotalus basiliscus basiliscus</i>	\$200.00
<i>Crotalus cerastes</i>	\$100.00
<i>Crotalus durissus cumanensis</i>	\$300.00
<i>Crotalus durissus durissus</i> (fmr. <i>C. d. dryinas</i>)	\$200.00
<i>Crotalus durissus terrificus</i>	\$175.00
<i>Crotalus horridus</i>	\$100.00
<i>Crotalus horridus</i> (type A neurotoxin)	\$100.00
<i>Crotalus molossus</i> (Texas origin)	\$70.00
<i>Crotalus scutulatus scutulatus</i>	\$250.00
<i>Crotalus viridis viridis</i>	\$70.00
<i>Protobothrops flavoviridis</i>	\$200.00
<i>Trimeresurus borneoensis</i>	\$200.00

Elapidae

<i>Dendroaspis angusticeps</i>	\$350.00
<i>Dendroaspis jamesoni kaimosae</i>	\$400.00
<i>Dendroaspis polylepis</i>	\$400.00
<i>Micrurus tenere</i>	\$1000.00
<i>Naja kaouthia</i>	\$100.00
<i>Naja kaouthia</i> (Suphan province)	\$100.00
<i>Naja melanoleuca</i>	\$80.00
<i>Naja naja</i> (India)	\$85.00
<i>Naja naja</i> (Pakistan)	\$80.00
<i>Naja nigricollis nigricollis</i>	\$80.00

<i>Naja nivea</i>	\$100.00
<i>Naja pallida</i>	\$100.00
<i>Naja siamensis</i>	\$60.00
<i>Ophiophagus hannah</i>	\$95.00
<i>Pseudechis colletti</i>	\$320.00

Viperidae

<i>Bitis arietans</i>	\$120.00
<i>Bitis gabonica rhinoceros</i>	\$130.00
<i>Daboia (Vipera) russelli</i>	\$200.00
<i>Daboia (Vipera) siamensis</i>	\$200.00
<i>Echis carinatus</i>	\$350.00
<i>Echis pyramidium</i>	\$350.00

Helodermatidae

<i>Heloderma horridum</i>	\$600.00
<i>Heloderma suspectum</i>	\$600.00

Terms

- All venoms are collected in a sterile manner and frozen at -70C before lyophilization.
- Other venoms are available upon request in small quantities; please contact us for more information on other venoms
- CITES papers available on all CITES listed species. Extra costs apply for permits and inspection fees.
- Locale information available for most species.
- Payment may be made by check, money order, wire transfer, PayPal, MC, Visa, and Discover. All prices are listed per gram in US dollars. Shipping and packing charges are extra.
- Discounts on standing orders and orders of 10g or more.
- KRZ makes every effort to stay current regarding nomenclature and taxonomy. Our listing reflects current trends, with former names in parentheses. If you have questions, please feel free to contact us.
- Scale clippings for DNA analysis available at an extra charge. Please contact us for more information.

α

ALPHA BIOTOXINE



Laboratoire de production de venin
Fournisseur en venin
Négociant en toxines purifiées

Venom production laboratory
Venom supplier
Pure toxins dealer

Venins cristallisés, venins lyophilisés, bases pour teintures mères, plasma,...

Crystallised venom, lyophilised venom, mother tincture bases, plasma,...

ALPHA BIOTOXINE est une jeune société spécialisée dans la production de venin.

Nous mettons à votre service plus de 20 ans d'expérience dans l'étude des animaux venimeux et la production de venin.

Notre laboratoire s'adapte à tout type de demande. Contactez nous.

ALPHA BIOTOXINE is a young society specialised on venom production.

We offer you more than 20 years of experience on study of venomous animals and venom production.

Our laboratory is adapted to all kind of request. Please contact us.

**Rudy Fourmy
Barberie 15
7911 Montroeuil-au-Bois
Belgique - Belgium
info@alphabiotoxine.be**

**Visitez notre site web : www.alphabiotoxine.be
Please, visit our website : www.alphabiotoxine.be**

Latoxan

Searching for your Discovery

Venoms, Toxins, Ion Channel and Receptor Ligands Alkaloids and Plant Compounds



LATOXAN provides an exclusive range of bioactive natural molecules from **Plant** and **Animal** origins:

- Purified small molecules from unique plants.
- Venom fractions for an easy access to new peptides, alkaloids or polyamines with high pharmacological activity potential.
- Pure venoms from over 250 animal species.

LATOXAN's products are supplied with reliable taxonomy, elucidated molecular structure or complex mixtures chromatograms.

www.latoxan.com

