INTERNATIONAL SOCIETY ON TOXINOLOGY

INTERNATIONAL SOCIETY ON TOXINOLOGY NEWSLETTER

December 2010

UPCOMING MEETINGS

Asia-Pacific Section IST
The next meeting of the Asia-Pacific Section of the IST will be in Vladivostock, Russia, in September 4-8, 2011, at the Conference Hall of the Primorsky Region Administration (details to be posted later). Organising Committee Chairmen are; Prof. Eugene Grishin and Prof. Valentin Stonik..

European Section IST
September 11-15, 2011, Valencia, Spain. A web site detailing the Congress is now online at http://istmeetingvlc2011.ibv.csic.es/. Further information is found later in this Newsletter. For details contact catedrasg@cac.es

IST World Congress
Hawaii, July 8-13, 2012, details pending. This Congress will combine with the US Venom Week meeting.

AMPTOX2010
Kolkata, India, December 10-12, 2010. Web site http://www.amptox2010.org/

4th Venoms to Drugs Conference
May 15-20, 2011, Heron Island, Australia. The web site is www.venomstodrugs.com. More information in this Newsletter.

XXXI International Congress of the European Association of Poisons Centres and Clinical Toxicologists
24-27 May 2011, Dubrovnik, Croatia, at the Valamar Lacroma Resort Hotel

FROM THE IST EXECUTIVE

The last IST Newsletter was sent out in March/April 2010, so there has been a long gap until this Newsletter. Members may query why such a gap. Firstly, I have found myself rather busy with other duties, but equally importantly, there have been few submissions of material to publish in the Newsletter. While I could send it out as a sparse document, it would be better for it to be full, active, vibrant. I cannot make this happen alone. It us up to members to think of things they would like to see in the Newsletter and proactively send them to me. It would be really great if I found myself inundated in 2011 with items for our Newsletter, so over to you.

However, just because the Newsletter has been slow to appear, it does not mean toxinology is at a standstill. Far from it! Details are now available for the two IST meetings for 2011 (see later in this Newsletter), which look to be exciting.

Sadly, though, this year has seen the loss of several toxinologists, notably two of our former IST-presidents, Prof. Gerd Habermehl (1982-85 & 1991-94) who died on August 30th and Prof. Franc Gubensek (1997-2000) (see later in Newsletter for obituary) who died August 15th. Dr. Saul Weiner also passed away this year (see later). On a happier note, Prof. Cesare Montecucco has been elected to receive the Paul-Ehrlich-Award next year here in Frankfurt (Paulskirche), on March 14.

Lastly, to all those members who celebrate Christmas, I wish you warmest Season's Greetings.

Julian White, Secretary/Treasurer, IST

CONTENTS

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). It is hoped that the Membership Database can be made available to all IST members via the IST website, with password protection for access.

Because of file size, the Newsletter may be too big for some member's email accounts and so it may be more practical to post the Newsletter on the IST website and just email members advising it is ready to download, via a link.

Last Newsletter I raised the issue of access to email addresses by non IST members. Members may prefer to keep email addresses more secure, using the new membership online database, once this is operational, rather than list addresses in the publicly accessible Newsletter. As IST Secretary, I will take direction from the membership on this issue and will not include members email addresses in the Newsletter until and unless it is clear that is what most members want. So far, though, IST members have not told me what they want regarding this matter.

Julian White
Secretary/Treasurer IST

IST STUDENT MEMBERS - THIS IS FOR YOU - ACTION PLEASE!
An announcement for the formation of a Special Interest Group for Student Toxinologists

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 creation of a Special Interest Group for Student Toxinologists has been proposed.

The aims of the Special Interest Group for Student Toxinologists would 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.

The IST is looking for student members interested in being a part of such a network, and for those students (preferably with experience with other organizations) who would like to be considered for leadership positions. 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
antgopal@nus.edu.sg
m.gentz@uq.edu.au

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 toxinology publications from other journals, or reports of other meetings with toxinology content. Available toxinology-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

MESSAGE FROM THE PRESIDENT (I.S.T)

Dear Friends,

It is holiday season again and there are celebrations in the air. It is also a good time to take stock and reflect on the progress we have made so far as a society. The Global Snakebite Initiative, Clinical Toxinology group, IST Toxin nomenclature committee are some of the activities which were initiated. The success of these groups and what they will achieve depends on the members of the group and how much they are committed in achieving the objectives of the group. I am certain that we appointed the best in the grouping for those specific tasks. If they finish their tasks then the society and the membership will remember them for a long time with gratitude and also will go down in the history of IST as a milestone.

I urge the members of these groups to take the lead and make innovations and make a difference.

Similarly I also urge Regional Presidents and Council members to play their role in recruiting new members as well as organize regional and national activities. Also bring in colleagues who are working in the periphery of toxinology, such as fungal toxins, algal toxins, into the main stream and to take an active role during conferences of IST.

We should look beyond attending only conferences and look into social responsibilities such as clinical toxinology education or taking part in the “Biological and Toxin Weapon Convention”.

We also must look into ways and means of bringing fresh young blood into the society and invigorate the vitality of the society. I hope we will commit ourselves to do this in the New Year 2011.

With best wishes,

Gopal

Email: antgopal@nus.edu.sg

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 is 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. 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 Global Snakebite Initiative

Background

This important project is the first major undertaking resulting from the ***Global Issues in Clinical Toxinology Conference***, held in Melbourne, Australia, November 2008. At this meeting, attended by stakeholders from all continents (except Antarctica), a steering committee was formed to move towards solutions for envenomed patients Worldwide. It was considered by this meeting, attended by some senior IST members, that this process would best be promoted by close association with the IST, as a project under the IST banner. At the Asia-Pacific Section Congress in Vietnam in December 2008, a proposal was made by Prof. David Warrell, seconded by Prof. P Gopalakrishnakone (IST President), that "The Global Snakebite Initiative be formally endorsed as an official initiative of the IST." This was passed unanimously and confirmed unanimously at the IST World Congress in Recife, Brazil, March 2009. This important initiative is now officially a project of the IST. The Steering Committee, which contains a number of IST members, will produce a work plan and timeline to present to all IST members. A new website to promote the Initiative has been launched at www.snakebiteinitiative.org and it is to be hoped that this will progress to a major resource for the Initiative.

Global Snakebite Statistics

Recent research by Kasturiaratne et al, published in PLoS, has redefined global estimates of snakebite epidemiology. However, this is, to some extent, a "work in progress". One of the authors, Prof. Janaka de Silva (Sri Lanka) has kindly made available some of the data tables on which the study conclusions were based, with a "challenge" to IST members (and others) to provide more definitive data for each listed country. These tables will be listed on a separate page structure for the IST website (www.toxinology.org). All interested members are urged to peruse this information and contact Prof. de Silva if they have additional data that might be used to update the tables. This work may be considered as one section of the Global Snakebite Initiative.

An Update

Work on developing a Global Snakebite Initiative website (www.snakebiteinitiative.org) is continuing, and new content on the snakebite situation in India, Nepal and Nigeria will be coming online before the 31st December, thanks to contributions from Drs Vijay Pillay (India), Sanjib Sharma (Nepal) and Abdul Habib (Nigeria). The website is likely to receive a large increase in traffic in January, with the publication of a position paper on snakebite, and the role of the GSI, due out in the The Lancet in the first weeks of the new year. Another paper is currently in press at Toxicon, and as soon as these two important publications are in print, we will provide links to the Journals from the GSI website. Anyone who is willing to take on a position as a country information contributor to the website is encouraged to contact David Williams (toxinologist@hotmail.com) who is currently coordinating the site content.

Emergency physician Dr Simon Jensen is interested in collating information on the present situation regarding first aid for snakebite, and the treatment of the local effects of snakebite, particularly by vipers and some cobra species. The aim of these two exercises is to enable a collaborative review of the current best practice in different countries and regions, so that GSI members can prepare a white paper on each topic for discussion at upcoming IST conferences, with the aim of producing practice guidelines for various regions of the world that can be made available freely through the website. Simon is eager to hear from anyone who would be interested and willing to collaborate with him to move this process forward. If you are able to make a contribution, please contact Simon by email (simondjensen@hotmail.com).

Finally, progress is being made in relation to determining how best to formally register the GSI as a charity NGO, so that funding for projects can be sought, and donations properly administered.

David Williams on behalf of GSI

The Clinical Toxinology Initiative

The issue of specialist-level training for medical doctors, in the field of clinical toxinology, and credentialling of such training, was canvassed at the Global Issues in Clinical Toxinology Conference and again, through presentations, at the Asia-Pacific Section Congress in Vietnam. As a result a proposal was put by Prof. Julian White, seconded by Prof. Dietrich Mebs, that "The Asia-Pacific Section of the IST supports the development of a clinical toxinology initiative by the IST." This was passed unanimously and confirmed unanimously at the IST World Congress in Recife, Brazil, March 2009. This important initiative is now officially a project of the IST. A Steering Committee will be established and a report to IST members. The IST will now work towards establishing clinical toxinology as an accredited and recognised medical specialty.

As part of this process, Prof. White has had initial informal discussions with some "key players" in the medical toxicology field, in North America, Europe and Australia. While very early in the whole process, these discussions have been positive and encouraging. Similar positivity was evident in discussions with WHO personnel, although again these were informal and the WHO has not yet been approached to support this initiative.

One likely outcome of developing clinical toxinology under the banner of the IST will be an increase in clinician membership and resurgence of clinical papers and posters at IST meetings, alongside the more basic and applied toxin research. The latter will not be in any way devalued by development of IST involvement in clinical toxinology. It is intended these two aspects of toxinology will grow in partnership.

It should also be recognised that the IST membership has been active in clinical toxinology training for many years, most notably the long-standing French course run through the Paris Museum of Natural History (now in it's 30th year - congratulations to Max Goyffon), the International Clinical Toxinology Short Course (held in Adelaide since 1997), and the Brazilian course. The latter hosted discussions on clinical toxinology training at the IST World Congress in Brazil, March 2009, thanks to the efforts of Profs. Baravierra and Haddad.

The International Clinical Toxinology Short Course was held in Adelaide, Australia, March 2-7, 2010 and was successful, with participants rating the Course highly. Dates for the next Course, likely in 2012, have not yet been determined. The faculty for this course has been expanded and this will provide a nucleus of committed individuals to start active development of a full clinical toxinology course, likely spanning multiple institutions and continents.

We would like to hear from clinicians with an active involvement treating clinical toxinology cases who are interested in becoming part of the process of developing and staging a global full course. If you fit this picture, please contact Prof. White at julian.white@adelaide.edu.au.

What we will likely require is a series of hospitals, each with a significant number of toxinology cases likely over a short time period, and with resources to host clinical toxinology trainees. This will provide trainees with direct exposure to and experience with treating actual toxinology cases and in a relevant local setting. It is envisaged that trainees will be fully qualified doctors, probably with higher-level qualifications in a specialty such as emergency medicine, intensive care medicine, or tropical medicine.

In parallel with this we need to develop close working relationships with key medical craft groups in individual countries, as these will be the local certifying bodies for the training scheme. Again, IST members who might fit this profile are invited to contact Prof. White.

We should not expect this process to deliver a solution quickly. It will take considerable time to set up both training facilities in selected locations, and the requisite national craft-group agreements. However, if set up appropriately, the scheme should be independent of any one key person and so have a likely long term future and viability.

Julian White

NEXT IST WORLD CONGRESS - HAWAII 2012

A local Hawaii organising executive has been formed to develop a plan for the next IST World Congress. All IST members should work together to support Dr. Carl-Wilhelm Vogel, Dr. Angel Yanagihara and Dr. Marilyn Dunlap and their colleagues in ensuring Hawaii can host a successful Congress in 2012. In an exciting development, it now appears likely that this Congress will combine with US Venom Week VI. Venom Week, organised by Dr. Steve Seifert, University of New Mexico, attracts a clinician and herpetologist audience, predominantly from the US, but with increasing attendees from other nations. Combining the IST Congress with Venom Week will hopefully produce an even more vibrant and well attended meeting, to the benefit of all. The IST Council are working with our Hawaiian colleagues and Dr. Seifert to determine the best time in 2012 to hold the Congress; July and September are months which have been considered, and dates have now been set as July 8th to 13th, 2012. We will be striving to ensure the Congress is affordable, including less expensive accommodation for student members. Several possible venues and hotels are being examined in an effort to deliver a great Congress at a good price. Because Hawaii is part of the US, members from some countries not covered by the US Visa-waiver program will need to organise visas well in advance. More on this as plans develop.

Organising an IST World Congress is not easy and requires a great deal of effort by local IST members. This work, on behalf of all of us, deserves to be valued by the membership and we should all see what we can do to assist the local organisers. It is particularly important to gain an idea of likely attendance to allow budget planning. Therefore, once plans are further advanced, we will ask all members to indicate if they definitely intend to attend the meeting, or will definitely not be coming. Once a Scientific Organising Committee is established for the Congress, input from members on possible meeting content will be sought.

For the present, members should communicate re the Congress via the Secretary IST (julian.white@adelaide.edu.au) and President (antgopal@nus.edu.sg).

INTERNATIONAL SOCIETY ON TOXINOLOGY

9th IST ASIA PACIFIC MEETING ON ANIMAL, PLANT AND MICROBIAL TOXINS

September 4–8, 2011 Vladivostok, Russia

9th IST Asia Pacific Meeting on Animal, Plant and Microbial Toxins
Institute of Bioorganic Chemistry, Russian Academy of Sciences
16/10 Miklukho-Maklaya Street, 117997 GSP Moscow, Russia
Phone: (++7-495) 330-7310
E-mail: AP-IST@ibch.ru, ap.ist.2011@gmail.com *Web:* www.ap-ist.org

Welcome to Vladivostok!

On behalf of the International Society on Toxinology (IST) we are pleased to announce the 9th IST Asia Pacific Meeting on Animal, Plant and Microbial Toxins in Vladivostok, Russia on September 4–8, 2011.

The Congress Program will focus on the following main topics:
Toxin Structure and Mode of Action
Proteomics and Genomics
Bioactive Substance from the Sea (Marine Toxins)
Drug Development
Clinical Toxinology
Toxins Miscellaneous

Some prominent scientists in the field of toxinology have already confirmed their willingness to join us in Vladivostok as invited speakers and to contribute to the Congress Program:

Geoffry Isbister	School of Medicine and Public Health, The University of Newcastle, Australia
R Manjunatha Kini	Protein Science Laboratory, Department of Biological Sciences, National University of Singapore
Songping Liang	College of Life Sciences, Hunan Normal University, Changsha, Hunan, China
Hideyuki Nakagawa	University of Tokushima, Department of Life Sciences, Tokushima-City, Japan
David J. Newman	Natural Products Branch, National Cancer Institute, Frederick, USA
Baldomero M. Olivera	Department of Biology, University of Utah, Salt Lake City, USA

For full information on the 9th IST Asia Pacific Meeting on Animal, Plant and Microbial Toxins please visit our Web site www.ap-ist.org .

The Meeting will be hosted by Vladivostok, the largest city of the Russian Far East and, of course, one of the most interesting and remarkable cities of Russia. Lying on the border between the mountains and the taiga, this area was home for Amur tigers for centuries. Even now you might encounter tigers in the woods near Vladivostok.

Nowadays, Vladivostok is among the ten most prospective cities of the world, as determined by the special UNESCO Commission. What could be even of more interest for the potential attendees of our Congress, Vladivostok has become a centre of marine biotechnology and biological research in Russia.

Welcome to Vladivostok – a city where the morning of Russia begins! If you happen to see this city once, you will remember it forever.

Important Dates

November 15, 2010	Abstract Submission opens
November 15, 2010	Early Registration opens
May 25, 2011	Deadline for Early Registration
June 25, 2011	Deadline for Abstract submission
August 1, 2011	Pre-registration Deadline
September 3, 2011	Onsite Registration opens

Eugene GRISHIN
Russian Academy of Sciences, Moscow
Valentin STONIK
Far-Eastern Branch of the Russian Academy of Sciences, Vladivostok

CONGRESS SECRETARIAT
9th IST Asia Pacific Meeting on Animal, Plant and Microbial Toxins
Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry
16/10 Miklukho-Maklaya Street, 117997 Moscow, Russia
E-mail: AP-IST@ibch.ru, ap.ist.2011@gmail.com
Web site: www.ap-ist.org

VLCIST2011

VALENCIA INTERNATIONAL SOCIETY ON TOXINOLOGY 2011

17th EUROPEAN CONGRESS of the Society of Toxinology

Museo de las Ciencias Príncipe Felipe, Valencia (Spain),
September 11-15, 2011

The topic of the congress is: "Animal, plant and microbial toxins-From basic to translational venomics. Besides discussing the latest developments in this discipline, the major objective of the meeting is to facilitate contacts between groups of basic and clinical research, molecular biology and proteomics technologies, which may help creating synergies to develop new strategies to alleviate the serious problems caused by envenoming by animal, plant and microbe toxins.

Local Organizing Committee

Juan J. Calvete, IBV(jcalvete@ibv.csic.es)
Libia Sanz, IBV
Paula Juárez, IBV
Vicente Felipo, CIPF
Enrique Pérez-Paya, IBV, CIPF
Marc Martí-Renom, CIPF
Ana Conesa, CIPF
Andrés Moya, UV
Ismael Mingarro, UV

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17th Congress of the European Section of the International Society on Toxinology

I S T

VLC 2011

INTERNATIONAL SOCIETY ON TOXINOLOGY

Museo de las Ciencias "Príncipe Felipe"
Valencia (Spain), September 11-15, 2011

CÁTEDRA SANTIAGO GRISOLÍA

The 17th Meeting of the European Section of the International Society on Toxinology (IST) will take place in Valencia September 11-15, 2011. The venue will be the Auditorium Santiago Grisolía at the Science Museum Príncipe Felipe, one of the buildings of the City of Arts and Sciences of Valencia (Spain).

The topic of the congress is: "Animal, plant and microbial toxins-From basic to translational venomics". Besides discussing the latest developments in this discipline, the major objective of the meeting is to facilitate contacts between groups of basic and clinical research, molecular biology and proteomics technologies, which may help creating synergies to develop new strategies to alleviate the serious problems caused by envenoming by animal, plant and microbe toxins. Issues to be discussed at the meeting's oral and poster sessions include:

- Evolutionary aspects of venoms. Understanding biology and pathology
- Systems biology approach to study venoms and the envenomation process
- Managment of envenomation:
  Problematic associated with hosting exotic venomous animals in non-natural environment (zoos, private collections, etc.)
  Improving antidotes through combination of technologies
  Translational venomics
- Structural biology approach to establish structure-function correlations of toxins
- Toxins as tools
- The CONCO project
- Arthropod and hymenopteran venoms
- Bacterial toxins
- Taxonomy

The program includes the following sessions:

Opening Lecture
Evolutionary aspects of venomous animals and their venoms
Toxins as tools
Snakebite envenoming: clinical and therapeutic aspects
Structure, function and evolution of venom PLA2 molecules- In memoriam of Prof. F. Gubensek
Venomics
Bacterial toxins
Arthropod venoms
Closing Lecture

City of Valencia

Of historical interest yet cosmopolitan, Valencia has grown and adapted to the times, conserving its rich heritage while becoming a leading economic and financial centre in presentday Spain. Bathed in Mediterranean sun, giving warmth and that special kind of light that the Valencian realist/impressionist painter Joaquín Sorolla (1863-1923) immortalized on canvas, it is by no means strange that the poet in the Cantar del Mio Cid spoke of the "luminous city of Valencia". You'll be pleasantly surprised by the City itself and the warm, inviting character of its inhabitants. We hope that you will be able to discover Valencia for yourself and enjoy the extensive range of activities that await you.

WEB SITE: http://istmeetingvlc2011.ibv.csic.es/

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1st National Conference on Animal, Microbial, Plant Toxins & Snakebite Management
"BIO-TOXINS IN HEALTH & DISEASE"
11-12 December, 2010
Jointly Organized by
Indian Institute of Chemical Biology &
KPC Medical College & Hospital, Kolkata, India

Organizing Secretary:
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4, Raja S.C.Mullick Road
Kolkata – 700 032, India

Jt. Organizing Secretary:
Prof. Sandip Bandyopadhyay
KPC Medical College,
1F, Raja S. C. Mullick Road
Kolkata – 700 032, India

AN INVITATION

With great pleasure, we invite you all to the 1st National Conference on Animal, Microbial, Plant Toxins & Snakebite Management to be held in Kolkata on 11-12 December, 2010. This conference aims to provide a common platform for all researchers (clinicians and non clinicians) working on different aspects of natural toxins of animal, microbial and plant, snakebite management and environmental issues related to natural toxins, to discuss their research findings. The conference will consist of plenary sessions, oration, invited lectures, oral and poster presentation.

OBJECTIVES

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

- **To identify scientists working on natural toxins**
- **To establish research state of art on natural toxins**
- **Snakebite management current status, problems and future**
- **Application of toxins in medicine and biotechnology**
- **Environmental issues related to natural toxins**

SCIENTIFIC AREAS TO BE COVERED

- **Animal Toxins**
- **Microbial Toxins**
- **Plant Toxins**
- **Toxin Miscellaneous**
- **Snakebite Management**
- **Antivenom/Antidotes**
- **Environmental Issues & Natural Toxins**

Your involvement would be a great help to attract scientists and audience for this event. Thank you in advance for your participation and see you at KPC & IICB, Kolkata.

Please contact Organizing Committee
Dr. Aparna Gomes
Organizing Secretary
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Drug Development Diagnostics and Biotechnology Division
Indian Institute of Chemical Biology
4, Raja S.C. Mullick Road. Kolkata-700032, India
Contact e-mail : amptox2010@gmail.com
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Watch out Conference Website (Coming very soon)

TOXICOLOGY MEETINGS 2010

EAPCCT
European Association of Poisons Centres and Clinical Toxicologists

XXXI International Congress of the European Association of Poisons Centres and Clinical Toxicologists

24-27 May 2011, Dubrovnik, Croatia, at the Valamar Lacroma Resort Hotel

1. General Information
2. Submitting Abstracts
3. Posters
4. Registration
5. Venue and Accommodation
6. Deadlines
7. Information
8. Congress Stands
9. Local Information and Tourist Attractions

1. General Information:

Congress Flyer (pdf 110 kb)
Congress Announcement (pdf 135 kb)
Congress Brochure (pdf 600 kb)
The final programme will be displayed here in due time.

2. Submitting Abstracts:

The **on-line abstract submission** is closed.
Submission deadline was November 17th 2010 (midnight).
For abstract submission guidelines see the Congress Brochure (p. 5-8).

The Young Investigator Award

3. Posters:

Size and format of poster boards will be given in due time.

4. Registration for the Congress:

On-line registration will be available here.

5. Accommodation:

Information on hotel room reservation and booking will be available here.

6. Deadline Dates:

Receipt of abstracts	November 17, 2010
Registration at special rates	February 18, 2011
Reserving of accommodation at special rates	March 23, 2011
Deadline for presenters to register	February 18, 2011

7. For information:

EAPCCT General Secretary
Mr. Peter Hultén
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8. Congress Stands:

Companies or organizations wishing to have a stand during the Congress may contact the EAPCCT General Secretary (see above) for information.

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LES ANIMAUX VENIMEUX ET VÉNÉNEUX

Systématique, biologie, toxicologie

Année 2009 - 2010

MODULE I - **Responsables : Max Goyffon et Michel Thireau**

Venimologie générale - Vertébrés terrestres

Lundi 18 janvier - Vendredi 22 janvier 2010

Lundi 18 janvier 2010
09h00 - 09h15 : **Accueil**
09h15 - 10h45 : **La fonction venimeuse**
C. Rollard, Muséum
11h00 - 12h15 : **Toxicité aiguë des venins et neutralisation par les antivenins**
J.-P. Chippaux, IRD, Paris
14h00 - 15h15 : **Venins : génomique, protéomique et bio-informatique**
R. Stöcklin, Atheris, Genève
15h30 - 17h30 : **Les amphibiens**
J. Lescure, Muséum

Mardi 19 janvier 2010
09h00 - 10h45 : **Les serpents : anatomie de l'appareil venimeux**
J.-P. Gasc, Muséum
11h00 - 12h00 : **Visite du vivarium de la ménagerie ou films sur les serpents**
14h00 - 15h00 : **Visite du vivarium de la ménagerie ou films sur les serpents**
15h30 - 17h00 : **Les serpents : systématique moléculaire**
N. Vidal, Muséum

Mercredi 20 janvier 2010
09h00 - 11h30 : **Biologie, comportements des serpents**
X. Bonnet, CNRS, Villiers-en-Bois
14h00 - 16h15 : **Composition et mode d'action des venins de serpents Viperidae**
F. Dorandeu, CRSSA, Grenoble
16h30 - 17h30 : **Les mammifères venimeux et les oiseaux vénéneux**
J.-L. Berthier, Muséum

Jeudi 21 janvier 2010
09h00 - 10h30 : **Composition générale et mode d'action des venins de serpents Elapidae**
D. Servent, CEA
10h45 - 12h15 : **Immunothérapie des envenimations ophidiennes**
M. Sorkine, clinique du Val d'Yerres, Yerres
14h00 - 16h30 : **Épidémiologie et clinique des envenimations ophidiennes**
J.-P. Chippaux, IRD, Paris

Vendredi 22 janvier 2010
09h00 - 10h15 : **Inhibiteurs naturels des PLA_2. Résistance naturelle aux venins**
G. Faure, Institut Pasteur, Paris
10h30 - 12h15 : **Les Atractaspididae : biologie et venins**
F. Ducancel, CEA
14h15 - 15h30 : **Anticorps recombinants neutralisants**
P. Billiald, Muséum et Tours
15h45 - 17h00 : **Synthèse et conclusion**
J.-P. Chippaux, IRD, Paris

MODULE II - **Responsables : Christine Rollard et Max Goyffon**

Arthropodes terrestres - Parasites

Lundi 15 mars - Vendredi 19 mars 2010

Lundi 15 mars 2010
09h00 - 09h15 : **Accueil**
09h30 - 10h30 : **Présentation des arthropodes**
C. Rollard, Muséum
10h45 - 12h15 : **Venins d'arthropodes et spectrométrie de masse**
C. Guette, Angers
14h00 - 16h30 : **Les insectes hyménoptères**
J. Weulersse, Muséum
16h45 - 17h30 : **Les venins d'hyménoptères**
M. Goyffon, Muséum

Mardi 16 mars 2010
09h00 - 12h15 : **Les insectes piqueurs autres que les hyménoptères**
P. Bourdeau, ENV, Nantes
14h00 - 15h30 : **Les protistes. Les vers parasites. Effets venimeux**
P. Bourdeau, ENV, Nantes
15h45 - 17h15 : **Composition et activités biologiques de la salive des diptères**
V. Choumet, Institut Pasteur, Paris

Mercredi 17 mars 2010
09h00 - 12h30 : **Les myriapodes : systématique, biologie et fonction venimeuse**
J.-J. Geoffroy, CNRS et Muséum
14h00 - 16h15 : **Les acariens : biologie et fonction venimeuse**
R. Chermette, ENV, Maisons-Alfort
16h30 - 17h30 : **Les acariens : systématique**
Y. Coineau, Muséum

Jeudi 18 mars 2010
09h00 - 12h30 : **Les araignées : systématique, biologie, répartition, espèces dangereuses**
M.-L. Célérier et C. Rollard, Muséum
14h00 - 15h15 : **Venins d'araignées et canaux ioniques**
S. Diochot, CNRS, Sophia Antipolis
15h30 - 17h45 : **Les scorpions : systématique, biologie, répartition**
R. Stockmann, Paris

Vendredi 19 mars 2010
09h00 - 12h00 : **Les venins de scorpions**
C. Legros, Angers
14h00 - 16h15 : **Aranéisme - Scorpionisme**
M. Goyffon, Muséum

MODULE III - **Responsables : Christine Rollard et Nadia Améziane**

Faune marine - Écosystèmes marins

Lundi 17 mai - Vendredi 21 mai 2010

Lundi 17 mai 2010
09h00 - 10h30 : **Panorama de la faune venimeuse et vénéneuse de la mer Méditerranée**
S. Baghdiguian, Montpellier
10h45 - 12h00 : **L'électrophysiologie comme méthode d'étude des biotoxines d'origine marine**
C. Mattei, DGA
14h00 - 17h00 : **Les cnidaires**
M. Guillaume, Muséum

Mardi 18 mai 2010
09h00 - 10h30 : **Les mollusques**
P. Favreau, Atheris, Genève
10h45 - 12h30 : **Venins de cônes : diversité de leurs peptides et cibles moléculaires**
J. Molgo, CNRS, Gif-Sur-Yvette
14h00 - 15h45 : **Les mollusques bivalves toxiques**
P. Lassus, IFREMER, Nantes
16h00 - 17h00 : **Les annélides**
T. Meziane, Muséum

Mercredi 19 mai 2010
09h00 - 12h00 : **Les poissons venimeux**
F. Goudey-Perrière, UFR Pharmacie, Châtenay-Malabry
14h00 - 15h30 : **Les poissons venimeux** (suite)
F. Goudey-Perrière, UFR Pharmacie, Châtenay-Malabry
15h45 - 17h00 : **Les bryozoaires**
J.-L. d'Hondt, Muséum

Jeudi 20 mai 2010
09h00 - 11h00 : **Les éponges et les ascidies**
M.-L. Bourguet-Kondracki, Muséum
11h15 - 12h45 : **Les échinodermes**
N. Améziane, Muséum
14h00 - 17h00 : **Ichtyotoxines. Toxines ciguatériques et ciguatera**
P. Bourdeau, ENV, Nantes

Vendredi 21 mai 2010
09h00 - 09h45 : **Intoxications par consommation de chair de tortues marines**
J. Lescure, Muséum
10h00 - 12h00 : **Les serpents marins** (cours suivi d'un film)
I. Ineich, Muséum
14h00 - 16h00 : **Les serpents marins** (suite)
I. Ineich, Muséum

Renseignements, inscriptions et coordination :

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15-20 May 2011

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We are pleased to announce the details of the fourth **Venoms to Drugs** conference to be held on Heron Island, Queensland, May 15–20, 2011. A stimulating program has been arranged including sessions on New Pharmacologies, Ion Channel Therapeutics, Structure-Activity Relationships, New Discovery Technologies, New Targets, Peptides & Peptidomimetic Drugs, and Venom Proteomics and Transcriptomics.

Heron Island, the venue for the conference, is a pristine coral cay on the Great Barrier Reef. Snorkeling, diving, tennis, reef walks, fishing and a day spa are just some of the activities that can be enjoyed on the island. The meeting is structured to ensure ample time is provided to take advantage of this stunning location.

A range of accommodation from budget to luxury is available and may be viewed on the island's website (www.heronisland.com).

You can register and book accommodation for the conference at the conference website (www.venomstodrugs.com). Program updates will be made on a regular basis and please contact Thea Monks (t.monks@uq.edu.au) for further information. We look forward to welcoming you to Heron Island in 2011.

Best Regards

Paul Alewood, Richard Lewis & Glenn King
(Organising Committee)

FRANC GUBENŠEK (1937–2010) In memoriam

Following several years of illness Franc Gubenšek, one of the leading scientists in the field of toxinology in his generation, died on August 17th 2010.

Franc Gubenšek was born in 1937. In 1961 he graduated in physical chemistry at the Technical faculty, University of Ljubljana. As one of the best students of his generation he was immediately appointed to the Department of Radiobiology in the then Nuclear Institute, today the Jožef Stefan Institute (JSI), in Ljubljana. He made his Ph.D. in 1965 in the field of physical chemistry at the Faculty of Natural Sciences and Technology, University of Ljubljana. Soon after the defence of his doctoral thesis he obtained a Fulbright fellowship and, in 1967, started his post-doctoral study with John Rupley at the University in Arizona, Tucson. Here he encountered protein science, then a very promising and rapidly developing field, which attracted him at once and to which he became bound for the rest of his life.

Following his return from the USA, he started his life-work on protein toxins. In the group of Drago Lebez at the JSI, the founder of toxinology research in Slovenia, he started with experiments on radioactive labelling of different spider venoms and the venom of European most venomous snake, also found locally, the horn-nosed viper Vipera ammodytes ammodytes. His first publications on a toxinology topic concerned pharmacokinetic studies on guinea pigs (Lebez et al., 1968a and 1968b). When Lebez left JSI in 1976, Franc Gubenšek – Franček to his colleagues and friends – took his position and assumed part of his toxicological problematics – he focused on the protein components of Vipera a. ammodytes snake venom. He was especially interested in basic proteins with phospholipase activity as one of the major pharmacologically-active components of the venom (Gubenšek and Lapanje, 1974). With his co-workers at the now Department of Biochemistry, he isolated from the venom several phospholipases, which he showed to belong to the group of secreted phospholipases A2 (sPLA2s), and started to characterize their pathophysiological and pharmacological activities (Sket and Gubenšek, 1976). The three most lethal of them designated, at the time, as electrophoretic fractions “k2”, “k1” and “j”, exhibited a potent presynaptic neurotoxicity (Thouin et al., 1982; Lee et al., 1984). The most basic fraction, fraction “I”, an enzymatically inactive sPLA2-analogue, was myotoxic, whereas the neutral sPLA2s in fractions “i1” and “i2” showed no toxic effects (the latter three sPLA2 molecules found in the non-neurotoxic fractions of the venom, were afterwards re-named ammodytins L, I1 in I2). At the beginning of the 1980s Franček was attracted by the structure of proteins. Using circular dichroism spectroscopy his investigations included analysis of the secondary structure of Vipera a. ammodytes venom trypsin and chymotrypsin inhibitors (Gubenšek and Ritonja, 1981). Also important was his role in introducing protein primary structure determination into Slovenia. Initially under his lead, the partial primary structures of sPLA2s in fractions “k2” and “j” (Gubenšek et al., 1980) were determined. The complete amino acid sequences of trypsin and chymotrypsin inhibitors followed (Ritonja et al., 1983a and 1983b). In 1985 he published with his colleague the first complete primary structure of the neurotoxic sPLA2 from

the horn-nosed viper venom – the most toxic fraction “k2” (Ritonja and Gubenšek, 1985). In this paper the name “ammodytoxin” was used for the first time, fraction “k2” sPLA2 becoming ammodytoxin A. The complete amino acid sequence of the fraction “k1” sPLA2, or ammodytoxin B, followed one year later (Ritonja et al., 1986). Soon after, the primary structures of the fraction “j” sPLA2 or ammodytoxin C (Križaj et al., 1989) and ammodytins L, I1 and I2 were also elucidated or deduced from nucleotide sequences (Križaj et al., 1991; Križaj et al., 1992). Given that ammodytoxin A is nearly 30-fold more lethal in mice than ammodytoxin B and nearly 20-fold more than ammodytoxin C while, in the sequence of 122 amino acid residues, the three iso-toxins differ maximally on five positions, they had obtained the first clear insight into the structural basis of sPLA2 neurotoxicity. Based on complementary methodological approaches, he directed his group in the early 1990s into four diverse pathways of snake venom research:

1. With Vladka Čurin Šerbec he started to develop an immunological approach to map the structure of the so called “toxic site” on the molecule of ammodytoxin (Čurin Šerbec et al., 1991). To accomplish this task they introduced the technology of preparing monoclonal and site-directed antibodies into Slovenia.
2. With Jože Pungerčar, and at the beginning also with Dušan Kordiš, he introduced molecular biology and protein engineering into toxinological studies at the JSI. First they determined cDNA sequences of all ammodytoxins and ammodytins (Pungerčar et al., 1989 and 1991; Kordiš et al., 1990; Pungerčar et al., 1990; Križaj et al., 1992). After that, the first method for preparing the recombinant ammodytoxin in E. coli was successfully developed (Liang et al., 1993), followed by a highly-efficient bacterial production of these toxins (Pungerčar et al., 1999). This was the basis for the biosynthesis of a number of ammodytoxin mutants in the following years (Pungerčar et al., 1999; Ivanovski et al., 2000 and 2004; Prijatelj et al., 2000, 2002 and 2003; Petan et al., 2002). Designed replacements of amino acid residues revealed the complexity of the “neurotoxic site” in the molecule of ammodytoxin, in agreement with hypothesis of the multi-step mechanism of its action, including binding to specific receptor proteins in the nerve cell and enzymatic activity (Pungerčar and Križaj, 2007). In this way, the interaction areas on the ammodytoxin molecule with various receptors and the role of particular amino acid residues in the molecule in binding to phospholipid membranes were determined, a step important in determining specificity and enzyme activity of every sPLA2.
3. A big challenge was, and still is, to understand the mechanism of blockade of neuromuscular communication with sPLA2-toxins at the molecular level. With myself he started to look for the reason for specific action of ammodytoxins on the presynaptic membrane of the motoneuron. We introduced methods to study membrane proteins and to characterize membrane receptors. The key to identification of the first binding proteins for ammodytoxin in the presynaptic membranes of bovine cerebral cortex was the successful development of a method for preparation of radioactively labelled ammodytoxin (Križaj et al., 1994). Discovery and description of additional high-affinity membrane receptors for ammodytoxin in different nervous tissues followed (Križaj et al., 1995 and 1997; Pungerčar et al., 1998; Vučemilo et al., 1998; Čopič et al., 1999; Vardjan et al., 2001). We were very surprised when we found the first intracellular high-affinity binding protein for ammodytoxin – calmodulin (Šribar et al., 2001). However, soon after additional intracellular ammodytoxin-binding proteins were found; 14-3-3 proteins, as calmodulin also localized in the cytosol, together with R25, a protein in the mitochondrial membrane (Šribar et al., 2003a and 2003b). A doubt concerning the dogma of exclusively extracellular action of sPLA2s was further strengthened with the first proofs about the entrance of ammodytoxin into nerve cells in culture and its biological activity in the cytosol of a eukaryotic cell (Petrovič et al., 2004 and 2005). With the demonstration of the possibility of action of sPLA2 in the cytosol, mitochondria and nucleus, various explanations for the numerous effects of these enzymes on mammalian cells have been offered.
4. With Dušan Kordiš, Franček then entered the exciting area of molecular evolution. With his collaborators he studied the evolution of toxins, DNA transposable elements (Kordiš et al., 1998 and 2006; Kordiš in Gubenšek, 1999 and 2000; Župunski et al., 2001 and 2003; Lovšin et al., 2001; Gorinšek et al., 2004 and 2005) and the structure of their genes (Kordiš and Gubenšek, 1996, 1997, 1998a and 1998b). In this part of the activity of his group it is especially important to emphasize the discovery of a novel mobile element of DNA, retrotransposon ART-2 or Bov-B LINE. They clearly

demonstrated that this retrotransposon moved, more than 45 million years ago, from the genome of an evolutionarily old snake to the genome of an ancestor of today's ruminants. The first clear experimental demonstration of the so-called horizontal transfer of genetic material between such distant classes of vertebrates stimulated significant interest in scientific community and well merited publication in Nature Genetics (Kordiš and Gubenšek, 1995).

One of Franček's great qualities was that he trusted us, his younger colleagues, and allowed us to take initiatives. He never tried to enforce his opinion but he polished many of our ideas in constructive dialogue with his extensive knowledge and ingenuity. I will always remember, it was just before his retirement, when I and my younger co-worker came to him and, very much in doubt about our success, presented him the idea to study the molecular mechanism of action of neurotoxic sPLA2s using yeast cells. I am sure that most would only laugh at a proposal to study neurotoxins in yeast, but he listened carefully and immediately recognized the originality of the approach. The result of this is that we have today the only Department in Slovenia with a group of people trained and equipped to perform high-throughput yeast genomics experiments. With this facility we have improved our picture of the mechanism of action of neurotoxic sPLA2s and, in addition, are able to study the mechanisms of action of drugs, and lipid-associated and lipid-mediated diseases in humans and many other areas.

His group collaborated extensively with prominent research groups, in the first place from France, Israel, Costa Rica, Croatia and the USA. With his collaborators he published about 140 research papers in the best journals for the area of investigation. With them he acquired high international recognition for himself and his group in the field of toxinology. In acknowledgement of his important achievements in toxinology he was elected, from 1989 to 1996, President of the European Section of the International Society on Toxinology (EIST) and, from 1997 to 2000, President of the worldwide IST.

He organized several international scientific conferences and took part in many scientific boards of meetings in Slovenia and abroad. Three times, in years 1977, 1989 in 2004, he and his team organized the EIST symposia. For many years he served as a member of the Editorial Board of Toxicon and Acta Chimica Slovenica.

His work as a teacher was also very rich. In 1974 he became an Assistant Professor, in 1979 Associate Professor and in 1986 Full Professor of biochemistry at the University of Ljubljana. He taught various areas of biochemistry at the undergraduate and postgraduate levels in the Faculty of Chemistry and Chemical Technology (FCCT), Biotechnical Faculty and Medical Faculty of the University of Ljubljana. In 1997 he was fully engaged at the FCCT, in the Chair of Biochemistry which he then led until his retirement in 2004. His leading role in the creation and organization of the new, independent study of biochemistry at the FCCT has to be especially emphasized. Franček was an experienced mentor and a great motivator of numerous researchers. Under his leadership many students graduated and made their master's and doctoral theses. Many of them hold very important positions today in Slovenian and international institutions and in industry.

Scientific, pedagogical and group-leading activities did not prevent Franček from dedicating his energy to organization and promotion of the development of biochemistry and molecular biology in the broader community. In this respect, he was a very active member of the Slovenian Biochemical Society from its beginning. He took on various tasks and, from 1989 to 1998, he also headed the Society. From 1997 he was a representative of the Republic of Slovenia in the European Molecular Biology Conference (EMBC). The numerous important duties that he accepted, he always accomplished accurately and comprehensively. Besides his professional work he also carried out a number of responsible organisational and executive functions at the JSI, the most important being a member of its Executive Board from 1992 and its President from 1997 to 2005.

His scientific achievements and status were recognized internationally by his membership of the European Molecular Biology Organization (EMBO) to which he was elected in 1998 as the first Slovenian scientist. In 1992 he was nominated as an Honorary Visiting Professor at the Guangxi Medical University in Nanning, China. In 1996 he was honoured by the Croatian Biochemical Society. Franček also received several domestic awards, including the Zois Award in 1997. For his substantial contribution to the development and organization of biochemistry and molecular biology in

Slovenia he was nominated in 2008 as an Honorary Member of the Slovenian Biochemical Society. In 2003, he became a member the Slovenian Academy of Sciences and Arts.

Sadly, progressive Alzheimer's disease prevented Franček from continuing his work and collaboration with the research team that he created and headed until his retirement in 2004. Without his scientific experience, personal eminence and unstinting support it was not easy for us to continue the work begun under his leadership. Our development from a small group into a strong and independent department, the Department of Molecular and Biomedical Sciences, owes much to Franček, and I know he would have been proud of that. We are grateful to him for all he gave us, as scientist and friend. We, his colleagues and friends, will always keep him in cherished memory.

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COMMENT FROM PROF. DIETRICH MEBS (Past Secretary/Treasurer, IST)

Dear Igor,

This are really sad news.

I knew Franc since 1974 and the last time I met him was in Slovenia on occasion of the European Symposium 2004. But over the last years there was silence due to his difficult health situation.

I remember many evenings with a good meal and a lot of drinks with him and colleagues like André Menez, the first and historic meeting we had in Portoroz, former Yugoslavia, 1977, then in Porec 1989 and the last one in Kranj 2004. Franc was always positive when we approached him to organize a meeting, he and his coworkers were marvellous hosts.

Franc enjoyed life, for several weeks each years he could´nt be reached, because he was sailing on the Adriatic Sea. When he started his research on ammodytoxins we discussed a lot, exchanged our views regularly and I assume he was one of the first to introduce molecular biological techniques into snake venom research.

When becoming older, we have to live with the fact that the old guard of toxinologist is leaving us, which is hard to accept. Fortunately a young generation of excellent and motivated scientists is replacing us which I see with great pleasure and satisfaction.

Personally, I lost a friend and comrade in our exciting science adventure we enjoyed and loved so much.

Dietrich Mebs

PLEASE NOTE THAT AN OBITUARY FOR PROF. GERHARD HABERMEHL WILL APPEAR IN TOXICON

IN MEMORIAM

On September 15th, 2010, Dr, Saul Weiner passed away, aged 86. With his passing we lost one of the major contributors to development of antivenom in Australia. Dr. Weiner was a Polish Jew and trained in medicine in Germany, escaping that country, with his family, and establishing himself in Melbourne, Australia. A noted immunologist, Dr. Weiner was instrumental in development of an antivenom against bites by the Australian black widow spider (locally referred to as the redback spider), *Latrodectus hasselti*, while working at the Commonwealth Serum Laboratories (since privatised to CSL Ltd.). This common spider, frequently found in urban environments, causes thousands of bites to humans every year, some of which cause severe and distressing envenoming, though rarely life threatening. Up until the release of Redback Spider Antivenom in 1956, following it's development by Dr. Weiner, treatment of bites by these spiders was problematic. Since then bites by these spiders are considered non-lethal and more Redback Spider antivenom is used in Australia every year than all other antivenoms (including snake antivenoms) combined. In addition to developing redback spider antivenom, Dr. Weiner was involved in early clinical trials proving the safety and effectiveness of the antivenom. He was also instrumental in development of Stonefish Antivenom, still in wide use in Australia and beyond. Dr. Weiner has an important place in the development of immunisation of humans against envenoming, as he immunised a leading snake catcher against tiger snake venom, to protect this catcher should he be bitten, as he had developed a severe allergy to snake antivenom (horse IgG). Dr. Weiner documented the outcome in 1960, when the catcher was again bitten by a tiger snake, with only minor effects. In recognition of his important contribution to medicine, Dr. Weiner was appointed a Member (AM) of the Order of Australia (in June 2010) for service to science and medical research, in particular his contributions to the development of the spider and stonefish anti-venoms.

In addition to his medical work, Dr. Weiner was an important community figure, especially in the Jewish community of Melbourne. He was instrumental in the formation of the Council of Orthodox Synagogues of Victoria in 1965 and was President of this body for 20 years from foundation. He also founded Kosher Meals on Wheels.

He is survived by a son, Rabbi Yonason Wiener, two daughters, Rebecca and Vivienne, and a sister, Paula.

Image from Leader Newspapers web site - http://leader-news.whereilive.com.au/news/story/with-thanks-from-a-grateful-nation/

NOTIFICATION OF NEW BOOKS

Dear Julian,

I send you in attached documents the scan of the cover of two new books just published :

1) Aspects cliniques et therapeutiques des envenimations graves" (Clinical and therapeutic aspects of severe envenomings), by G. Mion, S. Larreche and M. Goyffon, , 1 vol., Urgence Pratique Editions, Ganges, France, 255 p., in French only, 50 euros.

2) Scorpions du monde / Scorpions in the world, by R. Stockmann and E. Ythier, 1 vol., 565 p., NAP Editions, Verrieres-le-Buisson, France, of which a French version and an Englihs one are simultaneously published. 75 euros.

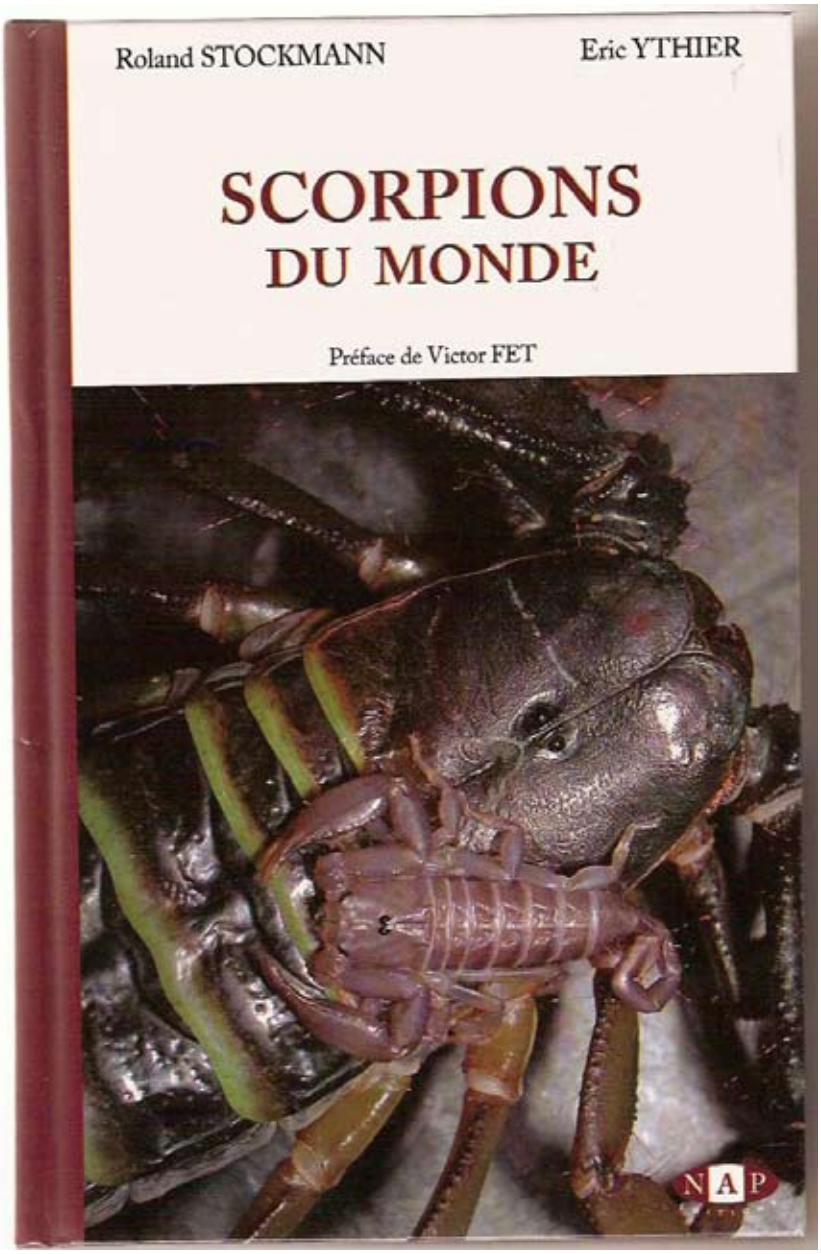
This book is very complete, well illustrated, and particularly interesting. Roland Stockmann is a friend of mine for a long tilme ago, I consider he is one of the best specialists of scorpions in the world (even he has very few papers published).

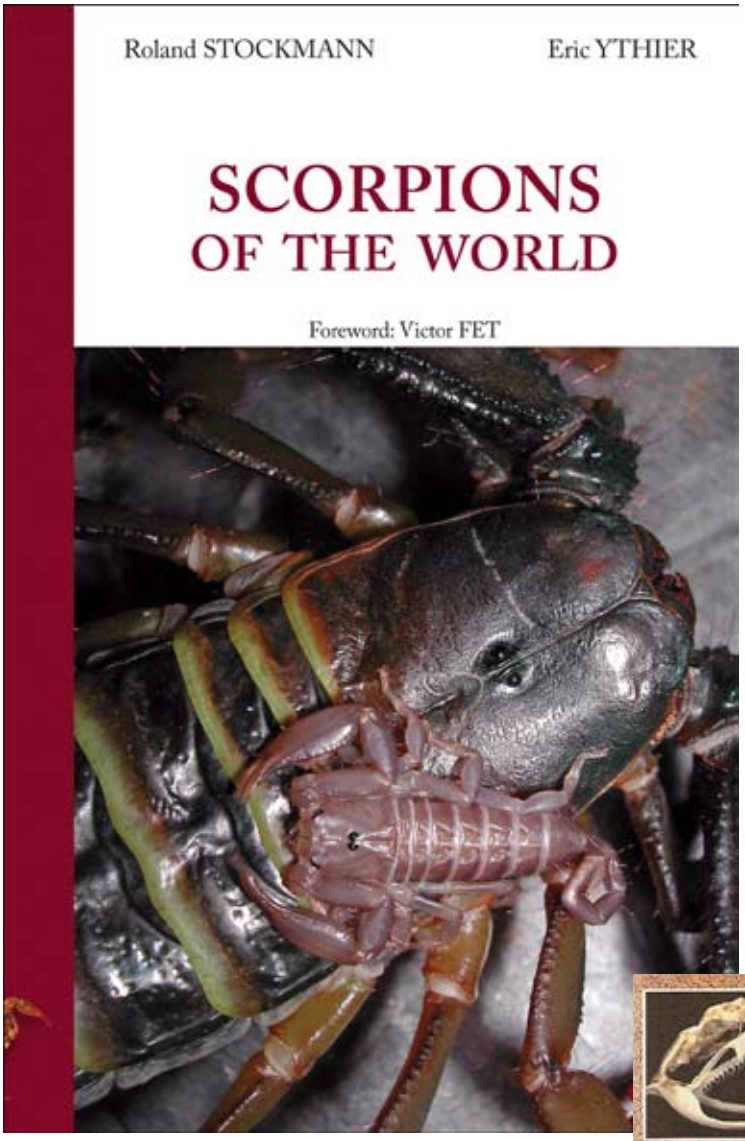
Best regards,

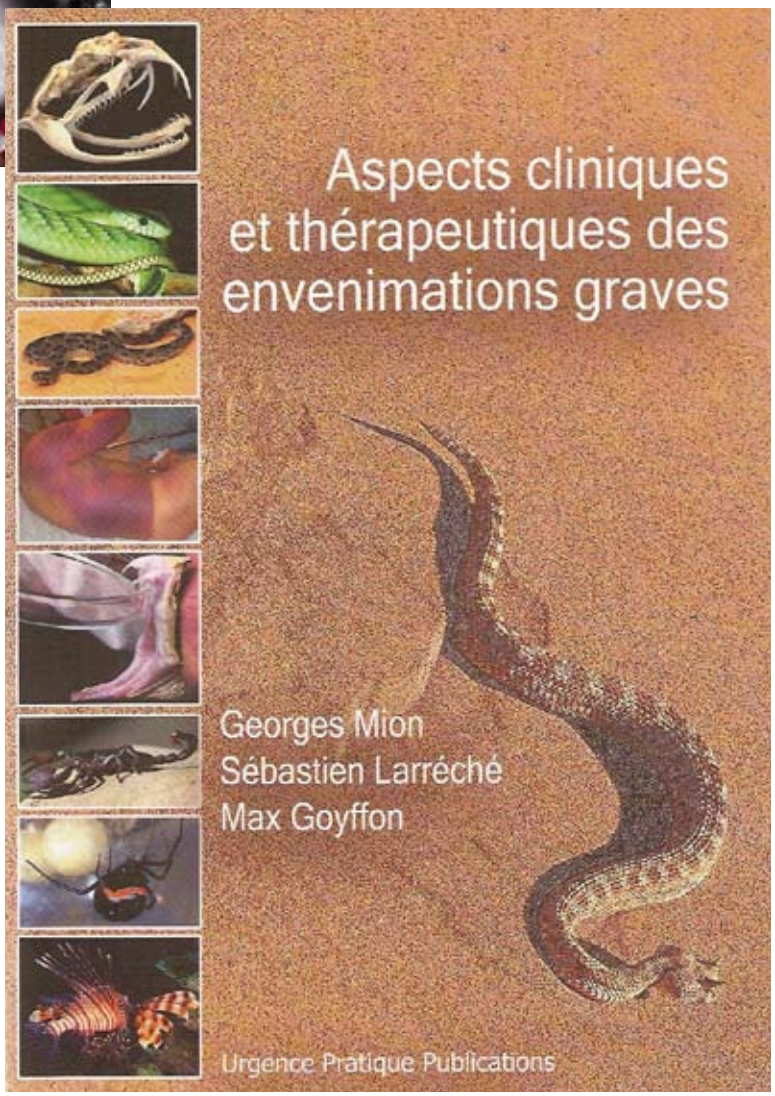
Max Goyfon

(now Honorary Prof. at the Muséum, Paris)

(now Honorary Prof. at the Muséum, Paris)

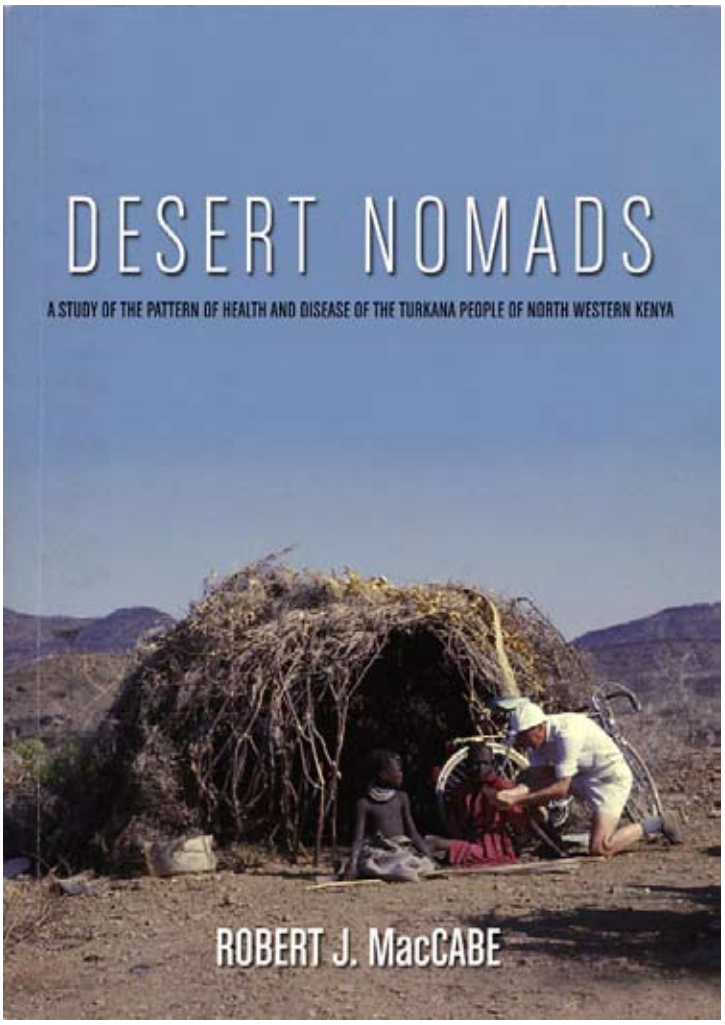



Roland STOCKMANN
Eric YTHIER
SCORPIONS
OF THE WORLD
Foreword: Victor FET


Aspects cliniques
et thérapeutiques des
envenimations graves
Georges Mion
Sébastien Larréché
Max Goyffon
Urgence Pratique Publications

Book Review.
Practising Clinical Toxinology in a remote and unforgiving terrain.

Robert J MacCabe. Desert Nomads. A Study of the Pattern of Health and Disease of the Turkana People of North Western Kenya. Dublin, Irish Carmelites Publishing, 2009.



Lake Turkana, named after the predominant local pastoralist tribe, stretches north from north-western Kenya into Ethiopia. It gained a certain notoriety from “Eyelids of Morning” (New York Graphic Society, A&W Visual Library,1973), an outrageous potpourri of images and words about its resident crocodiles, and the marvellous movie of John Le Carré’s “The Constant Gardener” (2005) which revealed the dramatic beauty of this remote and arid region. Palaeontologically, the lake basin is famous for discoveries of many fossil hominids, most notably the 1.5 million-year-old “Turkana boy” (Homo erectus or H. ergaster) found by Richard Leakey’s team in 1984.

Father Doctor Robbie MacCabe is an Irish Carmelite medical missionary who has lived in Turkana since 1977. His book “Desert Nomads” is a marvellous mixture of autobiography and anthropology with cultural and geographical elements as well as a mass of clinical information. As in most tropical developing countries, the traditional healers, known as “emurons” and “ekapilans” (witch doctors) are respected greatly by the Turkana people. But their time-wasting and frequently injurious remedies must be opposed by practitioners of Western-style scientific medicine. Father Robbie’s main strategy for providing the largely nomadic Turkana with access to medical care has been to take a mobile clinic (bicycle or Land Rover) (Fig-1) to their habitual watering places, deep in the interior desert regions away from The Lake.

During his time in Turkana, and the preceding 16 years in Southern Rhodesia (Zimbabwe), Father Robbie has seen a lot of snake bite. Clinical toxinologists will be particularly interested in Chapter 12 “Animals hazardous to humans”. In Zimbabwe, his patients were bitten by spitting cobras (*Naja mossambica*) (images page 123) and in Turkana, by saw-scaled vipers (*Echis pyramidum*) (images page 123-4) and spitting cobras (*Naja pallida*). Although E. pyramidum causes most snake bite deaths in this region, the Turkana fear Ruppell’s agama lizard (*Agama ruppelli*) even more. Perhaps Bryan Grieg Fry should turn his attention to this species. Father Robbie has struggled to supply scarce but highly effective antivenom to the Turkana (Fig-2), but children and adults continue to die in northern Kenya for want of this essential drug. Anyone who doubts the terrible impact of snake bite on Africa’s children should examine the images on pages 123 and 124. In the hardy Turkana, bites by solifugid “wind scorpions”, “camel spiders” or “sun spiders”, which have terrorised coalition forces in Iraq, produce dramatic symptoms including stupor, dribbling of profuse stringy saliva and choreoathetoid hand movements that may persist for two days. However, as Father Robbie’s own laboratory studies have proved, these arthropods possess neither venom nor venom apparatus. So how can he profess that “It is not a hysterical reaction”? An image on page 111, shows an E. pyramidum swallowing a solifugid. This is of interest in view of the recent paper on the invertebrate diet of Echis (Barlow et al., Coevolution of diet and prey-specific venom activity supports the role of

selection in snake venom evolution. Proc Biol Sci. 2009 Jul 7;276(1666):2443-9). Probably his most intriguing image is labelled “spider bite” (page 126): a young girl, dazed and with obvious bilateral ptosis and external ophthalmoplegia. What on earth could have been the cause?

Added to Father Robbie’s evocative descriptions, the great strength of this book is its many original colour photographs. Scenic shots immediately dispel one disparaging view of the region as a “horizonless frying pan of desolation”. As well as desert, savannah and acacia scrub, we see mountains, passes, waddies (dried up river beds) in the throes of their annual flash floods, storms, wild flowers, the blue lake, wild life and, above all, delightful indigenous people. Father Robbie, whom I have known since the 1970s, provides unique care and ministry to a threatened nomadic population. Their needs have been largely ignored by the Kenyan authorities. “Desert Nomads” provides us with a rare opportunity to view, appreciate and commend one man’s mission.

David A. Warrell
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University of Oxford, UK

Antivenom administration by Father Robbie in a Turkana hut. The 2-year-old girl had been bitten on the left hand by an *Echis pyramidum*.

NEWS FROM THE NNTRC

The Natural Toxins Research Center at Texas A&M University-Kingsville, in Kingsville, Texas, a research program dedicated to the discovery of medically important toxins in venomous animals, has changed its name to the National Natural Toxins Research Center (NNTRC). The NNTRC is a university-operated facility that includes elaborate research laboratories and a new serpentarium for housing and breeding snakes. Dr. Steven Tallant, the President of Texas A&M University-Kingsville, feels that the name change is more reflective of the mission of the NNTRC and will help in the recruitment of students, staff and faculty. The mission of the National Natural Toxins Research Center (NNTRC) is to encourage global biomedical research, provide training, and resources that will lead to the discovery of medically important molecules found in snake venoms.

The Center wants to welcome Dr. Montatmas Suntravat to its research team. Dr. Suntravat collaborated with the NNTRC during her Ph.D candidacy for one year and is returning to the United States to join other NNTRC researchers currently working on the generation of cDNA libraries to aid in future drug discovery. Dr. Suntravat earned her Ph.D. in Medical Microbiology in June 2010 from Chulalongkorn University, in Bangkok. She was a recipient of the Royal Golden Jubilee (RGJ) Ph.D. program scholarship, and was awarded for her outstanding presentation at the RGJ Ph.D. Congress XI in April 2010. She has also published in Toxicon.

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Southwest Venoms

CATALOGUE OF INSECT VENOMS (2009-2010)

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 -- *Vespula*					
W-10	*V. pensylvanica*	(6.4)	50	225	1000	*
W-19	other species**		*			
	Hornets -- *Vespa*					
W-20	*V. mandarinia*	(4.1)	50	225	1000	*
W-21	*V. tropica*	(2.8)	50	225	1000	*
W-29	others **		*			
	Paper wasps -- *Polistes*					
W-30	*P. comanchus navajoe*	(5)	40	180	800	*
W-31	*P. flavus*	(3.8)	40	180	800	*
W-32	*P. canadensis*	(2.5)	50	225	*	
W-33	*P. erythrocephalis*	(1.5)	50	225	*	
W-39	*Polistes* sp. as available**		30	135	600	2100
	New World Polybiine wasps					
W-40	*Brachygastra mellifica*	(1.5)	60	270	1200	*
W-50	*Synoeca septentrionalis*	(2.7)	60	270	1200	*
W-60	*Parachartergus fraternus*	(5)	70	300	1400	*
W-70	*Polybia sericea*	(6)	80	350	*	
W-71	*P. simillima*	(4.1)	80	350	*	
W-72	*P. occidentalis*	(5)	100	*		
W-80	*Agelaia myrmecophila*	(5.6)	140	*		
	Old World Polybiine wasps					
W-90	*Belonogaster juncea colonialis*	(3)	80	350	*	
	SOCIAL BEES					
	Honey bees -- *Apis*					
B-10	*A. mellifera*	(2.8)	20	90	400	1400
B-11	*A. mellifera* Africanized bees	(2.8)	20	90	400	1400
B-12	*A. mellifera* queens		40	180	800	2800
B-13	*A. dorsata*	(2.8)	50	225	1000	3500
B-14	*A. cerana*	(3.1)	55	245	*	
B-19	others (*A. flo*rea, etc.)**		*			
	Bumble bees -- *Bombus*					
B-20	*B. sonorus*	(12)	50	225	1000	*
B-21	*B. impatiens*	(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})				
	Pogonomyrmex -- harvester ants					
A-10	*P. barbatus*	(0.6)	50	225	1000	3500
A-11	*P. maricopa*	(0.12)	60	270	1200	4200
A-12	*P. occidentalis*	(0.5)	70	315	1400	*
A-13	*P. rugosus*	(0.7)	50	225	1000	3500
A-15	*P. desertorum*	(0.7)	160	*		
A-19	*Pogonomyrmex* sp. as available		45	200	900	3200
	Myrmecia -- bull ants					
A-20	*M. gulosa*	(0.18)	60	270	1200	4200
A-21	*M. tarsata*	(0.18)	60	270	1200	*
A-22	*M. browningi*	(0.18)	70	315	*	
A-23	*M. rufinodis*	(0.35)	70	315	*	
A-24	*M. simillima*	(0.21)	70	315	*	
A-25	*M. pilosula*	(5.7)	100	*		
A-30	*Pachycondyla (Neoponera) villosa*	(7.5)	60	270	*	
A-31	*P. (Neoponera.) apicalis*	(>16)	70	*		
A-32	P. *crassinoda*	(2.8)	80	*		
A-33	*P. (Megaponera) foetens* (Metabele ant)	(130)	70	315	*	
A-34	*P. (Paltothyreus) tarsatus* (stink ant)	(64)	50	225	1000	3500
A-35	*P. (Bothroponera) strigulosa*	(9)	70	*		
A-36	*Termitopone commutata*	(10)	70	315	1400	*
A-40	*Platythyrea lamellosa*	(11)	70	315	*	
A-50	*Diacamma* sp.**	(35)	100	450	*	
A-60	*Dinoponera gigantea*	(11)	60	270	1200	4200
A-70	*Paraponera clavata* (bullet ant)	(6.0)	60	270	1200	4200
A-80	*Ectatomma tuberculatum*	(1)	60	270	*	
A-81	*E. quadridens*	(17)	60	270	*	
A-90	*Odontomachus* sp.**	(33)	60	275	*	
A-110	*Tetraponera* sp**	(.35)	140	600	*	
A-120	*Streblognathus aethiopicus*	(8.0)	80	360	*	
	SOLITARY WASPS AND BEES					
	Spider wasps -- Pompilidae					
SW-10	*Pepsis* sp.**	(65)	60	270	1200	4200
	Mutillid wasps -- Mutillidae					
SW-20	*Dasymutilla* sp.**	(71)	70	315	1400	*
SW-39	Other wasps (Scoliidae, Tiphiidae, Sphecidae, Eumenidae, etc.)**		*			
	Carpenter bees -- *Xylocopa*					
SB-10	*X. californica*	(21)	50	225	1000	*
SB-11	*X. veripuncta*	(33)	55	245	*	
SB-20	*Proxylocopa rufa*	(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 - *Agkistrodon contortrix contortrix*	$75.00/1g	$50.63/500mg			
Broad-Banded Copperhead - *Agkistrodon contortrix laticinctus*	$100.00/1g	$67.50/500mg			
Northern Copperhead - *Agkistrodon contortrix mokasen*	$50.00/1g	$33.75/500mg			
Trans-Pecos Copperhead - *Agkistrodon contortrix pictigaster*	$75.00/1g	$50.63/500mg			
Florida Cottonmouth - *Agkistrodon piscivorus conanti*	$60.00/1g	$40.50/500mg			
Western Cottonmouth - *Agkistrodon piscivorus leucostoma*	$56.00/1g	$37.80/500mg			
Eastern Diamondback Rattlesnake - *Crotalus adamanteus*	$50.00/1g	$33.75/500mg			
Western Diamondback Rattlesnake - *Crotalus atrox*	$45.00/1g	$30.38/500mg			
Sonoran Sidewinder - *Crotalus cerastes cercobombus*	$125.00/1g	$84.38/500mg			
Timber Rattlesnake - *Crotalus horridus*	$70.00/1g	$47.25/500mg			
Mottled Rock Rattlesnake - *Crotalus lepidus lepidus*	$125.00/1g	$84.38/500mg			
Blacktail Rattlesnake - *Crotalus molossus molossus*	$400.00/1g	$270.00/500mg	$72.90/100mg	$49.21/50mg	
Great Basin Rattlesnake - *Crotalus oreganus lutosus*	$125.00/1g	$84.38/500mg			
Grand Canyon Rattlesnake - *Crotalus oreganus abyssus*	$250.00/1g	$168.75/500mg	$45.56/100mg	$30.75/50mg	
Texas Coral Snake - *Mircrurus tener tener*	$2000.00/1g				
Florida Coral Snake - *Mircrurus fulvius*	$1800.00/1g				
Southern Pacific Rattlesnake - *Crotalus oreganus helleri*	$400.00/1g	$270.00/500mg	$72.90/100mg	$49.21/50mg	
Northern Pacific Rattlesnake - *Crotalus oreganus oreganus*	$400.00/1g	$270.00/500mg	$72.90/100mg	$49.21/50mg	
Mohave Rattlesnake - *Crotalus scutulatus scutulatus (A)*	$250.00/1g	$168.75/500mg	$45.56/100mg	$30.75/50mg	
Mohave Rattlesnake - *Crotalus scutulatus scutulatus (B)*	$1000.00/1g	$675.00/500mg	$182.25/100mg	$123.02/50mg	$33.22/10mg
Prairie Rattlesnake - *Crotalus viridis viridis*	$70.00/1g	$47.25/500mg			
Red Spitting Cobra - *Naja pallida*	$100.00/1g	$67.50/500mg			
Desert Massasauga - *Sistrurus catenatus edwardsii*	$1000.00/1g	$675.00/500mg	$182.25/100mg	$123.02/50m	$33.22/10mg
Western Massasauga - *Sistrurus catenatus tergeminus*	$1000.00/1g	$675.00/500mg	$182.25/100mg	$123.02/50mg	$33.22/10mg
Bushmaster - *Lachesis muta muta*	$2000.00/1g	$1350.00/500mg	$364.50/100mg	$246.04/50mg	$66.43/10mg

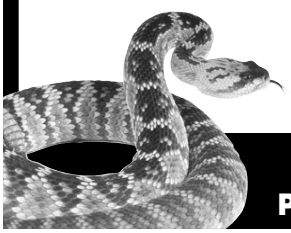
(A) - neurotoxic venom
(B) - non-neurotoxic venom
****Subject to availability***

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 -90º 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 opportunites 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
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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
Acanthophis antarcticus	$170	$745
Acanthophis praelongus	$210	$845
Agkistrodon billineatus	$50	$200
Austrelaps superbus	$400	$1,600
Austrelaps labialis	$700	$3,000
Bitis arietans	$70	$300
Bitis rhinoceros	$75	$340
Bitis nasicornis	$75	$340
Bothriechis schlegelii	$200	$850
Crotalus adamanteus	$100	$450
Crotalus unicolor	$200	$900
Crotalus vegrandis	$160	$700
Hoplocephalus stephensii	$220	$900
Hoplocephalus bitorquatus	$220	$900
Naja kaouthia	$60	$250
Naja melanoleuca	$50	$200
Naja mossambica	$60	$250
Naja siamensis	$60	$250
Notechis ater humphreysi	$350	$1,600
Notechis ater niger	$350	$1,600
Notechis ater serventyi	$350	$1,600
Notechis scutatus	$300	$1,445
Ophiophagus hannah	$200	$850
Oxyuranus microlepidotus	$300	$1,300
Oxyuranus scutellatus	$260	$1,250
Oxyuranus scutellatus canni	$400	$1,500
Pseudechis australis	$110	$520
Pseudechis butleri	$160	$700
Pseudechis colletti	$110	$500
Pseudechis guttatus	$110	$500
Pseudechis porphyriacus	$140	$650
Pseudechis papuanus	$288	$1,380
Pseudonaja affinis	$800	$3,900
Pseudonaja aspidorhyncha	$800	$3,990
Pseudonaja inframacula	$800	$3,990
Pseudonaja nuchalis	$800	$3,990
Pseudonaja textilis	$760	$3,700
Tropidechis carinatus	$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. rhinocerous	$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

SERPENTARIUM SANMARU

HIGH QUALITY VENOMS & TOXINS

Lyophilized and
crystallized venoms

Bothrops alternatus	**1440, 00 U$**
Bothrops jararaca	**220,00 U$**
Bothrops jararacussu	**264,00 U$**
Bothrops moojeni	**300,00 U$**
Bothrops neuwiedi	**340,00 U$**
Crotalus durissus terrificus	**220,00 U$**
Crotalus durissus collineatus	**300,00 U$**
Lachesis muta muta	**600,00 U$**
Bufo marinus / schneideri	**264,00 U$**

All venoms collected in a sterile manner
Blood cells and freeze dried blood plasm from snakes
We have also outher proteins, aminoacids and toxin polyclonal antibodies from brazilian snakes

We trade or sale our products only with CITES from the IBAMA (Brazilian Environment Agency & Wildlife)
Prices quoted per gram in U$. Transport FOB

Brazilian Contact:
Sanmaru Serpentarium,
Rod. Brig. Faria Lima km 365
14765-000 Taquaral SP, Brazil
herpetoscience@hotmail.com
taquaral@gmail.com
Fone (55) 14 9731 2436
(55) 16 3958 7269

Kentucky Reptile Zoo
Venom Price List 2009-2010
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Slade, KY 40376
Tel:606-663-9160
Fax: 606-663-6917
Web: www.kyreptilezoo.org
Email: reptilezoo@bellsouth.net

Crotalidae

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

Elapidae

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

Naja nivea	$100.00
Naja pallida	$100.00
Naja siamensis	$60.00
Ophiophagus hannah	$95.00
Pseudechis colletti	$320.00

Viperidae

Bitis arietans	$120.00
Bitis gabonica rhinoceros	$130.00
Daboia (Vipera) russelli	$200.00
Daboia (Vipera) siamensis	$200.00
Echis carinatus	$350.00
Echis pyramidium	$350.00

Helodermatidae

Heloderma horridum	$600.00
Heloderma suspectum	$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.

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,…

Crystalised 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.

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Barberie 15
7911 Montroeul-au-Bois
Belgique - Belgium
info@alphabiotoxine.be

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