

## Message from the President



Dear Members,

during the member's meeting in Antalya, the BoD of GA has newly been elected. The detailed results of the elections are published in this Newsletter. Prof. Wolfgang Blaschek has been elected as the new president of GA. I want to congratulate him very much and wish him a successful presidency. Prof. Hamburger and me have been elected as vice presidents, Dr. Benedek for secretary and Dr. Roether as treasurer. I want to take the chance to thank my colleagues in the ExC and BoD for the good team work and for all the time and the enthusiasm they spent for GA. It has always been a pleasure to work with such a good team!

I want to thank Prof. Susanne Alban for serving in the BoD for many years and I appreciate very much that she will continue as co-chair of the PC "Regulatory Affairs on Herbal Medicinal Products". Moreover, I want to thank Prof. Skaltsounis and Dr. Kelber for their support in the BoD and I hope that they will be active for GA also in the future. Special thanks to Prof. Franz who acted as chair of the PC "Breeding and Cultivation of Medicinal Plants" for decades and therefore have influenced GA to a great extent.

GA has done very well over the years, in large part due to a group of dedicated members who have volunteered their time and expertise to ensure that our business is done. I want to express my sincere appreciation to all of those who have served (and continue to serve) GA in many capacities. We currently have more than 1500 members from more than 85 nations and I am very pleased that GA has truly developed to a globally leading society in the field of medicinal plant and natural product research. This positive development is nicely reflected in our flagship journal, *Planta Medica* (ISI Impact Factor 2010 of 2.369), which under the able guidance of Prof. Dr. Luc Pieters and his associate editors, has reported another record year of submissions, and continues to improve in quality (see also *Planta Medica* monthly newsletter). In

order to further advance this fabulous trend I therefore would like to encourage you to publish your relevant articles in our journal which clearly serves as an excellent platform for exchange of knowledge and ideas between scientists worldwide.

I want to thank the editor of the GA Newsletter, Prof. Hensel, very much for all his efforts; he always welcomes your feed back and contributions and wants to keep the Newsletter attractive and valuable.

In the last members meeting it was decided to raise the membership fees of GA. This was necessary after 6 years in order to keep our budget balanced in the next years. With 60 € regular fees and 400 € for corporate members, it is still a reasonable range and I hope that you can accept it. The reduced fees for student members and members from certain countries (20 €) shall not be increased. Just as a friendly reminder, the annual membership fees are due and payable at least in January of each year, therefore I kindly ask you to make arrangements to have the fee paid in time. If you have already submitted your 2012 membership fee, please ignore this message. Otherwise, we would appreciate that you make the payment for your 2012 membership fee as soon as possible. These are difficult times, but with your help GA will continue to be an excellent Society.

The last annual and 59<sup>th</sup> congress was again very well attended and successful; it was the first time the GA annual congress was organized out of Europe in Turkey, in Antalya as an attractive spot blending history and culture. You will find a special report in this Newsletter. We could attract especially many young scientists from all parts of the world. So the GA meeting became again a platform for an exchange of knowledge and ideas between scientists from different regions. On behalf of GA, I want to thank the organizer of the congress in Antalya, Prof. Baser and the organizing company for all their work and engagement. They did an excellent job and we will keep the Antalya meeting in best remembrance. More than 800 abstracts of the presentations have again been published in *Planta Medica*. I want to thank the publisher, Thieme Verlag Stuttgart, Dr. Regina Wenzel, and the issue-editor Prof. Baser very much for all their efforts. A quite high number of posters have not been presented during the congress, although the corresponding abstracts have been published in *Planta Medica*; suggestions for future handling of the abstract publication will be discussed (e.g. only electronic publication of abstracts).

During the congress, the Egon-Stahl-Award in Gold, which is the highest scientific honour of GA and acknowledges the outstanding scientific lifetime work of a research scientist, was given to the Honorary Member of GA, Prof. Dr. Otto Sticher. The Bionorica Phytoneering Award of GA was awarded for the second time, winner of this award is

Prof. Dr. Veronika Butterweck, University of Florida (USA). Marija Leska has been announced as the winner of the newly established Dr. Willmar Schwabe Research Scholarship for Young Scientists (laudationes are published in this NL). As in previous years, GA has also supported 9 young scientists (PhD students and Post-doctoral Fellows) with travel grants.

The attractiveness of medicinal plant research can also be seen in the number of scientists attending our meetings/workshops.

The annual and 60<sup>th</sup> GA congress in 2012 will be organized as Joint meeting by ASP in New York, together with AFERP, GA, SIF and PSE, and I am convinced that this meeting in New York will be another milestone in the history of our Societies. Due to

the international importance of medicinal plant research, such global networking is extremely necessary and fruitful. I hope that many of you will attend and old and new members meet again at this very attractive event. Please visit the GA homepage regularly for updated information on this congress.

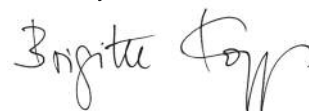
Besides our annual congress, GA is again coorganizing several other symposia on medicinal plant research during the year 2012, and I hope that you can attend some of these meetings as well. You can find the corresponding information in this Newsletter or on our web site ([www.ga-online.org](http://www.ga-online.org)). We are observing an increasing international interest in a membership in GA: we even have attracted a broad range of new members from a multitude of organizations

and countries who I personally would like to welcome to the GA family.

Last but not least I want to say good bye as president of GA. It was an honour to serve GA in this way for four years and I want to thank everybody for his/her support and trust.

I wish you a healthy, lucky and successful year 2012 and I am looking forward to seeing many of you in the famous city of New York, during an exciting and stimulating congress!

Cordially,



Brigitte Kopp, GA president

## Dear members,

at our member's meeting at the yearly annual GA-congress in September last year I was elected GA-president for the next two years. I would like to take this opportunity to thank you for your confidence. Together with the other highly competent personalities of the Board of Directors I'm convinced we can really support the interests of GA. In case of any problems or proposals concerning GA don't hesitate to contact one of us.

Cordially

Wolfgang Blaschek,  
GA president



## Planta Medica Message from the Editor-in-Chief



After five years as Editor-in-Chief of *Planta Medica*, the time has come to look back and to make some reflections about the future. Over the past few years the number of issues of *Planta Medica* has increased from

12 to 18 per year. Electronic access has widely been promoted, and the impact factor has increased from 1.746 (IF 2006) to 2.369 (IF 2010), the all-time highest impact factor the journal has ever reached. This is a clear indication that *Planta Medica* continues to grow as an attractive journal in the field of Medicinal Plant and Natural Product Research, and that the Editorial Board is in a position to choose only those manuscripts that meet the highest scientific standards. Some highlights of the past year include the Special Issue on Tropical Diseases, edited by J. Bero and J. Quetin-Leclercq [1], the Special Issue with selected contributions from the 7<sup>th</sup> Tannin Conference and the 58<sup>th</sup> Annual Congress of the Society for Medicinal Plant Research in Berlin [2], and the abstract volume of the 59<sup>th</sup> International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (4–9 September 2011, Antalya, Turkey), edited by K.H.C. Başer [3]. For 2012 there are also two Special Issues scheduled.

In order to further improve and streamline the review process, and taking into account the new focus of the journal that was implemented last year, it has been decided to renew the composition and the size of the Editorial and the Advisory Board. I would like to thank especially Prof. Wolfgang Barz and Prof. Wolfgang Kreis, who have been editing almost all manuscripts in the field of plant molecular biology and

plant biotechnology, a field that is no longer covered by the editorial scope of the journal, as has previously been announced, for their valuable work during many years. The size of the Editorial Board will be reduced from 17 to 9 Editors, including Adolf Nahrstedt (Senior Editor), Matthias Hamburger (Review Editor), Rudolf Bauer, Veronika Butterweck, Thomas Efferth, Irmgard Merfort, Hermann Stuppner, Yang-Chang Wu, and myself as Editor-in-Chief. As is custom with most scientific journals, membership of the Advisory Board rotates at regular intervals. The aim of the Advisory Board is to provide a core of dedicated and reliable reviewers, who are very familiar with *Planta Medica*, its editorial scope and its guidelines, and who will be considered "first choice" reviewers by the Editors. Most of the former Editors have agreed to act as Advisory Board members from now on, and in addition I would like to welcome Claus Cornett (Copenhagen, Denmark), Nicolas Oberlies (Greensboro, North Carolina, USA), Jose-Luis Rios (Valencia, Spain), Ping-Jyun Sung (Pingtung, Taiwan) and Günther Vollmer (Dresden, Germany). The advice and dedication of the Advisory Board members, especially as expert reviewers, is an important support for the journal. The Advisory Board members make a significant contribution both to the field of pharmacognosy and to the journal's international success.

In 2012 *Planta Medica* will maintain its close relationship to the Society for Medicinal Plant and Natural Product Research. It should be noted that members of the GA are entitled to a personal electronic subscription to *Planta Medica* at a very competitive rate – have a look at [www.ga-online.org/planta\\_medica.html](http://www.ga-online.org/planta_medica.html).

The aim of *Planta Medica* is the communication of significant research contributions in the field of medicinal plants and natural products. A scientific journal based on a peer-review system is only possible with



the dedication of lots of scientists who evaluate and comment on the submitted manuscripts. The Editorial Board and the Publisher of *Planta Medica* gratefully acknowledge the time consuming but highly valuable

efforts provided by the reviewers on a voluntary basis. Many authors appreciate the comments and suggestions made by the reviewers, and use these to improve the quality of their manuscripts.

Best wishes for 2012!


Luc Pieters, Editor-in-Chief

#### References

1. Bero J, Quetin-Leclercq J. Natural Products and Tropical Diseases. *Planta Med* 2011; 77: 571.
2. Kolodziej H, Hagerman AE. Polyphenols, Ethnomedicine, and Benefit Sharing. *Planta Med* 2011; 77: 1069.
3. Başer KHC. International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research. *Planta Med* 2011; 77: 1229.

## The Society informs

### Notes to all GA members



**Editorial remark**

---

**All contributions for the GA-Newsletter are welcome.**

**Deadline for submission is fixed to May 20<sup>th</sup> 2012.**

**Please send all contributions by e-mail:**  
**Prof. Dr. A. Hensel**  
**University of Münster,**  
**Institute for Pharmaceutical**  
**Biology and Phytochemistry,**  
**Hittorfstrasse 56,**  
**D-48149 Münster, Germany**  
**ahensel@uni-muenster.de**


**Deceased members**

---

(to our knowledge)

**Prof. Dr. Meinhart H. Zenk**  
**Martin-Luther University**  
**Halle-Wittenberg, Germany**

**Deceased 05.07.2011 at age 78**

**Member of GA**  
**from 1974 to 2009**

**The Society will keep**  
**commemoration and offers its**  
**sincere condolence.**

## Announcement of the Egon-Stahl-Award in Bronze 2012

On the occasion of his 60<sup>th</sup> birthday, Professor Dr. Dr. h.c. mult. Egon Stahl donated a medal, a document and a monetary prize in order to recognize and promote young scientists working in the field of Pharmacognosy (Pharmaceutical Biology) and Analytical Phytochemistry. As a rule, the bronze medal and an award of € 1,500 will be given to young scholars up to the age of about thirty whose thesis was of outstanding quality. The prize will be awarded during the 60<sup>th</sup> International Congress (Joint Meeting with ASP, AFERP,

PSE and SIF) and Annual Meeting of GA in New York, 28 July – 1 August 2012 (<http://icnpr2012.org>). Members of the Society for Medicinal Plant and Natural Product Research (GA) are invited to submit nominations for candidates together with supporting data to the president of GA, Prof. Dr. Wolfgang Blaschek, Kiel, Germany. Nominations of oneself cannot be considered. A nomination for the prize has to include a CV, incorporating the candidate's scientific career, an index on her/his publications,

and reprints of several of his/her more recent publications. All publications can be taken into consideration. All documents have to be submitted in **electronic form** (as CD in 5 copies). Deadline for submission is **March 15, 2012**.

Prof. Dr. Wolfgang Blaschek, GA President

Documents to be sent to:

Prof. Dr. Wolfgang Blaschek, GA President, Pharmaceutical Biology, Institute of Pharmacy, University of Kiel, Gutenbergstraße 76, 24118 Kiel, Germany. [wbla@pharmazie.uni-kiel.de](mailto:wbla@pharmazie.uni-kiel.de).

## Announcement of the Dr. Willmar Schwabe Award 2012 of the Society for Medicinal Plant and Natural Product Research

For the 4<sup>th</sup> time the Dr. Willmar Schwabe Award of GA will be given in 2012. The Dr. Willmar Schwabe Award acknowledges outstanding results of pharmacological and/or clinical research in the field of herbal medicinal products. The award is endowed with 10,000€ by the endowing sponsor Dr. Willmar Schwabe GmbH, Karlsruhe (Germany). The aim of the award is to motivate preferentially young scientists (normally 40 years or younger) to resolve phytotherapeutical and phytopharmaceutical problems in an interdisciplinary approach, in order to support the evidence-based use of natural products.

Research groups and scientists of universities and other non-commercial scientific institutions are entitled to apply. Scientific applications to be nominated (consisting of up to three relevant scientific publications on a specific topic which have been published during the last three years, the CV(s) and the list(s) of publications) must be submitted to the president of GA – Society for Medicinal Plant and Natural Product Research, Prof. Dr. Wolfgang Blaschek, Kiel, Germany, in electronic form (as CD-Rs in five copies) until **April 04, 2012**. The Dr. Willmar Schwabe Award will be bestowed during the 60<sup>th</sup> International

Congress (Joint Meeting with ASP, AFERP, PSE and SIF) and Annual Meeting of GA in New York, 28 July – 1 August 2012 (<http://icnpr2012.org>). The awarded scientific results shall be presented during the congress.

Prof. Dr. Wolfgang Blaschek, GA President, November 2011

Documents to be sent to:

Prof. Dr. Wolfgang Blaschek, GA President, Pharmaceutical Biology, Institute of Pharmacy, University of Kiel, Gutenbergstraße 76, 24118 Kiel, Germany. [wbla@pharmazie.uni-kiel.de](mailto:wbla@pharmazie.uni-kiel.de).



# Some Data from the Membership Data Base

## New GA members

The society can announce 57 new members since June 2011. The Society welcomes you all warmly and wishes that GA may get a platform for many scientific and personal contacts. We are looking forward to your active participation in many GA events! All the best for you all!

**A Hadi**, A. Hamid, Malaysia; **Ab. Ghani**, Nurunajah, Malaysia; **Ag Nuddin**, Julenah, Malaysia; **Alias**, Asmah, Malaysia; **Arújo Ramalho**, Suare, Brazil; **Aryal**, Bal Kumar, Nepal; **Aytac**, Zehra, Turkey; **Biola Messi**, Bernadette, Cameroon; **Brand**, Kirsten, United Kingdom; **Cankaya**, Iffet Irem, Turkey; **Derksen**, Andrea, Germany; **Elusiyani**, Christianah, Nigeria; **Gabl**, Michaela, Austria; **Gurbuz**, Perihan, Turkey;

**Harput**, Ummuhan, Turkey; **Hudaverdi**, Mehmet S., Turkey; **Haznedaraoglu**, Zeki, Turkey; **Heritani**, Triana, Indonesia; **Ho Huynh**, Thuy Duong, Vietnam; **Hussein**, Sameh, Reda, Egypt; **Ivanescu**, Bianca, Romania; **Kaminski**, Marian, Poland; **Kir-mizibekmez**, Hasan, Turkey; **Koptina**, Anna, Russia; **Kounadi**, Tamatina, Greece; **Kwak**, Jong Hwan, Korea; **Labun**, Pavol, Slovakia; **Lakic**, Neda, Serbia; **Laqua**, Katja, Germany; **Lemonakis**, Nikolaos, Greece; **Li**, Chuan, China; **Mamadaliyeva**, Nilufar, Uzbekistan; **Mexia**, Nikita, Greece; **Mirmazloun**, Iman, Hungary; **Moradi**, Parviz, United Kingdom, **Müller**, Diana, Germany; **Müller**, Margit, Germany; **Phoolcharoen**, Waranyoo, Thailand; **Radanova**, Lilyana, Germany; **Ravikumar**,

Puja, India; **Rethage Rodrigues**, Janine, Switzerland; **Santos**, Vagner, Brazil; **Ruch**, Sandra, Germany; **Rudolph**, Ines, Germany; **Salim**, Fatimah, Malaysia; **Ade-ronke**, Samuel, Nigeria; **Sarshar**, Shabnam, Iran; **Schripsema**, Jan, Brazil; **Termentzi**, Aikaterini, Greece; **Timmermann**, Barbara, USA; **van Vuuren**, Sandy, South Africa; **Van Zyl**, Robyn, South Africa; **Waldbauer**, Katharina, Austria; **Wan Mohd Zain**, Wan Zuraida, Malaysia; **Williams**, Sarah, United Kingdom; **Winkenstädt**, Daniel, Austria; **Yang**, Meihua, China.

Dr. B. Benedek (GA secretary),  
A. Hensel

## Egon Stahl Award in Gold for Prof. Dr. Otto Sticher

The Egon Stahl-Award in Gold is the highest scientific honour of the Society for Medicinal Plant and Natural Product Research (GA). It was founded in 1999 and can be awarded every third year. The Egon Stahl-Award in Gold acknowledges the outstanding scientific lifetime work of a research scientist who has been closely attached to Pharmaceutical Biology (Pharmacognosy, Chemistry of Natural Products), in its whole range, through his/her scientific work. The Egon Stahl-Prize in Gold is endowed with 5.000 €, a donation from GA. The donation was made with the intention of furthering scientific aims deserving aid.

It is a pleasure and honor for GA to announce the fifth laureate of the ESA Gold: this outstanding personality with exceptional scientific achievements in the field of medicinal plants as well as of his national and international importance in the field of Pharmacognosy, Pharmaceutical Biology and Pharmacy is Prof. Dr. Otto STICHER.

Prof. Sticher studied pharmacy at the ETH Zurich, made his PhD study in pharmacognosy 1965 with the then Professor of Pharmacognosy, Hans Flück.

1970 the habilitation in that field at the ETH followed. Dr. Sticher discovered a new topic: iridoids, which were originally found in insects and were now gaining increasing attention as herbal monoterpenes.

The papers made Otto Sticher one of the leading experts worldwide in the phytochemistry of iridoids and laid the foundation for his international reputation, since iridoids were studied all over the world as active substances, marker substances,

plant-systematic indicators, plant and insect repellents, as well as colourants, lead compounds and synthons.

A review of the <sup>13</sup>C NMR spectroscopy of iridoid glucosides in 1980 was among the one hundred most-cited papers in the field of chemistry in the years 1980–1982.

After entering the field of iridoid phytochemistry, Otto Sticher's academic career was unstoppable. In 1972, he was named *Associate Professor for Pharmacognosy* at the ETH, and in 1979 *Full Professor for Pharmacognosy and Phytochemistry*, The „Sticher“ era (or even generation, one could say) in pharmacy at the ETH-Zurich began.

The groups of natural substances on which Otto Sticher has worked are numerous. They include the previously mentioned iridoids, the most diverse terpene derivatives, phenolic substances such as flavonoids, lignans, phenylpropanoids, salicin derivatives, coumarins, anthranoids, various alkaloid groups (-glutamyl peptide and derivatives and several cyclic peptides).

During his career, Otto Sticher understood the value of bringing experts in various areas from all over the world to his institute and integrating them into his working group – a situation which was to the advantage of all parties involved. Simply stated: The ETH Zurich has become a Mecca of phytochemistry.

Of major significance were the methodological papers, which were published on the basis of the named substance groups. In this way, *HPLC* methods for the separation of natural products were published very early on – the Sticher's lab was a leader in this area for several years.



He was interested in ethnopharmacology-based drug discovery and undertook several collection trips, always in the company of his wife Miriam, to remote parts of the world.

In the second half of his research activity, Otto Sticher – like many phytochemists – focused more and more on testing the biological activity of his isolates.

One of the first papers from Otto Sticher's lab on biological activity demonstrated the influence of furocoumarins on prolactin release from hypophysis cells. There were other papers on antiproliferative alkaloids, on the anti-malarial activity of terpenes from coral, on the sweet-tasting diterpenes and on the antiphlogistic haem decomposition products, to mention only a

few. Towards the end of his research activity at the ETH-Zurich, Sticher was interested in natural substances that bind to key enzymes or factors responsible for gene regulation, such as cytokines and transcription factors, thereby influence gene expression.

Overall Prof. Sticher has published almost 400 publications in those areas in highly respected journals, including *Planta Medica*. Given this level of competence, it is inevitable that he is invited to conferences, seminars and lectures worldwide.

Otto Sticher was entrusted with numerous honorary posts and tasks within the scientific community.

Between 1975–1996, Sticher was member of the GA Board (BoD). He served as President (1978–1984) and the vice-president (1984–1988) of the GA.

He organized two annual GA meetings in Zurich. At 40, Otto Sticher was the youngest conference president when he opened the 25th annual conference of the GA in 1977. At the conference, he was named President of the society, thus becoming the youngest President in the nearly 60-year history of our society.

The second GA conference took place a few years before his retirement, in 2000, again in Zurich.

His activities and commitment to pharmacognosy and phytochemistry have been acknowledged with honorary memberships (including GA honorary membership since 2002) and medals of merit, as well as honourable appointments to numerous pharmacopeia and food-code commissions in Switzerland, Europe and the USA. Otto Sticher was also a great teacher and lecturer. In the 1990s, he received the teaching prize in the Department of Pharmacy at the ETH for his “outstanding teaching” as a lecturer.

When talking about Otto Sticher as lecturer, we cannot omit his collaboration on one of the best text books in the field of pharmacognosy: *Pharmakognosie-Phytopharmazie* (Pharmacognosy-Phytopharmacy). Sticher has been involved in the 6th edition of this book (Hänsel, Sticher, Steinegger) in 1999 and in 2010 published the 9th edition (Hänsel, Sticher).

In summary, Prof. Sticher is one of the most successful natural product chemists who contributed to this field in many areas

in many different grounds. His research was always ahead of his time and his research lab was one of the best-equipped and organized ones worldwide. He was involved with pharmacy for 45 years, trained numerous PhD students, post-docs and senior researchers, many of whom are now following the way he previous paved and led. His scientific accomplishments have been well recognized worldwide, so GA believes there is no doubt that he deserves an Egon Stahl Medal in Gold for his achievements and contributions in natural product research.

The Gold medal (ESA GOLD) and a document which is read: *The Society for Medicinal Plant and Natural Product Research (Gesellschaft für Arzneipflanzen- und Naturstoffforschung) has pleasure in dedicating the Egon Stahl-Award 2011 with a gold medal to Prof. Dr. Otto Sticher in recognition of his outstanding contributions in the area of medicinal plant research and natural product analysis, and to pharmaceutical biology as an academic discipline,* were handed over by the GA president.

Brigitte Kopp and Deniz Tasdemir

## Bionorica Phytoneering Award 2011 for Prof. Dr. Veronika Butterweck

According to stated objectives, the Bionorica Phytoneering Award acknowledges outstanding research in the field of development and application of herbal medicinal products. The aim of the award is to motivate scientists to perform research also in the area of pharmacodynamics and pharmacokinetics of herbal medicinal products and their active principles.

During the Annual GA meeting in Antalya, Turkey, September 4–8<sup>th</sup> 2011, it was the second time that the Bionorica Phytoneering Award was bestowed and GA is thankful to Prof. Dr. Michael Popp, Bionorica, as endowing sponsor. The award is donated with 10.000 €.

This year, the award was given to Prof. Dr. Veronika Butterweck for her outstanding research and contributions on the pharmacokinetics of flavonoids in general and the pharmacological activities of their metabolites in particular. Her data have led to the development of the hypothesis that flavonoids are prodrugs which must undergo metabolic conversion before becoming an active pharmacological agent. Recent findings from Dr. Butterweck's group suggest that both, kaempferol and quercetin, may exert aspects of their anxiolytic activity by bioactivation to parahydroxyphenylacetic acid derivatives in the intestine. The Bionorica Phytoneering Award Committee considered this area of research as a frontier and ultimate key which will significantly add to the knowledge regarding possible *in vivo* activity of flavonoid metabolites.

Dr. Veronika Butterweck is Associate Professor at the Department of Pharmaceutics at the University of Florida, College of Pharmacy in Gainesville. She received her PhD (1997) in Pharmacy from the University of Münster, Germany. Dr. Butterweck was a Postdoctoral Fellow at the National Institutes of Mental Health, Bethesda, Maryland, in 1999 and 2001. She received the Habilitation for Pharmacology in 2003 from the University of Münster and since then joins the University of Florida, College of Pharmacy in Gainesville, Florida, as a faculty member. Dr. Butterweck is Editor of *Planta Medica* and was a member of the

Expert Committee “Dietary Supplements/Botanicals” of the United States Pharmacopoeia (USP) from 2005–2010.

Her research focuses on the development of new therapeutic concepts based on herbal medicines. In particular her laboratory has emphasized herbal medicines for the treatment of anxiety, depression and diabetes. In addition, Dr. Butterweck's research also emphasises the pharmacokinetics of natural products.

GA congratulates her on her award and wishes her the best of luck for the future.

Brigitte Kopp, GA president



# Laudatio of the GA president on occasion of handing over the Dr. Willmar Schwabe Research Scholarship for Young Scientists to Marija Lesjak

**Brigitte Kopp, GA president**

The aim of the Dr. Willmar Schwabe Research Scholarship for Young Scientists is to support research of young scientists, especially from developing countries in leading research institutions.

Projects focusing on pharmacological or clinical research of phytopharmaceuticals and their active substances are particularly welcome. The award is exclusively used for travelling and living costs of the awardee and not for consumables. A duration of at least 6 months is mandatory. The scholarship is endowed with 10.000 €. GA is thankful to Schwabe company as endowing sponsor and I am glad to announce that this scholarship will also be awarded next year 2012.

Excellent young scientists have sent their application to the scientific committee of the GA. Therefore, it was a difficult, but finally an unanimous decision of the experts and the ExC: the student who has been selected for the Willmar Schwabe Research Scholarship for young scientists 2011 is **Marija Lesjak**.

Marija Lesjak got her Master of Science in Chemistry / Biochemistry at the Department of Chemistry, Biochemistry and Environmental Protection at the University of Novi Sad, Serbia. Since 2008 she is PhD student of Biochemistry at the same department. She works on the chemical characterization and biological activities of secondary metabolites from plants and their interaction with xenobiotics. She has 3 publications and 23 presentations at various congresses.

Marija wants to go to Prof. Srai and Prof. Waksman, Institute of Structural and Molecular Biology at the University College London with investigations on the effect of polyphenols on iron homeostasis in terms of iron transport and regulatory protein expression levels and iron absorption kinetics. The experience of the hosting institution fits very well for the project. From this scholarship GA and Schwabe company expect achievement motivation for young researchers in the field of medicinal plant and natural product research.



Prof Kopp and Dr. Meng together with Dr. Marija Lesjak

## Award of the Young Researcher Workshop on occasion of the 2011 meeting in Antalya

The following GA members, participating in the Young Researcher Workshop in Antalya with the best oral presentations were selected for the awards, sponsored by Bionorica AG, Germany :

JOHANNES KÖHBACH  
NIKOLAOS LEMONAKIS  
NIKITIA MEXIA  
JOHANNA MICHL

CHANDRIKA NIRANJALA NANAYAKKARA  
WASAM MASACHCHIGE  
ANJA SCHRAMM

GA congratulates!

## Poster awards during the GA conference 2011 in Antalya

Best poster presentations were selected during the 2011 meeting for the following scientific results:

Sandasi M, Kamatou GP, Baranska M, and Viljoen, A: Application of vibrational spectroscopy in the quality assessment of Buchu oil obtained from two commer-

cially important *Agathosma* species (Rutaceae).

Beniddir M, Litaudon M, Rasoanaivo P, Grellier P, and Guéritte F: From structural studies of natural products to the discovery of a selective antiplasmodial derivative: A serendipidity study.

Kamal M, Clements C, Gray AI, Edrada-Ebel R: Discovery of bioactive metabolites from the leaves of *Vitex pinnata* using high-throughput flash chromatography.

GA congratulates!

## Travel grant winner for GA conference 2011 in Antalya

GA was able to sponsor several travel grants for graduate students and post-doctoral fellows to attend the annual meeting in Antalya in September 2011. The GA travel grant committee 2011 consisted of Judith Rollinger, Hebba Abdel Aziz and Veronika Butterweck. The committee has received a total of 14 student applications and 6 submissions from postdoctoral fellows from developing countries. Finally, 9 travel grants have been awarded by the

GA travel grant committee on a competitive basis from among the accepted abstracts. The GA-congratulates the following recipients:

### PhD Student Level:

Anja Schramm, Switzerland (600 €)  
Evelien Rozema, Austria (600 €)  
Bettina Schwanck, Germany (600 €)

Susanne Kuehnl, Austria (600 €)  
Johannes Koehbach, Austria (600 €)  
Theophine Okoye, Nigeria (1700 €)  
Che Puteh Osman, Malaysia (1700 €)

### Postdoctoral Fellow Level (for Young Researchers from developing countries):

Yanti, Indonesia (1700 €)  
Hoda Eid, Egypt (1700 €)

## CESAR Award to Thomas Efferth

Prof. Dr. Thomas Efferth was awarded with the CESAR Award for Translational Cancer Research on June 17<sup>th</sup> 2011. CESAR is the

Central European Society for Anticancer Research. The award ceremony took place

on the CESAR Annual Meeting in Greifswald. GA congratulates!

## Obituary, In memoriam Prof. Dr. Meinhart H. Zenk

On July 5<sup>th</sup> 2011 Professor Meinhart Hans Zenk, a world-renowned plant biochemist, plant physiologist, pharmacognosist and phytochemist passed away in St. Louis, USA, at the age of 78 years. He was born on February 04, 1933, in the Bavarian town of Donauwörth. His father was a teacher. The second world war had a severe impact on the Zenk family as neither father nor brother survived.

Meinhart Zenk started his scientific curriculum as a student of biology at the Ludwig Maximilians University in Munich. His academic teachers were the botanists Hermann Merxmüller, Otto Kandler and the biochemist and Nobel laureate Feodor Lynen. These scientists offered orientation and were an example to him throughout the early years of his career. The time he spent in the laboratory of Carl Leopold at Purdue University in West Lafayette, USA, set him on course to a career in plant physiology and plant biochemistry. In the early sixties Leo Brauner, who was head of the Botanical Institute in Munich, paved the way for Meinhart Zenk in helping him to establish a radioisotope laboratory in the attic of his institute.

The research of Meinhart Zenk took place at the interface between chemistry, pharmacy, plant physiology, biochemistry and ecology. In this interdisciplinary field he often raised questions from a biologist's point of view. In addition, he mastered a broad range of biochemical, molecular biological, immunological and chemical techniques which won him much admira-

tion in the international scientific community.

In the early sixties of the past century it was believed that secondary natural compounds are waste products which plants dispose of in vacuoles, a view strongly opposed by Meinhart Zenk. The following years witnessed increasing evidence in favor of his opinion and for an ecological function of natural products. In his research he often employed plant cell suspension cultures to tackle unresolved questions of plant metabolism. Without these experimental systems the investigation of indole and isoquinoline alkaloid biosynthesis and the identification of the respective enzymes would not have been possible. The most intriguing question that Meinhart Zenk left us is how it is possible that both plants and mammals are able to synthesize morphine, where, why and under which circumstances morphine is produced and what role it plays in the human physiology.

Meinhart Zenk was strongly convinced of Humboldt's principle of the unity of teaching and research. Working in his group was a challenge. However, he never hesitated to acknowledge a successfully completed piece of work. Whenever he was convinced that one of his associates met with the high scientific standards set by him he did not hesitate to support her or his career. Several of his former PhD students now hold chairs in pharmacy, plant biochemistry and plant physiology.



He was honored by election to learned societies in several countries, decorated with highly prestigious medals of scientific and non-scientific institutions, and honorary doctorates from three continents. Meinhart Zenk was an outstanding scientist and an eminent personality. His work adds splendour to plant science and pharmacy.

His remains are buried on the old German cemetery in Augusta in the vicinity of St Louis, Missouri, USA. Our thoughts are with his wife Toni Kutchan and his daughters Annabelle and Isabelle.

Prof. Birgit Draeger, Halle/Saale, Germany  
Prof. Eckhard Leistner, Bonn, Germany

# Retirement of Prof. Dr. Elisabeth Stahl-Biskup

With the end of winter term 2012 Prof. Dr. Elisabeth Stahl-Biskup will retire from her position at the Institute of Pharmacy, Department of Pharmaceutical Biology and Microbiology of the University of Hamburg. She is a long-standing member of GA, always active in many duties behind the stage of GA, but always providing perfect service and activities to our society. The most commendable service was the edition of the GA-Newsletter over 10 years. Elisabeth Stahl-Biskup studied pharmacy at University of Freiburg (Germany) and got her PhD in 1975 for her studies on the essential oil from *Pastinaca sativa* at the University of Hamburg. There she finished her habilitation in 1982 dealing with the essential oil from several *Thymus* species in Northern Europe. Afterwards she was offered a chair and in 1984 she took up a professorship at the Department of Pharmaceutical Biology in Hamburg.

Research topics over her scientific career had been essential oils from higher plants, coumarins, chemotaxonomy, antimicrobial activity of essential oils, as well as manifold aspects of analytics and standardization of herbal materials.

She published about 70 papers, contributed to several books and established 28 monographs on medicinal plants. Two of her books are steadily used for teaching pharmacy students. As an editor and author of the commentaries on herbal drug monographs in the German and European Pharmacopoeia she received high merits for the pharmacopoeial quality control.

GA thanks for all activities and help in our society, and wishes good health and a wonderful time without any academic duties! All the best!

Andreas Hensel



## Minutes of the GA Members Meeting 2011

The Members Meeting took place during the annual congress in Antalya on 6 Sept. 2011 from 6.00 to 8.10 p.m. 124 GA members attended the meeting.

### 1. Approval of the Agenda

President Prof. B. Kopp welcomed all participants. A. Marston requested to add the discussion of the abstract book for annual congresses to the agenda. B. Kopp requested to add the modification of the GA bylaws to the agenda. Except for these requests, the agenda, published in the GA Newsletter 1-2011, was unanimously approved.

### 2. Approval of the Minutes of the Members Meeting

The minutes of the previous Members Meeting on 31 Aug. 2010 in Berlin, published in the GA Newsletter 2-2010, were unanimously approved.

### 3. Annual reports

#### 3.1. Report of the President Prof. B. Kopp

- Honorary Member Dr. H.-G. Menßen has died at the age of 84 this year. An obituary was published in the GA Newsletter. Dr. Meinhard Zenk who has been a GA member from 1974 to 2009 also passed away this year. All participants stood up for one minute of silent commemoration.
- She organised two meetings of the Executive Council of GA (December 2010 and July 2011, both in Vienna) and two meet-

ings of the Board of Directors of GA (January 2011 in Vienna and September 2011 in Antalya).

- The following awards have been bestowed this year: Bionorica Phytoneering Award (V. Butterweck), Egon Stahl-Award in Gold (O. Sticher), Dr. Willmar Schwabe Research Scholarship for Young Scientists (M. Lesjak). The Egon Stahl-Award in Silver has not been bestowed this year because of only one application that did not meet the criteria. B. Kopp was responsible for the coordination of the respective award juries.
- A foundation called "Plants for Health" will be created by GA. For further details please see the report of the Treasurer (3.4.).
- The BoD decided a Travel Grant budget for 2012 of 15.000 EUR because of the expected high travel costs to the Joint Meeting in New York.
- The report of the cash auditors Prof. H. Schilcher and Prof. E. Stahl-Biskup was very positive. B. Kopp thanked the Treasurer B. Roether and his assistant Ms. Lahse for their excellent work.
- A comment to the HMPC monograph draft on *Chelidonium* was written by O. Kelber and A. Nahrstedt and was sent to EMA by the Secretary B. Benedek in the name of GA.
- The last GA Newsletter was circulated in July 2011. B. Kopp

thanked the NL Editor A. Hensel for his work.

- The following meetings co-organised by GA took place in 2011: 10<sup>th</sup> Annual Oxford International Conference on the Science of Botanicals (Oxford, Mississippi, USA), HPTLC Symposium 2011 (Basel, Switzerland) and The XV International Congress "PHYTOPHARM 2011" (Nuremberg, Germany).
- B. Kopp thanked the GA Webmaster C. Wawrosch and his assistant A. Wöber for their work.

#### 3.2. Reports of the Vice-Presidents

##### 3.2.1. Report of Vice-President Prof. M. Hamburger

- He participated in the PharmSci-Fair meeting in Prague and was chair of the GA session.
- He was head of the organisation committee of the HPTLC-Meeting in Basel that took place from 6-8 July in Basel. The meeting was quite successful with 350 participants from 40 countries. One session was dedicated to the analysis of natural products.
- He was involved in the organisation of the scientific programme for the Joint meeting in New York 2012.
- He has established the contact with Dr. Anna Jäger who will organise the Joint Meeting Copenhagen 2016.



### 3.3 Report of Vice-President Prof. W. Blaschek

- He participated in the symposium "Phytopharmaka – erfüllbare Erwartungen" dedicated to Prof. Winterhoff (†) on 7 Oct. 2010 in Münster, Germany, as representative of GA.
- He attended the meetings "Zukunft Phytotherapie" in October 2010 in Hamburg and in August 2011 in Bonn.
- He was in contact with a lawyer regarding the trademark rights of GA. In general, the trademark has a validity period of 2x5 years, provided that the use of the trademark can be proven. The respective documents have been submitted so that the trademark rights are protected for the period 2012 to 2017 in Germany. The ExC decided that the protection of trademark rights on a European level is not necessary, mainly due to financial reasons.
- He attended a meeting of the organisers of the ÖGPhyt-Kongress in 2012.
- He participated in the Oxford Meeting and gave a lecture
- He was a member of the organising committee of Phytopharm 2011 in Nuremberg. He gave a welcome address from GA during the opening ceremony. The next meeting will take place in St. Petersburg next year.
- He is a member of the organising committee of the Mistletoe Symposium in Nonnweiler in Nov. 2011. He will give a welcome address from GA during the opening ceremony.
- He is involved in the organisation of the Joint Meeting in New York 2012.

### 3.3 Report of the Secretary Dr. B. Benedek

- She has been in close contact with the organisers of the congress in Turkey during the preparation of the congress.
- She has prepared the elections that will take place later on during the Members Meeting.
- She has arranged the prizes for the poster awards that will be given during the Closing Ceremony.
- She was a member of the Jury for the Egon-Stahl-Award in Gold.
- She has created a Facebook page for GA that currently has 138 fans. Everybody is invited to join GA on Facebook.
- She presented the members statistics: GA currently has 1500 active members (plus 82 compared to 08/2010). 29 new members have joined GA during the congress. They will start their mem-

bership in 2012. Currently 848 members pay the regular fee of 40 EUR, 596 members pay the reduced fee of 20 EUR. GA currently has 36 company members. 2 of them have cancelled their membership this year. More company members shall be acquired in the future. 20 members are freed from membership fees. 11 thereof are Honorary Members, for 9 members the fees have been waived due to more than 40 years of GA membership.

### 3.4 Report of the Treasurer Dr. B. Roether and the Auditors Prof. E. Stahl-Biskup and Prof. H. Schilcher

Dr. Roether presented the current financial situation of GA:

- The credits of GA currently amount to 115,185 EUR (funds value: 56,530 EUR, cash: 58,655 EUR). 15,000 EUR thereof have recently been invested in the HVB 2.75% Euribor Cap Floater (100% return guaranteed, 3-monthly dividend payout, based on current EURIBOR).
- The credits of the Egon-Stahl-Fund currently amount to 54,615 EUR (funds value: 50,000 EUR, cash: 2,615 EUR).
- The total revenues in 2011 were 52,545 EUR (status 07/2011), the total expenses 19,334 EUR. Thus, the balance for 2011 (total revenues minus total expenses) is 33,212 EUR (07/2011).
- Insolvency of CTW (congress organising company 2010 Berlin): The Treasurer received the final accounting of the annual conference 2010 in Berlin in February 2011 from Profs. Melzig/Kolodziej. CTW announced its insolvency before transferring the surplus. The official announcement of insolvency was published by the local court on 6 June 2011. Until end of September 2011 claims can be raised. In the name of GA the Treasurer involved a specialized lawyer. The insolvency practitioner received GA's claim and will calculate a quota.
- Due to future financial challenges of GA an increase in the membership fees is necessary (e.g. financial support of young scientists, sponsoring of scientific congresses, purchase of an abstract review software for annual congresses, PR activities, compensation of inflation rate, building-up of a sound and fiscally acceptable buffer). The fee for regular members shall be increased from 40 EUR to 60 EUR, the reduced fees for student members and members from certain countries (20 EUR) shall

not be increased. For corporate members the fees shall be increased from 250 EUR to 400 EUR. The increase of membership fees was unanimously approved by the assembly, there were no abstentions.

- Planta Medica online subscriptions: In 2011 there were 41 subscriptions to PM online with access back to 1998 and 33 subscriptions with access back to 1953.
- GA Foundation: A foundation called "Plants for Health" shall be established by GA. The purposes of this foundation are to support scientific studies in the area of medicinal plant and natural products research, especially innovative, multi-disciplinary projects that strengthen the international standing of medicinal plant and natural products research. This shall be achieved by initiation of scientific co-operations and networking projects, initial funding of innovative projects and start-up funding for excellent, young scientists. The time to save-up money by fundraising shall be about 2 years. The support of projects will derive from revenues of the assets of the foundation. The Board of Directors will consist of 3 members who act as managing directors. One of them will be the chairperson, one a vice-chairperson. The Board members will be nominated by the ExC and will be published in the next newsletter. The duties of the Board are administration of the assets, allocation of available funds with the aim to increase the assets of the foundation and compilation of a duly annual statement and a balance sheet. The Board is supported by the GA Treasurer with all regards to bookkeeping. The establishment of the foundation "Plants for Health" was unanimously approved by the assembly, there were no abstentions.
- Prof. E. Stahl-Biskup presented the Report of the Auditors: Prof. H. Schilcher and herself independently assessed the annual cash report 2010. Their reports were very positive, no irregularities have been found.

### 3.5 Discharge of the Executive Council

Based on the Report of the Auditors Prof. E. Stahl-Biskup asked for the discharge of the Treasurer and the whole ExC which was accepted unanimously by the whole assembly.

## 4. Modification of the GA Bylaws

§ 9 (3) of the GA bylaws shall be modified in order to achieve more flexibility in the ExC as follows:

(3) *The Executive Council consists of five members as follows:*

- *the President,*
  - *two representatives of the President (Vice-Presidents),*
  - *the financial officer (Treasurer), and*
  - *the keeper of the records (Secretary).*
- The President, his two representatives, the Secretary, and the Treasurer shall be entered into the Public Register of Societies, each possessing the sole power of representation. The President or one of his representatives or the Secretary, as well as the Treasurer, must be residents of the Federal Republic of Germany.*

The modification of the bylaws was unanimously approved by the assembly.

Due to the establishment of the foundation "Plants for Health" § 1 and § 3 of the GA bylaws have to be modified as follows:

§ 1 – *Name, Location and Purpose of the Society*

*The Society for Medicinal Plant Research has its headquarters in Bad Camberg, Germany, and, as a non-profit organization, conducts numerous activities in compliance with Section „Steuerbegünstigte Zwecke“ („Tax Exemption“) of the German „Abgabenverordnung“. The purpose of the Society is the advancement of research and science in the field of medicinal plants.*

*Specifically, this purpose is achieved by*

- *the organization of scientific meetings,*
- *the financial support of research work,*
- *support of the scientific journal „Planta Medica: Natural Products and Medicinal Plant Research“,*
- **cooperation with and founding of associations and bodies with similar goals,**
- *the scientific counselling of public institutions, and*
- *other measures serving the purposes of the Society.*

*The Society for Medicinal Plant Research is international in scope.*

§ 3 – *Resources of the Society*

*The resources of the Society shall be used only for the purposes of the Society as established in the Bylaws. No resources of the Society are to be donated to members.*

***Also, the Society may use its funds to financially or in other ways support other charitable bodies, organisations and foundations provided that these entities have a charitable status [based on German laws] and that they support activities according to § 1. Specifically it may use its funds to establish a charitable foundation known under the name of "Plants for Health".***

The modification of § 1 and § 3 of the bylaws was unanimously approved by the assembly.

## 5. Report of the Editor-in-Chief of **Planta Medica Prof. L. Pieters**

- B. Kopp thanked L. Pieters and the review editor M. Hamburger for their work. L. Pieters presented new facts and figures related to *Planta Medica*:
- The rejection rate (published versus submitted manuscripts) in 2010 was 76%.
- The different types of publications include full papers, letters, reviews, rapid communications and perspectives.
- With respect to the number of submitted manuscripts the leading country is China followed by USA, Germany, Korea and Taiwan.
- Most manuscripts have been published within the section "Biological and Pharmacological Activity" and "Natural Product Chemistry".
- Two special issues have been published in 2010: "Cancer Therapy with Natural Products" (editor: Efferth) and a special issue on TCM (editors: Bauer, Chan). Two special issues have been published in 2011: "Tropical diseases" (editor: Leclercq and Bero) and "Selected contributions from the GA Congress 2010 in Berlin" (editor: Kolodziej).
- The impact factor in 2010 was 2.369 compared to 2.037 the year before. The impact factor of *Planta Medica* is slightly lower than that of *Journal of Ethnopharmacology* (2.466) and *Phytomedicine* (2.662), but higher than that of *Journal of Pharmacy and Pharmacology* (1.918) and *Fitoterapia* (1.899).
- *PM* is ranked in 3 categories in the ISI database: In *Plant Sciences* *PM* has now reached Q1 status, in *Medicinal Chemistry and Pharmacology & Pharmacy* it is ranked in Q2.
- The 5 year period of the current Editorial Board will end in 2011. The Editorial Board has been recomposed for the next 5 years.
- Two new features have been implemented: a *Planta Medica* Newsletter and the plagiarism detection software "Crosscheck".

## 6. Reports of the Permanent Committees

During the Joint Meeting in New York 2012 there will be no Workshops of the Permanent Committees.

### 6.1 Report of the PC "Biological and Pharmacological Activity of Natural Products"

V. Butterweck will remain chair of the PC, G. Vollmer (TU Dresden) will be the new co-chair of the PC starting with 01/2012.

### 6.2 Report of the PC "Breeding and Cultivation of Medicinal Plants"

C. Franz will retire as chair of the PC. O. Kayser (TU Dortmund) will be the new chair, I. Göhler (Bionorica) his co-chair starting with 01/2012.

### 6.3 Report of the PC "Manufacturing and Quality Control of HMPs"

C. Erdelmeier will remain chair of the PC.

### 6.4 Report of the PC "Regulatory Affairs of HMPs"

A. Vlietinck will remain chair of the PC until end of 2012, S. Alban will remain co-chair of the PC.

### 6.5 Report of the Young Researchers Workshop

The committee of the YRW consists of A.-R. Bilia, A. Hensel, T. Efferth, J. Rollinger, D. Tasdemir and J.-L. Wolfender. In 2012 there will be no YRW.

## 7. Election of the Board of Directors

Prof. Stahl-Biskup acts as supervisor of elections. 121 votes cast (including 5 company authorisations) were collected. She presented the final results of the elections to the ExC after the Members Meeting.

### 7.1 Election of the President

W. Blaschek: 115 affirmative votes.

### 7.2 Election of the two Vice-Presidents

B. Kopp: 108 affirmative votes, M. Hamburger: 102 affirmative votes.

### 7.3 Election of the Treasurer

B. Roether: 119 affirmative votes.

### 7.4 Election of the Secretary

B. Benedek: 119 affirmative votes.

### 7.5 Election of the Advisory Board Regular Positions:

V. Butterweck: 74 affirmative votes, R. Bauer: 63 affirmative votes; D. Tasdemir: 62 affirmative votes, A.R. Bilia: 56 affirmative votes, J. Rollinger: 52 affirmative votes, K.H.C. Baser: 46 affirmative votes;

### Junior Positions:

J. Gertsch: 53 affirmative votes, N. Fokialakis: 49 affirmative votes

## 8. Future Congresses, Symposia and Workshops

### 8.1 Annual GA Congresses

- 2012: New York, USA, 28 July–1 Aug. (Joint Meeting of ASP, AFERP, GA, PSE and SIF). The meeting will be organised by ASP (new president: B. Timmermann).
- 2013: Münster, Germany, 1–6 Sept. (organisers: Profs. A. Hensel, Th. Schmidt)
- 2014: Minho-Braga, Portugal, 31 Aug.–5 Sept. (organiser: Prof. A. Diaz, Joint Meeting with AFERP)
- 2015: Budapest, Hungary (organiser: Prof. J. Homann)
- 2016: Copenhagen, Denmark (Joint Meeting of ASP, AFERP, GA, PSE and SIF, organised by GA, organiser: Prof. A. Jäger)

- 2017: Basel, Switzerland (organiser: M. Hamburger)
- 2018: Beijing/Shanghai, China (organiser: D. Guo)
- 2019: Poznan, Poland ?

### 8.2 Future Congresses and Workshops

- “6. Fachtagung Arznei- und Gewürzpflanzen”, 19–22 Sept. 2011, Berlin, Germany
- “Shanghai meeting”; 21–23 October 2011, Shanghai, China
- “Mistletoe in Tumor Therapy”, 10–12 Nov. 2011, Nonnweiler, Germany
- “ICSB Oxford Meeting”, 16–19 April 2012, Oxford/Mississippi, USA
- “8<sup>th</sup> Brazilian Symposium of Pharmacognosy and 1<sup>st</sup> International Symposium of the Brazilian Society of Pharmacognosy”, Ilhéus-Bahia, Brazil, 18–22 April 2012

- Joint Congress of ÖGPhyt, GPT, SMGP and GA on the occasion of the 20<sup>th</sup> anniversary of ÖGPhyt, 17–19 May 2012, Vienna, Austria (“Phytotherapeutika 2012 – Wissensfortschritt im 21. Jahrhundert”)
- “5<sup>th</sup> International Symposium Breeding Research on Medicinal and Aromatic Plants”, 18–20 June 2012, Vienna, Austria
- “Natural Anticancer Drugs”, 30 June – 4 July 2012, Olomouc, Czech Republic
- “13<sup>th</sup> International Congress of the Society of Ethnopharmacology”, 2–6 Sept. 2012, Graz, Austria
- “Phytopharm 2012”, 9–11 July 2012, St. Petersburg, Russia
- “Shanghai meeting”; October 2012, Shanghai, China

### 9. Miscellaneous

Upon request from A. Marston the publishing of abstracts in *Planta Medica* was put on the agenda. A quite high number of posters have not been presented during the congress, although the corresponding abstracts have been published in *Planta Medica*. Possible reasons for this fact were debated, and suggestions for future handling of the abstract publication were made (e.g. only electronic publication of abstracts). The BoD will discuss this issue during its next meeting and make a decision.



Dr. Birgit Benedek  
GA Secretary  
Neunkirchen a. Br., 22 Nov. 2011

## Meetings of GA

### Next Annual Meeting

Joint meeting ASP, GA, AFERP, PSE, SIF New York, July 28-Aug. 1, 2012



Scientists from around the world will meet in New York City next summer for the 2012 International Congress on Natural Products Research (ICNPR).

The conference, “Global Change, Natural Products and Human Health,” is the eighth joint meeting of the American Society of Pharmacognosy (ASP), the Society for Medicinal Plant and Natural Product Research (GA), the Pharmacognosy Society of French Speaking Persons (AFERP), the

Phytochemical Society of Europe (PSE), and the Italian Society of Pharmacognosy (SIF). It will be at the Grand Hyatt Hotel in New York City, July 28-Aug. 1, 2012.

The local organizing committee is developing the program that will include plenary lectures as well as parallel sessions by invited and contributing authors. Many of the parallel sessions will complement topics introduced by the plenary speakers. Among those topics will be:

- Biodiversity
- Ethnobotany R&D
- Pharmaceutical Case Study-Concept to Clinic
- Biosynthetic Medicinal Chemistry
- Genome Mining
- New Technologies
- Natural Product Pharmacokinetics and Metabolism
- Natural Product Discovery
- Natural Product Synthesis
- Pharmacology
- Chemistry Symbiosis
- Botanical Regulatory Issues
- Botanicals

The parallel sessions will also include opportunities for those in attendance to take the podium and present their research findings. Those wishing to present research posters may do so during sessions scheduled throughout the conference.

Attendees will have the opportunity to meet and hear presentations by the winners of the Matt Suffness, Tyler Price, and Farnsworth Research Achievement awards



and to attend various workshops and discussions, including a panel discussion on the “Future of Pharmacognosy.”

Special acknowledgements will include a celebration of the 75th anniversary of the “Journal of Natural Products” and a tribute to the late Norman R. Farnsworth. On Sunday evening, we will have a chance to socialize a bit at the New York Botanical Garden. The conference and ASP business meeting will come to a close on Wednesday, following the traditional banquet.

Whatever your interest, you’ll find no shortage of things to see and do in New York City. World class cuisine, art museums and galleries, live theater and unique shopping opportunities are just a few of the attractions that will keep you busy during your free time.

I look forward to seeing you at the 2012 ICNPR for what I know will be an exciting week of collaboration, inspiration, and discovery. For more information, visit the ICNPR website at [www.icnpr2012.org](http://www.icnpr2012.org).

# Society for Medicinal Plant and Natural Product Research

Gesellschaft für Arzneipflanzen und Naturstoff-Forschung

59<sup>th</sup> International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research

4–9 September 2011, Antalya, Turkey



## 59. Meeting of GA in Antalya, TURKEY

59<sup>th</sup> International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA 2011) chaired by Prof. Dr. K. Hüsnü Can Baser was held on September 4–9, 2011 in Antalya, Turkey as an activity of the International Year of Chemistry. The congress venue was the Maritim Pine Beach Resort Hotel which has excellent conferencing facilities in Belek area. The congress was attended by 692 participants from 65 countries in all continents. Twelve plenary and two keynote lectures were presented in plenary sessions. 73 short lectures were presented in three parallel sessions and 745 posters were presented although 806 posters were confirmed for the congress. The abstracts were published in a special Congress issue of *Planta Medica*. Main topics of the congress were: New trends in pharmacognosy, Traditional and natural medicines, Lead finding from nature, Antimicrobials – What's next?, Endophytes – importance in pharmacognosy, Natural immune enhancers, Nutraceuticals, cosmeceuticals, functional foods – prevention of metabolic diseases, Essential oils – Analysis, bioactivities, uses, therapeutical potential, Biotechnology and nanobiotechnology, Advances in the analysis of natural products.

Most of the participants stayed in the Congress hotel and this has enabled all the participants to interact with each other throughout the congress. There were also several workshops at the congress alongside the usual scientific programme. Young Researchers Workshop was held on September 4 in plenary and two parallel sessions entitled Rapid strategies for (phyto) Chemical Characterization of Natural Products chaired by J.L. Wolfender, J. Rollinger, AR Bilia and Rapid Strategies to Assess Bioactivity of Natural Products chaired by D. Tasdemir, T. Efferth, A. Hensel. 2 impulse lectures and 14 Papers were presented in the programme. The impulse lectures were presented in the plenary session for all young researchers. The first impulse lecture was given by Prof. Y. Choi (Leiden University, The Netherlands) on Metabolic Characterization of Plants Using NMR-based Metabolomics. I would rather

call it as Metabolomics made simple. The second impulse lecture entitled "Discovery of Neuroactive Natural Products Using Behavioral Assays in Zebrafish" was presented by Prof. A.D. Crawford (University of Leuven, Belgium) highlighted the author's own laboratory work in the isolation of neuroactive natural products using behavioral assays in zebrafish larvae, particularly in the area of epilepsy. The same day the Workshop of Permanent Committee on Regulatory Affairs of Herbal Medicinal Products (Chaired by A. Vlietinck, S. Alban) was also held with four lectures by invited speakers. The other three workshops were held on Wednesday in parallel halls. They were on Biological and Pharmacological Activities of Natural Products (Chaired by V. Butterweck with 4 invited speakers), Quality/Agriculture Joint Workshop (Chaired by C. Franz, C. Erdelmeier with 4 invited speakers) and Traditional Chinese Medicine Workshop (Chaired by D. Guo, R. Bauer, G. Franz with 5 invited speakers).

In the opening ceremony, after welcome remarks of Prof. Baser, the Congress President, Prof. Brigitte Kopp, the GA President, conducted the rest of the program. After the announcement of Travel Grantees, several awards were distributed. Egon Stahl Award in Gold went to Prof. Otto Sticher (Switzerland). Bionorica Phytonering Award was received by Prof. Veronika Butterweck (University of Florida, USA) and finally Dr. Marija Lesjak (University of Novi Sad, Serbia) received the Dr. Willmar Schwabe Research Scholarship for Young Scientists. Each awardee presented a short award lecture.

Plenary and keynote lectures covered a wide range of topics representing the recent trends in the world of pharmacognosy. First plenary lecture entitled Natural Products in Modern Life Science was given by Prof. Lars Bohlin (Uppsala University, Sweden). In the beginning of his lecture Prof. Bohlin announced the most recent demise of his mentor Prof. Finn Sandberg and paid tribute to his achievements and contributions to pharmacognosy. He then emphasized the multidisciplinary nature of pharmacognosy and elaborated on its role in solving intriguing scientific ques-

tions in Nature with striking examples as well as new strategies using phylogeny and chemography enabling navigation through chemical and biological space, and using bioinformatic tools for understanding lateral gene transfer for discovering potential drug targets. Prof. Judith M. Rollinger (University of Innsbruck, Austria) described strategies on the integration of computational methods in pharmacognostic workflows to discover promising bioactive compounds and disclose hidden information on affected pharmacological targets in her lecture "Combination of Ethnopharmacological Knowhow with Modern *in-silico* Tools". "Biological Activities of Essential Oils" was reviewed in the keynote lecture of Prof. Gerhard Buchbauer (University of Vienna, Austria). Prof. Deniz Tasdemir (University of London, UK) presented the results of her research team on the prophylaxis and chemotherapy of parasitic and microbial diseases using various plants, marine organisms and other sources in her lecture "Infectious Diseases and Natural Products. What is next?". "Natural Products Derived from Traditional Chinese Medicine as Novel Inhibitors of the Epidermal Growth Factor Receptor in Cancer Cells" was the title of the keynote lecture of Prof. Thomas Efferth (Johannes Gutenberg University, Germany). He reported on recent achievements in natural products derived from medicinal plants (e.g., dicentrine, camptothecin derivatives, arsenate, etc.) as novel inhibitors of mutated EGFR and EGFR signal transduction pathways in the prognosis of lung cancer, glioblastoma, head and neck cancer. Prof. Veronika Butterweck elaborated on "the Role of Pharmacokinetics in Natural Product Research" with examples from best selling botanicals such as artichoke, echinacea, mangosteen and valerian. The dietary supplements market in USA was discussed by Prof. Ikhlas A. Khan (University of Mississippi, USA) in his treatise "Overview of Dietary Supplements in USA". He emphasized that the biggest problem with botanical supplements in USA was misidentification of the source material, adulteration with similar looking species and contamination with extrane-

ous ingredients. Therefore, quality control of the raw materials was the most important concern. Prof. David Craik (University of Queensland, Australia) stepped into the realm of cyclotides in his lecture entitled "Discovery and Applications of Naturally Occurring Cyclic Peptides". We learned that these rare molecules were found in the plants of Violaceae, Rubiaceae and Cucurbitaceae families and had a diverse range of biological activities including uteronic, anti-HIV, and insecticidal activities. Prof. Jürg Gertsch's stimulating lecture "Natural Immunomodulators – A Drug Discovery Perspective" touched upon the intriguing issue of immunopharmacology and advocated the importance of small molecule pharmacology in the regulation of inflammation. Prof. Ihsan Calis gave an overview of the science of Pharmacognosy in Turkey from a historical perspective. According to his account pharmacognosy has been taught since 1839, the year formal pharmacy education had started in Turkey during the Ottoman era. Prof. David

Wedge (University of Mississippi, USA)'s lecture on Agrochemical Applications for Medicinal and Aromatic Plants highlighted the importance of mother nature in the discovery of new biopesticides, antifungal and antimicrobial agents with examples from his research group in human as well as veterinary applications. He devoted the last part of his lecture on job creation for young researchers. Endophytes were covered in the lecture "Metabolomics and Systems Biology Approaches for the Investigation of Endophytes – Plant Interaction – A Vision for Their Importance in Biotechnology and Natural Product Research" by Prof. Wolfram Weckwerth (University of Vienna, Austria). He gave an expert overview of the plant-endophyte interactions from the perspective of novel technologies such as genome sequencing, metabolomics, proteomics and transcriptomics.

The congress was inaugurated by Her Royal Highness Princess of Jordan Basma bint Ali, a biologist and Patron of the Royal

Botanic Garden of Jordan. Each day a 4-page newspaper **GA 2011 Daily News** was printed and distributed to the participants the following morning. All the issues can be found on [www.ga0211.org](http://www.ga0211.org) website.

At the Closing Ceremony, poster awards were presented to three awardees. Certificates of Appreciation were distributed to six Young Researchers whose presentations were found the most interesting at the Young Researchers Workshops. Prof. Kopp presented the "GA Cube" to Prof. Baser as a token of appreciation for the organization of the congress. Prof. Baser offered a vote of thanks to several people and wished well to all the participants. Prof. Barbara Timmermann, President of the American Society of Pharmacognosy (ASP) announce the next year's joint congress in New York, USA. The congress ended with a cultural tour to the ancient town of Perge.

Prof. Dr. K. Hüsnü Can BASER  
President of GA 2011 Congress

## The 7<sup>th</sup> GA Young Researcher Workshop (YRW) in Antalya, Turkey

The 7<sup>th</sup> Young Researchers Workshop (YRW) took place on Sunday, 4<sup>th</sup> September 2011, on the occasion of the 59<sup>th</sup> International Congress and Annual Meeting of the GA in Antalya, Turkey. The topics selected for this year's workshop were:

YRW-I: Rapid strategies for (phyto)chemical characterization of natural products – Chaired by Jean-Luc Wolfender (University of Geneva, Switzerland), Judith M. Rolinger (University of Innsbruck, Austria) and Anna Rita Bilia (University of Florence, Italy)

YRW-II: Rapid strategies to assess bioactivity of natural products – Chaired by Deniz Tasdemir (University of London, UK), Thomas Efferth (University of Mainz, Germany) and Andreas Hensel (University of Münster, Germany).

Young researchers from seventeen countries worldwide submitted 38 abstracts. More than 60 participants attended the workshop. The scientific program included two impulse lectures and fourteen short lectures given by selected young scientists. In this 2011 edition, the format of the workshop was changed slightly. Instead of having two fully separated workshops, the YRW committee decided to organise a joint introductory session to include both impulse lectures, and a joint round table discussion at the end of the workshop. The talks of the young researchers were run in two parallel sessions according to the topics described above.

The first impulse lecture "Metabolic characterisation of plants using NMR-based metabolomics" was presented by Young Hae Choi (University of Leiden, The Netherlands). Dr Choi reviewed the advances made in recent years in metabolomics and highlighted the opportunities of metabolomics in research field for pharmacognosy/natural product chemistry. Dr. Choi explained how metabolomics could be utilized for chemical characterization of a phenotype by the

qualitative and quantitative analysis of all metabolites present in a given organism. A particular emphasis was given to NMR technique. Despite its inherent low sensitivity compared to the MS-based metabolomic approaches, NMR still is a highly suitable and reproducible technique for rapid fingerprinting of all primary and secondary metabolites in a crude extract. The method has the advantage to be universal and should allow an easy exchange of data between laboratories and the creation



*The participants of the YRW 2011, with the YRW committee and impulse lecturers*

of a common database if standardised extraction protocols are widely accepted by the scientific community.

The second impulse lecture “Discovery of neuroactive natural products using behavioural assays in zebrafish” was presented by Alexander D. Crawford (University of Leuven, Belgium). Dr Crawford pointed out that the activity-guided isolation of natural products from complex plant matrices or other biomasses is dependant on the biomedical relevance of the bioassays used. Many compounds display *in vitro* biological activities, but lack efficacy or are toxic *in vivo*, and large amounts of compound required for *in vivo* studies are often unavailable. Zebrafish-based assays are emerging as an alternative to classical bioassays as a versatile, microgram-scale and high-throughput method for the systematic identification of *in vivo* bioactive natural products. Such an approach can be effectively used in activity-guided isolation of secondary metabolites and enables the evaluation of both therapeutic and toxic activities *in vivo* at very early stages of natural product drug discovery. The assay can also be useful for the subsequent derivatization of bioactive natural products selected for further development as drug leads. Dr Crawford gave specific examples how zebrafish larvae assays were used to guide the isolation of anticonvulsive secondary metabolites in his laboratory.

The short lectures given by the young researchers covered diverse fields and applications within the YRW topics. This included bioactivity screenings, isolation and structure elucidation of novel natural products, phytochemical analysis/profiling, metabolomics, peptidomics, rapid standardization, new molecular targets in biochemical/natural product research, innovative analytical, microbial cultivation and bioactivity assessment methods, organic synthesis of natural product-derived compounds as well as toxicological risk assessment of spices, food and plants. All presentations were of high scientific level and high rhetoric quality. The participation of the audience was intense and enthusiastic. In most cases the YRW panellists were limited solely to the coordination of the discussion among the participants, making this workshop a unique platform to exchange ideas and knowledge in a most constructive and friendly atmosphere.

Six very best presentations have been selected and awarded (in alphabetical order):  
*J. Köhbach* (Improved peptidomics screening protocol for the identification of cyclotide-containing plants);  
*N. Lemonakis* (A rapid LC-MS method for the simultaneous quantification of oleuropein and its main metabolite, hydroxytyrosol, in clinical samples after oral administration of commercial herb medicinal products);

*C. Niranjala Nanayakkarawasam Masachige* (Achillea collina response to biotic and abiotic stresses: A comparative evaluation of volatile emissions pathways);  
*N. Mexia* (Synthesis, detection and quantification of the highly active AhR ligands tryptanthrin, indirubin and indolo[3,2-b]carbazol in *Malassezia* yeasts);  
*J. Michl* (Toxicological risk assessment of *Aristolochia* species);  
*A. Schramm* (Risk assessment of hERG channel inhibition by natural products – screening & activity directed analysis of spices, food and medicinal plants).

The round table discussions were also interactive and clarified many points. It also provided the audience with a more detailed background and future perspectives on the workshop subjects and natural product research in general.

All YRW 2011 participants received an attendance certificate. The YRW lecture awardees were presented an award certificate, plus a prize, which was sponsored by Bionorica AG. The award certificates and prizes were handed over during the closing ceremony of the GA conference, which took place on Thursday, 9<sup>th</sup> September. The YRW Committee congratulates the awardees and wishes best of success to all young scientists who have attended the 7<sup>th</sup> YRW in Antalya.

Deniz Tasdemir, Anna Rita Bilia,  
Jean-Luc Wolfender



The YRW awardees with Dr Tasdemir, the Chair of the YRW, and Prof Kopp, the President of the GA

### Report of the 5<sup>th</sup> Mistletoe Symposium: “Mistletoe in Cancer Therapy – Basic Research and Clinical Practice”

From 10<sup>th</sup> to 12<sup>th</sup> November 2011 about a hundred scientists and doctors from a variety of scientific disciplines and therapeutic approaches met at the European Academy of Otzenhausen (in Nonnweiler, Saarland) for the 5<sup>th</sup> International, Interdisciplinary Mistletoe Symposium. At the symposium, the latest results from research and clinical medicine were presented, discussed and compared, so as to put together a multidimensional and comprehensive picture of the current state of scientific knowledge on mistletoe extracts. Bridges were built not only between different therapeutic approaches, pharmaceuticals and medicine, and basic research into mistletoe and use of mistletoe, but also between conventional and complementary oncology. The treatment of pancreatic carcinoma was chosen as a topic for special attention and was dealt with in depth in a podium discussion both from the perspective of conventional oncology and in terms of the contribution which mistletoe preparations can make to the management of this condition. In addition, the participants at the symposium discussed and unanimously approved the wording of the “Second Nonnweiler Declaration” (see box at end of article for details). This declaration calls for the cost of parenteral administration of mistletoe preparations not only in the palliative but also in the adjuvant therapeutic setting to remain reimbursable by the German statutory health insurance (SHI) funds.

The symposium was organised and sponsored by the Karl and Veronica Carstens Foundation and the Society of Anthroposophical Doctors in Germany (GAÄD) in collaboration with the Society for Medicinal Plant and Natural Product Research (GA), the Society for Phytotherapy (GPT), the German Pharmaceutical Society (DPHG) and the Central Association of Doctors in Naturopathic and Regulation Medicine (ZAEN), with the International Association for Pharmaceutical Technology (APV) acting as a cooperation partner. The symposium was coordinated by Dr. Rainer Scheer, of the Carl Gustav Carus Institute in Niefern-Öschelbronn. The scientific organising committee was made up of Prof. Dr. Susanne Alban (Kiel), Prof. Dr. Hans Becker (St. Ingbert), Prof. Dr. Wolfgang Blaschek (Kiel), Prof. em. Dr. Dr. h.c. mult. Fritz H. Kemper (Münster), Prof. Dr. Wolfgang Kreis (Erlangen), PD Dr. Harald Matthes (Berlin), Prof. Dr. Dr. h.c. mult. Heinz Schilcher (Immenstadt) and Dr. Rainer Stange (Berlin).

A particular feature of this mistletoe symposium was the broad range of topics covered, reflecting the breadth of current research on this important medicinal plant. Pharmaceutical, pharmacological and medical topics were presented by means of 8 summary papers, 24 short lectures and 19 posters. The specific areas dealt

with included pharmaceutical aspects of the manufacture of mistletoe preparations and the effects of various constituents, *in vitro* and *in-vivo* preclinical studies, studies on the immunology and cytotoxicity of presently marketed or developmental mistletoe preparations, clinical results obtained in various applications and tumour entities in both adjuvant and palliative therapeutic settings in both human and veterinary medicine, reports from medical practice, and clinical studies designed to demonstrate specific effects, the efficacy, the safety and tolerability of mistletoe preparations. All the abstracts from the symposium have been published in English in *Phytomedicine* (Elsevier-Verlag) 18 (2011), Supplement VIII and are freely available in the internet at [www.ScienceDirect.com](http://www.ScienceDirect.com). The abstract booklets which are still in stock are available on request from the author of this article. The following paragraphs provide details of the summary papers and the topic of pancreatic carcinoma.

As might be expected, the focus of the pharmaceutical presentations was on mistletoe lectins, a class of substances present in mistletoe extracts which jointly determine the effects of these extracts. Professor Blaschek (Kiel) used immunohistochemical methods to determine the localisation of these lectins in the mistletoe plant and found differences in this regard between tissues and seasons. He showed that mistletoe lectins are mainly located in the shoots rather than the leaves, especially in the cortical parenchyma and in the outer sclerenchyma caps of the vascular bundles.

Based on the known structures of mistletoe lectins ML-1 and ML-3 (the molecular structure of ML-2 remains unknown), Professor Pfüller (Hamburg) discussed the biochemical and pharmacologically relevant properties of these proteins, which specifically recognise galactosyl/N-acetylgalactosyl target structures. In addition to the ribosome-inactivating (cyto-

toxic) lectins, a chitin-binding lectin (Visal-bCBA) which is specific for glucosamine groups is also known to exist. The biochemical properties, biological availability and stability of the mistletoe lectins are influenced by other components of mistletoe extracts (viscotoxins, oligo- and polysaccharides).

Professor Klein (Tübingen) spoke about chronic and acute inflammation and the dual role of inflammation in the pathogenesis of cancer. A variety of immune and inflammatory cells are to be found inside a tumour. These immunocompetent cells influence the tumour cells in various ways (via cytokines, chemokines, growth factors, prostaglandins and reactive oxygen and nitrogen species). Inflammation influences every single step in tumorigenesis, from tumour initiation and tumour maintenance to tumour progression and metastasis. A rough distinction can be made between tumour-destructive inflammation (TH1 response, M1 macrophages, NK cells) and tumour-promoting inflammation (TH2 response, M2 macrophages). Both pro- and anticarcinogenic and inflammatory mechanisms are present simultaneously in developing tumours, but if the tumour is not eliminated, the procarcinogenic effects come to dominate. Signal transduction pathways which promote the procarcinogenic effects of inflammation often form a vicious circle. Certain immune and inflammatory components can exert positive effects on tumour growth during one stage of tumour development, but negative effects during another stage. Treatment with mistletoe preparations, which have long been reported to stimulate a large number of factors that influence (anticarcinogenic) tumour-associated inflammation via a variety of mechanisms, can help break down immune tolerance to tumour antigens and positively influence the immune response to tumours. Nevertheless, the mechanism of such processes varies from tumour to tumour, and only by continuously expanding our knowledge of



Representatives of scientific associations and organisers of the Mistletoe Symposium (from left): Prof. H. Becker, Prof. W. Blaschek, Prof. S. Alban, Dr. R. Scheer, PD H. Matthes, Dr. R. Stange

the complex interplay between different components of the anti-tumour response will we be able to develop better strategies for treating this disease.

In his talk, Professor Efferth (Mainz) reported on methods of predicting response to cancer therapy and on the significance of these for the development of personalised treatment strategies. In this respect he discussed a range of subjects including relevant cytotoxicity tests, immunohistochemical detection of prognostic markers of therapeutic response and patient survival time, and modern pharmacogenomic techniques (comparative genomic hybridisation, DNA methylation assays, mRNA microarrays, etc.). He compared data he had obtained using these techniques with clinical patient data, and presented the results of investigations aimed at predicting sensitivity or resistance both to cytotoxic agents and to phytochemicals used in complementary medicine. In doing so he emphasised the relevance of these methods to herbal medicines such as mistletoe preparations.

Dr. Breitzkreuz (Bad Liebenzell) reported on recent developments in anthroposophical mistletoe therapy and on a series of expert conferences hosted by the GAÄD between 2008 and 2011. By reference to a number of case reports he discussed the topics considered at those conferences, namely dosing strategies (initiation of therapy: escalating dosage regimen or high initial dose), choice of host tree, choice of preparation, control of mistletoe therapy and methods of administration (subcutaneous, intravenous, intratumoral, intrapleural, intravesical, oral), with reference to differences between mistletoe preparations depending on their method of manufacture. He also discussed questions such as how mistletoe therapy and conventional therapy are coordinated and what should be done in the event of critical treatment incidents or side effects. In order to provide doctors who prescribe mistletoe therapy with well-founded information, new study concepts (e.g. qualitative studies) are being developed, data collection is being intensified (Network of Oncology, Havelhöhe Research Institute) and plans are underway for a new handbook (GAÄD, compilation of evidence on therapeutic use of anthroposophical medicines), the third edition (2013) of which is to include reference to mistletoe preparations.

Dr. Kienle (Freiburg) provided an overview of clinical studies on mistletoe preparations used in anthroposophical medicine and phytotherapy. More than 140 such studies have been published, of which 60 were prospective controlled studies. The study objectives were to improve quality of life, patient survival, tumour response, and safety and tolerability. Most of the studies yielded positive results, but due to methodological differences in quality some received more favourable reviews than others. One definite finding is that mistletoe preparations improve quality of life and the tolerability of conventional cancer therapies. Study data on safety and tolerability show that after parenteral administration

of mistletoe preparations, side effects are mostly mild. Most common among these are local reactions (skin reddening, induration at the injection site after subcutaneous administration) and a slight rise in temperature. Both of these types of reaction indicate to the doctor that the patient is responding to the mistletoe therapy. There have been occasional reports of pseudo-allergic reactions, but no reports of serious adverse reactions. Approximately equal numbers of studies have been conducted in adjuvant and palliative therapy settings. In recent years, regulatory authority demands have increasingly led to the performance of (in most cases randomised) clinical trials (RCTs), although many medical questions cannot be answered on the basis of RCTs alone.

The question of studies also received a lot of attention in the podium discussion on the main topic: "Treatment of pancreatic carcinoma". In this discussion it was pointed out that RCTs investigate the effect or efficacy of drugs in highly selected patient groups, and do not always reflect real-world therapeutic situations. For this reason, greater importance is likely to be attached in the future to health services research and possibly also to evaluation of registry data as a means of acquiring medical and therapeutic knowledge. The Network of Oncology (NO; Havelhöhe Research Institute, Berlin) will likewise become more important. At present about 2000 patients per year are documented in the Network of Oncology.

In his talk on "Options and limitations of ductal pancreatic cancer treatment", Professor Seufferlein (Halle) pointed out that pancreatic carcinoma has a very poor prognosis. The principal reasons for this, he said, are firstly the lateness with which the disease is diagnosed as a result of an absence of symptoms or the presence of only nonspecific symptoms, and secondly the resistance of the disease to radiotherapy and chemotherapy. Only complete resection – which is, however, rarely possible – offers a possibility of cure. In his talk, Professor Seufferlein dealt with subjects ranging from neoadjuvant, adjuvant and palliative therapies to new therapeutic strategies such as the use of CD40 agonists, which cause breakdown of tumour stroma and lysis of tumour cells by macrophages. He also referred to albumin-bound paclitaxel, which is used in the form of nanoparticles in combination with gemcitabine, and to the acquisition of more detailed knowledge of tumour subgroups, which it is hoped will improve the efficiency of treatment. The following observations apply only to adjuvant and palliative therapy settings. In Europe the standard treatment in the adjuvant therapy setting is chemotherapy alone. With this approach, the 5-year survival rate has been increased from 9 to 20 percent. Because of its lower toxicity, gemcitabine is preferred to bolus administration of 5-FU, although survival rates do not differ significantly between the two drugs. In the palliative setting, gemcitabine prolongs survival and relieves disease-related symptoms

and signs such as pain and weight loss. The median survival time of patients with metastatic pancreatic carcinoma receiving this treatment is 6 to 7 months. Combination of gemcitabine with erlotinib, an EGF receptor tyrosine kinase inhibitor, improves this value (to 10.5 months) only in patients who show an (inflammatory) skin reaction in the first few weeks of treatment. Recently Conroy et al. showed that in patients with metastases, intensified chemotherapy in accordance with the FOLFIRINOX protocol increases median survival time to 11.1 months.

Dr. Matthes (Berlin) discussed the use of mistletoe therapy in adjuvant and palliative therapy settings. In patients with pancreatic carcinoma, mistletoe preparations are used subcutaneously (as an adjuvant to chemotherapy), intravenously and intratumorally in order to exploit the cytotoxic properties of mistletoe extracts. Dr. Matthes reported on a controlled, retrospective, multicentric, pharmacoepidemiological noninterventional cohort study in which 396 postoperative patients received conventional therapy with gemcitabine, while those patients in the mistletoe arm (n=201) also received Iscador Quercus subcutaneously. This led to an improvement in terms of quality of life, symptoms attributable to the disease and its treatment and overall survival in the mistletoe group as compared to the comparator group. In a phase I dose escalation study by Mansky et al. (Bethesda, USA), it was found that use of mistletoe therapy with Helixor A in combination with gemcitabine in patients with advanced solid tumours (n=44; pancreatic carcinoma n=10) was not only well tolerated, but also higher doses of gemcitabine (as recommended) were possible. The neutrophil granulocyte count and its minimum value during chemotherapy showed a mistletoe dose-dependent increase. No influence whatsoever on the pharmacokinetics of the cytotoxic drug or on cytokine release was observed. Dr. Matthes also referred to smaller studies (Schad et al., Berlin) in which patients with inoperable pancreatic carcinoma were treated with intratumorally administered mistletoe preparations of a number of different manufacturers simultaneously with gemcitabine therapy. Overall survival time was subsequently found to be 12.2 months in patients in UICC stage III and 11.2 months in patients in UICC stage IV, with a one-year survival rate of 26 percent.

Outcome study data obtained by Dr. Spahn (monocentric integrative therapeutic approach = indication-dependent combination of conventional with anthroposophical therapy including mistletoe extract, in most cases Abnobaviscum; hyperthermia) complemented and confirmed these favourable results. The result was good tolerance of treatment with a median survival time of 15.2 months in all patients (n=95) and 12.4 months in patients with advanced disease (stages III and IV; n=60). It was thus shown that an integrative therapeutic approach involving use of mistletoe therapy leads to results which



are at least comparable to those obtained with purely conventional therapy, but with better tolerance.

A randomised phase III study (Tröger, Freiburg; Iscador Qu spezia I) in patients with advanced or metastatic pancreatic carcinoma was described in a poster. The initial analysis of the results of this study is to be performed shortly, so the papers to be delivered at the next Mistletoe Symposium (2015) will be eagerly awaited. An-

other phase III study, in this case in patients with superficial bladder carcinoma (Eisenbraun, Pforzheim; Abnobaviscum Fraxini), is currently in preparation. In addition, two prospective pharmacoepidemiological studies on the use of Iscador Qu spezial in patients with colorectal carcinoma (800 patients) and pancreatic carcinoma (400 patients) are being conducted at present.

The full texts of all contributions to the symposium are to be made available, presumably by the end of 2012. Further information on this and on previous mistletoe symposia is available at [www.mistelsymposium.de](http://www.mistelsymposium.de).

Dr. Rainer Scheer, Carl Gustav Carus-Institut, 75223 Niefern-Öschelbronn

## Second Nonnweiler Declaration

### Reimbursement of the costs of mistletoe preparations used in adjuvant cancer therapy

Based on the present state of scientific knowledge and cognisance of the new research results discussed at the 5<sup>th</sup> International Symposium "Mistletoe in Cancer Therapy – Basic Research and Clinical Practice" held from 10<sup>th</sup> to 12<sup>th</sup> November 2011 in Nonnweiler, the participants of that symposium hereby declare that the costs of parenteral administration of mistletoe preparations not only in the palliative but also in the adjuvant therapeutic setting should remain reimbursable by the statutory health insurance (SHI) funds.

Clinical studies have shown that mistletoe preparations improve the quality of life of cancer patients and the tolerability of conventional cancer therapies. There is also evidence that the survival of cancer patients is prolonged. As the studies concerned were performed both in adjuvant and in palliative therapy settings, restriction of reimbursability by the SHI scheme to palliative therapy of malignant tumours is not justified.

Despite this, such restrictions on the reimbursability of mistletoe preparations by the SHI scheme have been in force since the end of September 2011, based on the grounds given for the Federal Social Court's most recent ruling. As a result of this, effective, well tolerated, useful and cost-effective treatment with mistletoe preparations is being withheld from many patients in the adjuvant therapy setting.

Therefore, and in accordance with their ethical responsibility to the cancer patients whose care has been entrusted to them and who seek their advice, the representatives of the medical and pharmaceutical professions who are gathered together at this symposium call for treatment with mistletoe preparations to be made reimbursable by the SHI scheme in cases in which the physician considers such medicines to be a necessary component of oncological therapy.

## Further Meetings



Dear colleagues,

The Scientific and Organizing Committees cordially invite you to participate in the **13<sup>th</sup> International Congress of the Society for Ethnopharmacology**, which will be organized in collaboration with the Society for Medicinal Plant and Natural Product Research and Eurasia-Pacific Uninet. The congress will be hosted by University of Graz, Institute of Pharmaceutical Sciences, Graz/Austria from September 2nd to 6th, 2012.

The International Society for Ethnopharmacology is a collaborative, interdisciplinary group of scientists – anthropologists, pharmacists, pharmacologists, ethnobotanists, phytochemists, and others – all fascinated by the study of the local and global use of traditional medicines. Traditional medicinal knowledge has been transferred over the centuries and also over wide distances, and develops into globalised herbal medicine. In this congress we want to focus in particular on the

intercultural aspects of herbal medicine and its relevance in modern societies. As one example, we want to discuss the relevance of the Silk Road for the exchange of medicinal plants and medicinal knowledge between east and west.

The research presented in plenary lectures will in particular deal with a holistic approach and the application of systems biology in medicinal plant research. Special emphasis will be on traditional and modern herbal medicinal products in age related and infectious diseases. Presentations from other areas will also be accepted.

### MAIN SCIENTIFIC TOPICS

- Intercultural ethnopharmacology
- Ethnomedicine along the Silk Road
- Herbal medicines – from traditional knowledge to global commodities
- Holistic approach and systems biology in medicinal plant research
- Traditional and modern herbal medicinal products in ageing related diseases

- Traditional and modern herbal medicinal products in infectious diseases

Please register at the congress web site or send in the attached preliminary registration form, if you want to receive updates and further information.

<http://ise13.uni-graz.at/cms/>

Looking forward to welcoming you in Graz, Rudi Bauer, Chairman

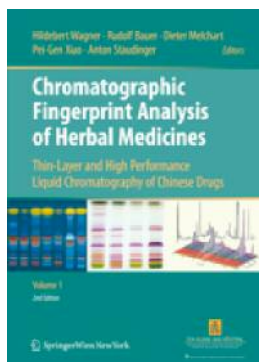
15–18. April 2012 „Good Practices in Traditional Chinese Medicine“ International Congress, Leiden, The Netherlands. Topics in relation to GP-TCM: botany, extraction, “omics”, in vivo studies, clinical studies, systems biology, acupuncture, modernization, regulatory affairs.

Informations: [www.gp-tcm-congress.nl](http://www.gp-tcm-congress.nl), email: [gp.tcm.congress@gmail.com](mailto:gp.tcm.congress@gmail.com)



## Chromatographic Fingerprint Analysis of Herbal Medicines: Thin-layer and High Performance Liquid Chromatography of Chinese Drugs

Wagner, H.; Bauer, R.; Melchart, D.; Xiao, P.-G.; Staudinger, A. (Eds.); Originally published by Verlag für Ganzheitliche Medizin, Dr. Erich Wühr GmbH, 2004. 2nd ed., revised, enlarged, 2011, XL, 1024 p. 376 illus., 100 in color. In 2 volumes, not available separately. Hardcover, ISBN 978-3-7091-0762-1.



There is no doubt: Traditional Chinese Medicine (TCM) is like a silent crossborder commuter in advance through Europe, with preference in Germany. Two decades ago a special TCM-clinic had been opened in Bad Kötzing spa/Germany. Embedded in the 20<sup>th</sup> Anniversary of this hospital is the publication of modern styled monographs of medicinal plants used also in TCM. Edited by well known scientists with a high reputation in the field gives proof that the books will be a treasure trove. With a remarkable openness scientific relevant question like influences of drug processing and nomenclature are addressed and ways of solution of problems shown. In two volumes 80 original monographs of plant species replenished by the same number of subspecies (81) are listed and described in detail including chemical and pharmacological properties; most of the plants are listed in the Chinese Pharmacopoeia devoted to TCM Drugs (2005 English edition).

Compared with the 1<sup>st</sup> edition of the collection of monographs published more than a decade ago (Wagner et al.), the enormous gain in knowledge in general and technological analytical progress is evident. Due attention is given to the organisation of the two volume handbook which allows easily to find compounds of interest of a single plant e.g. for risk benefit analysis or as reference standard.

In an introductory chapter the authors describe in depth and in a critical manner their point of view on facts and perspectives of Traditional Chinese Herbal Drugs (TCHD). Amongst others they claim as a

modern tool and science based authenticity proof of TCHD the use of the chromatographic TLC-, GC- and HPLC-fingerprints technique; this is concurrent with Chinese scientific experts who agreed this analytical method as the best at present available. In this context and in order to meet regulatory demands on Quality, Safety and Efficacy of Herbal Medicinal Products (HMP) in general within the European Community, questions of other safety and quality factors of concern, e.g. in TCM, are discussed.

The two-volume manual represents both, a *handbook* with the results of investigations on medicinal plants used in TCM with emphasis on analytical investigations of fingerprints produced by TLC, HPLC and GC resulting in a detection and an estimation of main lower molecular constituents and a textbook compiling informations on chemistry in general, pharmacological properties and therapeutic indications altogether enabling the user to control own products or to develop new ones.

Despite long tradition and experience by observation often concrete investigations on Quality, Safety and Efficacy which are mandatory in the European Union, are missing. This gap is closed by the textbook which will act as an excellent tool for a security check. Not only in these respects the handbook is a showpiece of effective and clearly defined TCM Drugs.

Another important finding which was discovered during the preparatory phase of the books that metabolites occurred in dependence to storage time, compounds which probably can influence the pharmacological effect and thus the therapeutic efficacy, were identified as phytofungi. A wide field of future investigations will be opened by this observation consequently. A special advantage of the handbook is the clear structuring of important facts followed by conclusions and in some cases useful recommendations how to handle difficult and actual problems.

The book covers a broad range of scientific literature in general up to 2009, with a total number of more than 2100 citations. In an appendix details are given on basic solvent systems and material for performing the fingerprint analyses as well as main structure types of natural products. A well prepared index offers an easy orientation. The term "brilliant" may not be interpreted only as an adjective in describing the colour-reproduction of chromatographs but added to the technical performance in the respective laboratories of the universities of München/Germany and Graz/Austria, too.

This handbook should be of interest to all scientists working in the field of Herbal Medicinal Products used in TCM or from other sources, also as a guide for those with experience in TLC-, HPLC- and GC-

techniques in order to promote demands of Quality, Safety and Efficacy which are asked for nowadays in a variety of products which contain botanicals. In a wider scope regulators and students working in life sciences are addressed as well as the medical profession and probably the consumer of such products in a modern society.

Prof. Fritz H. Kemper, Germany

## Drugs of Natural Origin: A Treatise of Pharmacognosy

By Gunnar Samuelsson and Lars Bohlin, Division of Pharmacognosy, Department of Medicinal Chemistry, Uppsala University, Sweden; 6<sup>th</sup> revised edition.

Drugs of Natural Origin is a unique multidisciplinary book suitable for undergraduate and graduate students and teachers in the area of natural product research, but also as a complementary book for disciplines like medicinal chemistry, biochemistry and pharmacology. The book can also serve society as a scientific source for the understanding of a sustainable use of natural products in the development of new drugs, scientifically based herbal remedies, and environmentally adapted biomolecules.

During evolution, molecules have been developed for specific functions in nature. These bioactive substances have a potential as new drug candidates in drug development, but also as pharmacological tools, intermediates or templates for synthesis of drugs. This book deals with terrestrial and marine bioactive substances of plant, microbial or animal origin. The occurrence, biosynthesis, isolation, chemistry and medical use are described, together with basic research strategies.

Development in the field of natural products of medical importance continues to expand. Since the publication of the 5<sup>th</sup> edition of this book, five years ago, new concepts such as chemo- and bioinformatics, phylogenetics and systems biology with the new "omics" techniques (genomics, proteomics and metabolomics) have entered the field. Herbal remedies have been subject to more rigid legislation aiming at improvement of quality and the laying of a better foundation for their use, particularly as over-the-counter preparations for self-medication, but also as constituents of conventional drugs. This development is reflected in a substantial revision and expansion of the book, also including description of new drugs marketed since the publication of the previous edition.

776 pages. Illustrated in colour. ISBN 978-91-976510-5-9; www.lma-books.se.



(Notices of Ph.D- and M.Sc./diploma thesis to the editor are welcome any time!)

Ph.D. thesis (2010) Phytochemical screening and evaluation of antioxidant and anti-inflammatory potential of secondary metabolites of *Plantago* L. species (in Serbian). By: Ivana Beara; Mentor: Professor Neda Mimica-Dukić, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Vojvodina, Serbia.

Ph.D. thesis (2010) Effects of copaiba oil and constituents in *Trypanosoma cruzi*. By: Éryka Izumi; Promotor: Prof. Celso Vataru Nakamura, State University of Londrina, Brazil.

Ph.D. thesis (2011) Biopotential and chemical characterization of extracts and essential oils of species from *Juniperus* L. genus (Cupressaceae) (in Serbian). By: Marija Lesjak; Mentor: Professor Neda Mimica-Dukić, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Vojvodina, Serbia.

Ph.D. thesis (2011) Sustainable production of cannabinoids with supercritical carbon dioxide technologies. By: H. Perrotin-Brunel. Promotor: Prof. J. Witkamp and Prof. R. Verpoorte. University of Delft, The Netherlands.

Ph.D. thesis (2011) Comprehensive extraction and NMR-based metabolomics: Novel approaches to natural products lead finding in drug discovery. By: N.D. Yuliana. Promotor: Prof. R. Verpoorte and Prof. P.G.L. Klinkhamer. University of Leiden, The Netherlands.

PhD thesis (2011) A metabolomics approach to thrips resistance in tomato. By: R.R. Romero Gonzalez. Promotor: Prof. R. Verpoorte and Prof. P.G.L. Klinkhamer. University of Leiden, The Netherlands.

Ph.D. thesis (2011) NMR spectroscopy and chemometrics-based analysis of grapevine. By: K. Ali. Promotor: Prof. R. Verpoorte and Prof. P.G.L. Klinkhamer. University of Leiden, The Netherlands.

Ph.D. thesis (2011) Phytochemical investigation and bioactivity-guided isolation of cytotoxic compounds from *Metaxya rostrata*. By: Kerstin Kainz; Promotor: Ao. Univ.-Prof. L. Krenn and Ao. Univ.-Prof. B. Marian, Department for Pharmacognosy, University of Vienna, and Institute of Cancer Research, Medical University of Vienna, Austria.

Ph.D. thesis (2011) Investigations on selected medicinal plants for cyclooxygenase (COX)-1 and COX-2 inhibition. By: Raju Gautam; Promoter: Associate Prof. Sanjay Jachak, National Institute of Phar-

maceutical Education and Research (NIPER), SAS Nagar (Mohali), Punjab, India.

Ph.D. thesis (2011). Investigating the mode of action and characterisation of active principles – A *Salvia officinalis* tincture for the amelioration of hot flushes. By: Sinikka Rahte; Promotor: Dr Deniz Tasdemir and Prof. Andreas Kortenkamp, School of Pharmacy, University of London, UK.

Ph.D. thesis (2011) Phytochemische Untersuchung von Nesseln. I. Phytochemische Untersuchungen an Loasaceae. II. Qualitative und quantitative Analyse von phenolischen Inhaltsstoffen in oberirdischen Teilen von *Urtica* species. By: Beate Csik-Britzmann; Promotor: Prof. F. Bucar, University of Graz, Austria.

Ph.D. thesis (2011) Volatile Compounds of Herbal Teas. *Rosmarinus officinalis* L., *Lavandula angustifolia* Mill., *Foeniculum vulgare* Mill., *Thymus vulgaris* L., *Matricaria recutita* L. By: Christine Tschiggerl; Promotor: Prof. F. Bucar, University of Graz, Austria.

Ph.D. thesis (2011) Discovery of new scaffolds for GABA A receptor modulators from natural origin. By: Janine M. Zaugg; Promotor: Prof. M. Hamburger, Department of Pharmaceutical Sciences, University of Basel, Switzerland.

Ph.D. thesis (2011) Cyclin-dependent kinase 5 in endothelial migration: Elucidating regulatory mechanisms upstream of Cdk5 and evaluating novel Cdk inhibitors as anti-angiogenic drugs. By: Sabine Weitensteiner; Promotor: Prof. Dr. S. Zahler and Prof. Dr. A. Vollmar, Department Pharmacy, Ludwig-Maximilians-University of Munich, Germany.

Ph.D. thesis (2011) Isolation of positive GABAA receptor modulators from Chinese herbal drugs traditionally used in treatment of anxiety and insomnia. By: Dr. Judith Singhuber; Promoter: Prof. B. Kopp, Department of Pharmacognosy, University of Vienna, Austria.

Ph.D. thesis (2011) Struktur und Mechanismus der Sanguinarin-Reduktase, ein Entgiftungsenzym aus *Eschscholzia californica*. By: Dipl.Pharm. Matthias Vogel, Promoter: Prof. Dr. Werner Roos, Institut für Pharmazie, Pharmazeutische Biologie, Molekulare Zellbiologie, Martin-Luther Universität Halle.

Ph.D. thesis (2011) Die Auffindung neuer Bindepartner pflanzlicher G(alpha) Proteine durch genetische, zellbiologische und biochemische Methoden. By: Carolin Massalski(Wolf), Promoter: Prof. Dr. Werner Roos, Institut für Pharmazie, Phar-

mazeutische Biologie, Molekulare Zellbiologie, Martin-Luther Universität Halle.

Ph.D. thesis (2011) In silico guided approaches in the search for anti-inflammatory and anti-influenza natural leads. By: Ulrike Grienke; Promotor: Prof. Dr. Judith M. Rollinger, Institute of Pharmacy/Pharmacognosy, University of Innsbruck, Austria.

Ph.D. thesis (2011) Phytochemical and pharmacological investigations of medicinal plants with anti-inflammatory activity. (in German) By Martina Blunder; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2011) Phytochemical and pharmacological investigations on constituents of medicinal plants with potential anti-cancer activity. By Nadine Kretschmer; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2011) Phytochemical and pharmacological investigations of *Echinacea pallida* (NUTT.) NUTT. roots including new insights into the biological activity of polyacetyles and polyenes. By Elisabeth Feizlmayr; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2011) Antimicrobial property of plants from Brazilian cerrado used in ethnomedicine. By: Cleyton Eduardo Mendes de Toledo; Promotor: Prof. Tânia Ueda-Nakamura, State University of Maringá, Brazil.

Ph.D. thesis (2011) Investigation of activity toxicological and pharmacological of the fraction rich in proanthocyanidin polymers obtained from the bark of *Stryphnodendron adstringens* (Mart.) Coville (Barbatimão). By: Marco Antonio Costa; Promotor: Prof. Celso Vataru Nakamura, State University of Maringá, Brazil.

Ph.D. thesis (2011) Biological activity of crude extract and compounds isolated from *Porophyllum ruderale* (Jacq.) Cass. in *Leishmania amazonensis*. By: Helena Teru Takahashi; Promotor: Prof. Celso Vataru Nakamura, State University of Maringá, Brazil.

Ph.D. thesis (2011) New Drugs antileishmania: Planning, Development and Evaluation of Biological Activity. By: Tatiana Shioji Tieman; Prof. Celso Vataru Nakamura, State University of Maringá, Brazil.

Ph.D. thesis (2011) In vitro and in vivo activity of copaiba oil against *Leishmania amazonensis*. By: Adriana Oliveira dos

Santos; Promotor: Prof. Celso Vataru Nakamura, State University of Londrina, Brazil.

Ph.D. thesis (2011) Investigation on the biosynthesis of the central pyrrole moiety of coumestrolin A1 and identification of new caprazamycins by LC/ESI-MS/MS. By: Stefanie Siebenberg; Promotor: Prof. L. Heide and Prof. S. Grond, University of Tübingen, Germany.

Ph.D. thesis (2011) MbtH and adenylate-forming enzymes in the biosynthesis of aminocoumarin antibiotics and vancomycin. By: Björn Boll; Promotor: Prof. L. Heide and Prof. T. Stehle, University of Tübingen, Germany.

Diploma thesis (2011) Effects of BSA on in vitro glucuronidation studies using human microsomes and recombinant enzymes. By: Paolo Svaluto Moreolo; Promoter: Prof. B. Kopp, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2011) Die Arzneipflanzen des Demonstrationssortiments des Instituts für Pflanzenbau und Pflanzenzüchtung. By: Christine Bauer; Promoter: Prof. B. Kopp, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2011) Bioassay guided fractionation for the isolation of cytotoxic compounds from a Caribbean marine sponge. By: Heidelinde Fischer; Promoter: Prof. B. Kopp, Department of Pharmacognosy, University of Vienna, Austria.

M.Sc. thesis (2011) Antiviral effects of *Eupatorium perfoliatum* L. and bioassay-guided fractionation. By: Helene Janzen; Promotor: Prof. Dr. Andreas Hensel and Dr. Jandirk Sendker, University of Münster, Germany.

M.Sc. thesis (2011) Antiviral effects of L. extract and bioassay-guided fractionation. By: Sarah Gerbes; Promotor: Prof. Dr. Andreas Hensel and Dr. Jandirk Sendker, University of Münster, Germany.

Diploma thesis (2011) Untersuchungen zur Kooperativität von Inhaltsstoffen des Phytopharmakons STW5 auf die TNBS-induzierte Entzündung an Colonpräparaten der Ratte. By: Nadine Störmer; Promotor Prof. Dr. Karen Nieber, University of Leipzig, Germany.

Diploma thesis (2011) Untersuchungen zur Kooperativität des Phytopharmakons STW5 auf den Tonus und die Acetylcholin-induzierte Kontraktion an Colonpräparaten der Ratte. By: Franziska Herr; Promotor Prof. Dr. Karen Nieber, University of Leipzig, Germany.

Diploma thesis (2011) Effect of Passiflora extracts on sleep measured by locomotion activity and body temperature in mice using telemetry. By: Nadine Klein; Promotor Prof. Veronika Butterweck, University of

Florida, USA and Prof. Dr. Karen Nieber, University of Leipzig, Germany.

Diploma thesis (2011) Beeinflussung der Aktivität der Myeloperoxidase durch Flavonoide in Gegenwart von Thiocyanat. By: Sandra Meier; Promotor Prof. Dr. Jürgen Arnhold and Prof. Dr. Karen Nieber, University of Leipzig, Germany.

Diploma thesis (2011) Isolierung phenolischer Inhaltsstoffe aus *Myricaria longifolia* Ehrenb. By: Sandra Dunkler; Promotor: Prof. S. Glasl-Tazreiter, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2011) Phytochemische Untersuchungen der Nebenwurzeln von *Metaxya rostrata*. By: Teresa Pemmer; Promotor: Ao. Univ.-Prof. Liselotte Krenn, Department for Pharmacognosy, University of Vienna, Austria.

Thesis of Pharmacy (2011) Le miel, un composé complexe aux propriétés surprenantes. "Honey, a complex compound with interesting properties" By: Alexandra Rossant ; Promotor: Prof. A. Desmouliere, University of Limoges and Dr. F. Bonté LVMH Recherche, France.

M.Sc. thesis (2011) Analytical method development of capillary electrophoresis to separation and identification of Caffeine and Flavan-3-ol in extract of *Paullinia cupana* var. *sorbilis* (Mart.) Ducke, Sapindaceae. By: Lia Akina Ito; Promotor: Prof. João Carlos Palazzo de Mello, Programa de Pós-Graduação em Ciências Farmacêuticas, State University of Maringá, Brazil.

M. Sc. thesis (2011) *Stryphnodendron adstringens*: phytochemical and biological analysis in vitro and in vivo. By: Sandra Cristina Giroto Pinto; Promotor: Prof. João Carlos Palazzo de Mello, Programa de Pós-Graduação em Ciências Farmacêuticas, State University of Maringá, Brazil.

M. Sc. thesis (2011) Anti-HVS-1 activity of *Schinus terebinthifolius* Raddi. By: Samara Requena Nocchi; Promotor: Prof. Tânia Ueda-Nakamura, State University of Maringá, Brazil.

Diploma thesis (2010) Isolation of constituents from *Hansenia weberbaueriana* (*Notopterygium incisum*) with inhibitory effects on NO production in RAW 264.7 macrophages (in German) by Nora Anna Winkler; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) Investigations on lateral gene transfer in *Leishmania* by use of molecular biological methods and phylogenetic analysis by Florian Haubenwallner; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) The use of HPTLC-MS coupling in the analysis of medicinal plants (in German) by Manina Meier; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) Phytochemical and pharmacological investigations of *Piper sarmetosum* Roxb. and *Zanthoxylum gillettii* De Wildeman (in German) by Carina Stuhlpfarrer; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) Characterization of commercial pressed juices from the aerial parts of *Echinacea purpurea* for the development of a monograph for the European pharmacopoeia (in German) by Carina Halb; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) Isolation and structure elucidation of isoflavonoids from *Spatholobus suberectus* (in German) by Claudia Weitmann; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2011) Isolation and structure elucidation of coumarins from *Zanthoxylum nitidum* DC (in German) by Martin Hedenig; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2010) Development of an HPLC assay for Senna leaves and Senna fruits (in German) by Angelika Kathrin Kobath; Promotor: Prof. R. Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria

#### Editorial remark

All contributions for the GA-Newsletter are welcome. Deadline for submission for the next edition is fixed to May 20<sup>th</sup> 2012. Please send all contributions to: Prof. Dr. A. Hensel, University of Münster, Institute for Pharmaceutical Biology and Phytochemistry, Hittorfstraße 56, D-48149 Münster, Germany; ahensel@uni-muenster.de