Dear members,

during the member’s meeting in Graz, I was elected as the new president of GA. It is an honour to serve GA as first female president for the next two years. I want to thank the former president, Prof. Bauer, for his tireless work and for the success which GA gathered in his presidency. In the meantime the new board has become active and is managing the business of GA steadily. I hope that we can serve and develop our Society in an optimum way, thank you very much for your confidence.

The next and 56th annual meeting of GA is coming closer, it will be held as a joint meeting with the Association Française pour l’Enseignement et la Recherche en Pharmacognosie (AFERP), the American Society of Pharmacognosy (ASP), the Phytochemical Society of Europe (PSE) and the Italian Society for Phytochemistry (SIF) in Athens, Greece, from August 3–8, 2008. It has been organized by the Association Française pour l’Enseignement et la Recherche en Pharmacognosie (AFERP), namely by Prof. Leandros Skaltsounis & Prof. Joel Boustie, and I want to thank them already very much for all their efforts and enthusiasm. These joint meetings are organized every five years. Due to the international importance of medicinal plant research, such global networking is extremely necessary and fruitful. 26 distinguished scientists have accepted to give plenary lectures. In total, more than 1300 abstracts have been submitted for oral or poster presentations. So we are expecting an intensive exchange of information and an inspiring programme. I am convinced that it will become a global summit of medicinal plant research, and I am looking forward to meeting colleagues there from all parts of the world.

I hope that you can attend some of these meetings as well. I am very pleased that these meetings are so well accepted and that GA has developed to a globally leading society in this field and become a platform for an exchange of knowledge and ideas between scientists worldwide. So we hope to meet your demands and make GA even more attractive. We will try to intensify this exchange, and also the exchange between young and experienced scientists in future meetings and workshops. Since last year, also a high number of colleagues have joined our Society which I welcome as new and active members of the GA family.

So I am looking forward to seeing many of you in Athens, where we will also organise our next member’s meeting. I am cordially inviting all members, especially our new and young members, to attend this meeting.

Cordially,

Brigitte Kopp
GA President
Invitation to the GA Members’ Meeting 2008

The 56th Annual meeting of our Society is a joint meeting with AFERP, ASP, PSE & SIF which will take place in Athens, Greece, from August 3–8, 2008. During this meeting in Athens a regular GA Members’ Meeting will be held. It is scheduled for Tuesday, 5 August 2008, 6.45 p.m. – 8.15 p.m.

Location: GA section of the divided Ballroom (the general congress venue) at Athenaeum Intercontinental Hotel, 89-93 Syngrou Avenue, 11745 Athens, Greece.

This announcement in the Newsletter has to be considered as the official invitation to the Members’ Meeting (in accordance with the GA bylaws), as this Newsletter is sent out to all members of our Society.

Preliminary Agenda

1. Approval of the agenda

2. Approval of the minutes of the Members’ Meeting held in Graz on 4 Sept 2007 (published in GA Newsletter 2-2007)

3. Annual reports
   3.1 Report of the President
   3.2 Reports of the Vice-Presidents
   3.3 Report of the Secretary
   3.4 Report of the Treasurer and report of the auditors
   3.5 Discharge of the ExC

4. Report of the Editor-in-Chief of Planta Medica

5. Reports of the Permanent Committees

6. New name of the Society
   6.1 Outcome of the opinion poll among all members’ according the new name of the Society
   6.2 Final voting for the elected version “Society for Medicinal Plant and Natural Products Research – Gesellschaft für Arzneipflanzen- und Naturstoff-Forschung (GA)”

7. Future congresses, symposia and workshops

8. Miscellaneous

On behalf of the Executive Council
Prof. Dr. Brigitte Kopp, GA President

Notes to all GA members

Deceased members

(to our knowledge)

Dr. Dr. h. c. Albert Hofmann (Honorary member and GA member since 1977) died on 29 April 2008

The Society will keep commemoration of Dr. Dr. h. c. Hofmann and offers its sincere condolences. (see also page 4)

Editorial remark

All contributions for the GA-Newsletter are welcome.

Deadline for submission is fixed to November 30th 2008.

Please send all contributions by e-mail:
Prof. Dr. A. Hensel
University of Münster, Institute for Pharmaceutical Biology and Phytochemistry,
Hittorfstrasse 56,
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ahensel@uni-muenster.de
GA gets modern!

A New Data Base for GA-Management

Not only scientifically GA is always up-to-date. Also the members’ and society’s management was modernized recently. The handling of a new member in general hasn’t changed – yet! – very much. A membership application will be handled by the secretary, then signed by the president and filed at the treasurer’s office, to where the membership fees have to be paid. From its foundation in 1953 to 1978 the society grew gradually to 400 members, the Germans dominating. Then with international presidents and a growing reputation of GA the number of international members increased rapidly ending in an almost unmatched height of 1350 members in 1994. In these early times each member was filed in a record card collected in a nice wooden box. For 14 years – the absolute record – Dr. Mechler fromTuebingen was the society’s secretary, knowing each of “his” members by face and names by heart.

In 1994 a computer freak took over: Dr. Bruno Frank, suggesting and starting immediately the foundation of an electronic membership database. A great step and a lot of work transferring almost 1400 handwritten cards into the electronic system. But: Suddenly it was very easy to recognize who had paid or not, whose address is still working or not. The number of members dropped drastically to almost 850 active members in the mid of 1990ies. But the worldwide interest in the Society for Medicinal Plant Research overcame this “cleaning action” quickly. One of many reasons surely are the interesting annual congresses in international metropoles or a generous support system for young researchers. Additionally, since 2008 GA offers a reduced subscription of Planta Medica online version for members only – quite well accepted by many of them. In 2008 we finally reached again the markstone of 1350 members from 89 (!) countries. The coming joint meeting with our sister societies in Athens convinced 90 new members to apply. Up to now the secretariat and the treasurer’s office worked with 2 individual and different working data bases. Everything had to be double checked, inquired, compared, but the risk of mistakes and overlookings was great. But limited! Thanks to a perfect collaboration with another record holding team, formertreasurer Dr. G. Abel and her assistant, Mrs. M. Schaefer (12 years).

In Febr. 2008 a new system was installed with synchronous access for the GA treasurer and the secretary. Everything now can be viewed at one glance from both offices (personal data, reduced membership fee, payment, Planta Med online subscription etc.), a real great facilitation. This time the transfer could be handled mostly automatically by the database provider Gruen. Still we are in the changing phase. More innovations will be implemented gradually (e.g. a nice membership card).

But as an indispensable consequence again a big razzia is planned after the Athens congress. In Athens everyone has a good and last chance to clarify his membership, to actualize his address or to pay cash for his “forgotten” fees! Mrs. Anett Lahse, the treasurer’s assistant, will expect you in our special “GA cash desk”!

Your GA-secretary
Renate Seitz

Some Data from the Membership Data Base

With our new membership data base it seems exciting to figure out all kinds of new statistics and we take the opportunity to congratulate and acknowledge long lasting memberships:

For 50 and more years of individual membership in GA we congratulate Mrs. Erna Popp, Nürnberg, Germany (since 1953), and Honorary Member, Prof. Dr. Rudolf Hänsel, Munich, Germany (1956).

153 members hold their membership since 25 or more years, we thank all for their constancy and interest!

Since 50 and more years GA is supported by the phytopharmaceutical companies, having the official status of so called “supporting members”:

Madaus GmbH, Köln, Germany (since 1955), Steiner & Co., Berlin, Germany (1956), Walther Schönenberger Extracts, Magstadt, Germany (1956), Müller Goepppingen, Göppingen, Germany (1958).

We thank all our “long-term” members and the supporting members for their support and loyalty over all the years!
Obituary: Dr. Dr. h. c. mult. Albert Hofmann

Albert Hofmann, 102, Swiss chemist, father of LSD, honorary member of ASP and GA and Dr. h.c. mult. (ETH Zurich, Free University of Berlin, Royal Institute of Technology in Stockholm), died April 29, 2006 – four months after his beloved wife Anita – at his home in Burg, a village near Basel, Switzerland. Hofmann was born in Baden, a spa and industrial town near Zurich, on January 11, 1906. After a commercial apprenticeship he studied chemistry at the University of Zurich under the direction of Professor Paul Karrer, a future Nobel laureate. His doctoral thesis dealt with the structure elucidation of chitin, the cellulose-like structural material found in numerous classes of animals, such as insects and crustaceans. After completing his PhD thesis he joined Sandoz in Basel in 1929 as he had a vivid interest in this company’s research program – isolation and synthesis of the active principles from medicinal plants for the development of plant-based medicines. He worked in the pharmaceutical/chemical research laboratories of Sandoz until his retirement in 1971, first as a coworker of Prof. Arthur Stoll, later as a group leader and finally – for the last 15 years of his career – as head of the natural products department. His initial research at Sandoz involved the structural elucidation of cardiac glycosides from squill (Scilla maritima) and ergot (Secale cornutum from Claviceps purpurea) alkaloids. In the course of his research, he produced a number of highly successful pharmaceutical products, including Hydergine® (a hydrazide of ergotamine), Methergine® (methyleneergotriene) and Di-hydergot® (dihydroergotamine). In 1938, while working on the synthesis of ergot alkaloids, he isolated lysergic acid and synthesized a series of lysergic acid derivatives, including lysergic acid diethylamide (LSD). In 1943, Albert Hofmann detected its psychotropic activity in a self-experiment conducted on April 19. His bicycle ride home from the laboratory on that day has passed into drug lore as the first LSD trip. Subsequently he became world-renowned as the father of LSD. The discovery of LSD opened the door to psychopharmacology, and paved the way for the understanding of the biochemistry of the neurotransmitters serotonin and dopamine during the following decades. Later he isolated other psychoactive compounds such as psilocybin and psilocin from the Mexican sacred mushroom Psilocybe mexicana and identified the active constituents of “Ololiuqui” (Rivea corymbosa, a Mexican vine), which are closely related to LSD. Thanks to Dr. Hofmann’s contribution in the area of medicinal chemistry, Sandoz not only enjoyed long-term commercial success but was also held in high esteem by scientists in pharmaceutical and medical circles. After its discovery, LSD was viewed as a wonder drug with the potential to treat psychiatric problems including schizophrenia. Under the name of Delyside® it was studied clinically for ten years and showed great promise as a pharmacological aid in psychoanalysis. However, LSD not only elicited great interest among psychiatrists but also became the preferred drug of hippie and other subcultures, and found expression in the fine arts and in the music. The partially uncontrolled consumption led to a global ban of LSD in the sixties, even of its use for therapeutic and scientific purposes. According to Dr. Hofmann this decision was politically motivated rather than scientifically. Albert Hofmann is the author of more than hundred scientific papers and several books. The legendary story of the LSD discovery and the initial experiments in humans are vividly recounted by Hofmann in his book “LSD – mein Sorgenkind” (1979) which was translated into English as “LSD – My Problem Child” (1980). LSD was surely the most sensational of all compounds ever synthesized in Basel, and the most powerful psychotropic substance known. Since his retirement from professional life, he has devoted himself increasingly to
philosophical reflections on the experience of nature, publishing a collection of essays “Einsichten – Ausblicke” (published in English as “Insight – Outlook”) as well as an illustrated volume entitled “Lob des Schauens” ("In Praise of Contemplation"). His fundamental credo is published in “Insight – Outlook”: “I believe that the significance of the natural sciences in the evolution of human society does not lie primarily in the fact that they provided the basis for the development of modern technologies and industries that have radically changed our lives and our planet, but rather in the fact that they can open people’s eyes to the wonder of creation and to the unity of all life on earth, of which humanity is a part. If this knowledge fully entered public consciousness, it could form the basis of a new spirituality and help to resolve our current spiritual, social and environmental problems”.

2007 Hofmann was elected by the readers of the English newspaper “Guardian” as one of the “world's top 10 living geniuses”. In celebration of Albert Hofmann's 100th birthday (January 11, 2006) a book of a special kind “Grenzgänge” ("Exploring the frontiers") have been written by his friends to pay tribute to the scientist and man. Dr. Hofmann was not only a scientist with a philosophical bent; he had also remained until the end of his life a cheerful and good-humored man. Everyone was impressed by his phenomenal knowledge not only of chemistry and physics but also of literature, music and arts in general. He enjoyed long restorative walks in the woods around his beautiful house in the countryside, read books of baroque literature in the original and corresponded with friends and colleagues around the world. Albert Hofmann was always convinced that only physicians should handle LSD and other psychedelic drugs. He was deeply disappointed by the worldwide ban of LSD also in therapy and research in the sixties. So it is not surprising that he judged the approval in 2007 of an LSD study in Switzerland, the first trial in the past 35 years, as a fulfillment of a dream.

Otto Sticher, Prof. em. ETH Zürich
Prof. B. Kopp, President GA

Retirement of Prof. Dr. Peter Houghton

Professor Houghton, London, is planning to retire from academic work on December 31st 2008. For many years he has been member of the advisory board of GA and nearly all scientists, visiting our annual conference, know him very well as an extremely active and friendly colleague, always keen to help with lots of scientific expertise. Prof. Houghton has been Professor in Pharmacognosy in the Department of Pharmacy at Kings College London since 1999, having worked in the department since 1972. He is a Fellow of the Royal Pharmaceutical Society of Great Britain and is also a Fellow of the Royal Society of Chemistry. He has published over 250 research papers and reviews on many topics connected with the chemistry and biological activity of plants and their constituents. He has supervised over 20 PhD students with many links to different countries, especially Ghana and South Africa. His manifold research areas include substances from plants of potential use in treating CNS degenerative disease, cancer and for wound healing.

Professor Houghton is a member of several national and international committees dealing with regulatory and scientific aspects of naturally-derived drugs and medicines. He is immediate past President of the International Society of Ethnopharmacology and the first British member of the Board of the Society for Medicinal Plant Research. Also many scientific journals highly appreciate his work, especially the Journal of Ethnopharmacology, where he functions as the editor, and Pharmaceutical Biology, for which he serves as assistant editor.

It is typical for Prof. Houghton that after his formal retirement he will still be active: On the one side he has set up a consultancy for pharmacognostical questions, on the other side he will be ordained as Deacon in the Church of England and working with his parish church in Balham, southwest London. The Society thanks Peter very much for his continuous and valuable help over all the years and wishes him the best for his future activities.

Andreas Hensel, Brigitte Kopp (president)
Dear colleagues

We are almost in the final stage of preparation of the joint meeting. We have received in total more than 1350 abstracts from 90 countries. Most of them will be published in the abstract book of Planta Medica. The rest will be published in the abstract book of the joint meeting. There is a great interest for participation from academics as well as from companies relative to the scientific fields of our meeting. There are more than 25 companies that participate with an exhibition booth in the joint meeting and many others that will participate by oral and poster presentations.

Thirty well distinguished scientists will cover with oral presentations the nine main topics of the meeting which are:

- Drug discovery from natural sources
- New sources of bioactive natural products: from biodiversity to chemodiversity
- Cell cycle regulation and natural products
- Biosynthesis and biomimetic synthesis of natural products
- Natural products with cosmetic, agrochemical and veterinary interest
- Bioavailability and quality of herbal drugs
- Health improvement through dietary phytochemicals
- Modern approaches to traditional medicines
- New trends in extraction, separation processes and structure elucidation

Due to the great interest for participation the programme of the meeting is built, in order scientists the maximum benefit, to acquire with short oral presentation that will be mainly in parallel sessions. We do believe that the 7th joint meeting is going to be a unique scientific event thus we expect all of you this summer in Athens, Greece.

The chairman,
Prof. Leandros A. Skaltsounis
**Tuesday August 5th**

- **8.30 – 10.30 Lectures**
  - Marine Natural Products
- **10.30 – 11.00 Coffee break**
- **11.00 – 13.00 Lectures**
  - New sources of bioactive natural products
- **13.00 – 14.30 Lunch**
- **14.30 – 16.45 Parallel sessions**
  - Natural products with Agrochemical and cosmetic interest
  - Cosmetics
  - Pharmacology
  - Analysis and Structure determination
- **16.45 –17.15 Coffee break**
- **17.15 –18.45 Poster session 1**
- **18.45 – 20.15 Association meetings GA/AFERP/SIF**

**Thursday August 7th**

- **8.30 – 10.30 Lectures**
  - Pharmacology
  - New sources of bioactive natural products
  - Health improvement thought dietary phytochemicals
- **10.45 – 11.15 Coffee break**
- **11.15 – 13.15 Lectures**
  - Drug discovery from natural sources
- **13.15 – 14.45 Lunch**
- **14.45 – 16.15 Parallel sessions**
  - Poster session 2
- **16.15 – 18.15 Lectures**
  - Biosynthesis and biomimetic synthesis of natural products
- **18.15 – 18.45 Concluding remarks**
- **20.15 Congress dinner**

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**Other Meetings**

**St. Petersburg, Russia**
- July 2–4, 2008; 12th International Congress „Phytopharm 2008“

**Salamanca, Spain**
- July 8–11, 2008; “XXIVth International Conference on Polyphenols”

**Cork, Ireland**
- Aug 24–27, 2008; “Agricultural Biotechnology International Conference (ABIC 2008)”

**Jena, Germany**
  [http://lcnr.ice.mpg.de/main/home.htm](http://lcnr.ice.mpg.de/main/home.htm)

**Quedlinburg, Germany**
  [www.gdch.de/iseo2008](http://www.gdch.de/iseo2008)

**São Paulo, Brazil**
- Sep 16–19, 2008; “20th Symposium of Brazilian Medicinal Plants and 10th International Congress of Ethnopharmacology”

**Ash-Shoubak, Jordan**
- Oct 15–16, 2008; “Symposium on Medicinal Plants, Their Cultivation and Aspects of Use”
  [www.ismp.bau.edu.jo](http://www.ismp.bau.edu.jo)

**Sharm El Sheikh, Egypt**
- Oct 31–Nov 5, 2008; “1st Euro-Mediterranean Conference on Marine Natural Products (EMCMNP-I)”
  [www.emcmnp.org](http://www.emcmnp.org)

**Cape Town, South Africa**
- Nov 9–14, 2008; “WOCMAP IV – 4th World Congress on Medicinal and Aromatic Plants – Using Plants to benefit People.”

**Punjab, India**
- Nov 16–20, 2008; “International Conference on New Developments in Drug Discovery from Natural Products and Traditional Medicine”
GA’s Permanent Committee Breeding and Cultivation acts as co-convener of a meeting on aspects of agricultural production of herbal drugs 2008 in Bernburg, Germany

The German Professional Committee for Medicinal, Spice and Aromatic Plants (DFA) represents the growers of medicinal and aromatic plants in Germany. In a distance of three or four years, it holds the “Conference on Medicinal and Spice Plants” where the latest research findings relating to agricultural production of herbal drugs are presented. In 2008, this meeting has been organised as joint meeting together with the annually arranged “Winter Seminar for questions on medicinal and aromatic plant production” which presents in the first line statements and experiences from a practical point of view (Joint Meeting 18th Bernburg Winterseminar and 5th Conference on Medicinal and Spice Plants, 18–21 February 2008 in Bernburg, Germany). Already in 2004, the GA’s Permanent Committee Breeding and Cultivation under direction of Prof. Dr. Chlodwig Franz participated as a co-convener in the fourth Conference of DFA to intensify the scientific exchange between the pharmaceutical biology and the fields of science being tangent to the agricultural production of herbal drugs. In 2008 together with GA, also the Society for Plant Breeding and the German Phytomedical Society acted as co-convener. The Regional Center of Agriculture, Forestry and Horticulture of the federal state Saxony-Anhalt involved intensively in tests of plant protection products for medicinal and aromatic plants hosted the conference. The scientific committee under the direction of the GA member PD Dr. F. Pank guaranteed a high scientific level of the conference by the broad expertise of its members in different scientific disciplines related to agricultural herb production. The motto of the conference was “Quality, profitability and sustainability”. The competitiveness of this very special branch of plant production presupposes the production of high quality herbal drugs with cost-efficient and environment saving methods. This challenging task needs the elaboration of innovative solutions and approaches by research and development. The 28 lectures and 66 posters conveyed valuable research findings, experiences and suggestions to meet the present challenges by sharpened competition in the era of globalisation, continuously rising energy costs, the competition for agricultural medicinal plant production by escalated prises of other agricultural products and the increasing regimentation of the primary production within the scope of more and more sophisticated quality management systems. The conference conveyed important impulses for future activities in research and production to the 250 delegates from research, economy and administration. The book of abstracts written in German language can be downloaded from http://www.sachsenanhalt.de/LPSA/fileadmin/Elementenbibliothek/Bibliothek_Politik_und_Verwaltung/Bibliothek_LLFG/dokumente/Acker_und_Pflanzenbau/Arznei_und_Gewuerzpflanzen/Tagungsband2.pdf.

Petra Wernicke, Ms Minister for agriculture and environment Saxony-Anhalt and PD Dr. F. Pank, head of the scientific committee under discussion

7th Annual Oxford International Conference on the Science of Botanicals & American Society of Pharmacognosy 4th Interim Meeting, April 12–16, 2008, University of Mississippi, USA

For the first time GA (Gesellschaft für Arzneipflanzenforschung) was invited to participate as co-organizer and co-sponsor in the US annual conference series on the Science of Botanicals. It was the 7th and this time very international, but still familiar conference with 275 participants from all over the world. It was organized by the National Center for Natural Products Research (NCNPR) within the School of Pharmacy at The University of Mississippi and chaired by Prof. Dr. Ikhlas Khan, NCNPR, and dealt with Quality and Safety Issues Related to Botanicals. The conference was supported by a cooperative agreement between the NCNPR and the Center for Food Safety and Applied Nutrition (CFSAN) of the U.S. Food and Drug Administration (FDA). Further co-sponsors were the Shanghai Institute of Materia Medica/CAS, China, and the Indian Council of Scientific and Industrial Research (CSIR-India). The conference was held at the new Oxford Conference Center in Oxford/Mississippi. GA was represented by president Prof. Dr. Brigitte Kopp, Vienna. She emphasized in her welcome address the necessity of a regular and steady international scientific interchange, as despite many modern methods such as combinatorial chemistry, still about 50% of all small molecules in the past decade are derived from the Natural Product field. This shows that NPs are important and effective sources for new drugs or leads. In her plenary lecture she presented “New Results from Wellknown Herbal Medicinal Products”.

Further GA plenary or keynote speakers (most of them also ASP members) were Prof. KHC Baser, Anadolu University, Turkey (Essential Oils – The case of Oregano oil and Carvacrol), Prof. Veronika Butterweck, Gainesville, Florida (Anxiolytic Activity of Apocynum venetum L. and its proposed mechanism of action), Prof. Dean Guo, Shanghai (TCM: From Experience towards Evidence-Based Medicine), Prof. Douglas Kinghorn, Ohio State University (Search for Bioactive Constituents of Botanical Dietary Supplements), Prof. Adolf Nahrstedt, Muenster (Pharmacokinetic Synergy of Con-
GA symposium April 24–25, 2008, Leiden “Plants systems biology and medicinal plants”

A 2-days symposium highlighting various aspects of plant systems biology was held in the Naturalis Museum in Leiden on April 24–25, 2008. It was co-organized by Prof. Dr. Rob Van der Heijden, Prof. Dr. Hans Scheffer, and Prof. Dr. Brigitte Kopp, President of the Society for Medicinal Plant Research (GA).

More than 100 scientists attended this well-organized, exciting symposium presenting in 11 plenary lectures, 9 short lectures and 24 posters many facets of system biology and system biology approaches tried to address phytochemical issues previously not fully understood or solved in much depth. Actually, systems biology is a revolutionizing science. It means a different approach to study biological systems, i.e. studying them in the systemic, holistic way. In complex organisms such as plants this offers many new opportunities and many challenges. Key technologies in systems biology are transcriptomics, proteomics and metabolomics. Particularly the latter technology is of great interest for finding compounds that correlate with biological activity. When studying the effect of medicinal plants in living systems (cells, animals or humans), systems biology will be of great value.

Metabolomics and metabolite profiling are also important tools for quality improvement and control of medicinal plants and medicinal plant products.

In her welcome address GA President Brigitte Kopp also stressed that systems biology is a complex, interdisciplinary pursuit. Experts in the fields of metabolomics and metabolite profiling presented a state-of-the-art picture of systems biology and its application in very different areas of plant and plant/human biology. Rob Verpoorte (University, Leiden, NL) gave the key lecture on “Systems biology, the future of Medicine and Personal Health”, where he already raised important questions on science in general and how they can be addressed by systems biology approaches. A whole set of lectures was dedicated to Ginseng and recent progress related to quality control, metabolite profiling, evaluation and identification of Ginseng in commercial products was presented by Mei Wang (SU Biomedicine, Zeist, NL), Rob van der Heijden (University, Leiden, NL) and Wen-Te Chang (University, Taichung, Taiwan). In the afternoon of the first symposium day Alisdair Fernie (MPI of Molecular Plant Physiology, Golm, Germany) demonstrated how flux profiling can help in elucidating, modeling and predicting biosynthetic routes and their regulation. Elaine Holmes (Imperial College, London, UK) summarized her experience in metabonomic applications in plant systems biology. The second day started with a lecture focusing on the potential and limitations of NMR-based metabolomics in plant science (Young Hae Choi, University, Leiden, NL). The exciting contribution of Alain Goossens (VIB, Gent, Belgium) introduced to transcriptomics and jasmonates, a potent combination to unravel the regulation of plant secondary metabolism. Kirs-Maria Oksman-Caldentey (VTT, Espoo, Finland) finished the morning session of presentations by invited experts with her vision of plant cells as efficient factories to produce high-value secondary metabolites. The accompanying short lectures presented special aspects or facets of metabolite profiling, potential application of systems biology and other aspects related loosely or more closely to the topic of the symposium. The same holds for the interesting posters displayed during the meeting.

The symposium finished with presentations by Ana Cristina Figueiredo (University, Lissabon, Portugal) and Raimo Hiltunen (University, Helsinki, Finland). Their presentations were related in one way or the other to the work of Hans Scheffer, who received his M.S. in Pharmacy and Ph.D. at Leiden University. In 1984 he became Associate Professor of Pharmacognosy at the Leiden/Amsterdam Center of Drug Research later on Professor of Medicinal and
At the end of the meeting Hans Scheffer took over the lectern to thank his relatives, friends and companions for sharing so many memorable moments with him. He also acknowledged the excellent and detailed overview the participants of the symposium gave on the emerging and steadily expanding area of plant systems biology. This symposium was also organized on the occasion of the retirement of Hans Scheffer, former President of the GA (1998–2001) in 2007. Brigitte Kopp already announced in her welcome address that Hans Scheffer will be awarded the honorary membership of the GA during the forthcoming Annual Congress of the Society for Medicinal Plant Research in Athens.

Prof. Wolfgang Kreis, Erlangen

The board of the Society of Phytotherapy

“Herbal Medicinal Products and Phytotherapy – Research and Practice” 6th Joint Congress 14 to 16 February 2008 in Berlin

The 6th joint meeting of the German Gesellschaft für Phytotherapie, Gesellschaft für Arzneipflanzenforschung/Society for Medicinal Plant Research, Deutsche Gesellschaft für Klinische Pharmakologie und Therapie and Komitee Forschung Naturmedizin took place from 14 to 16 February 2008 in the Kaiserin-Friedrich-Stiftung für Ärztliche Fortbildung in Berlin. Once again the call for contributions to the scientific programme resulted in a big response from numerous colleagues. 45 lectures, 36 posters and 275 registered participants brought forth an ambitious scientific programme as well as a fully booked venue. The presence of 11 representatives of national and European health authorities as well as of 15 participants from scientific and other journals was highly appreciated. The audience was welcomed by Professor Dr Brigitte Kopp, president of the Society for Medicinal Plant Research, Professor Dr Dr mult. Fritz H. Kemper, president of the German Gesellschaft für Phytotherapie and by Professor Dr Volker Schulz who was organising the congress. The introductory remarks unanimously emphasized the commitment of phytotherapy to scientific research in particular expressing gratitude to all those who had actively contributed to the programme by lectures or posters. In a touching farewell speech during this congress, Professor Fritz H. Kemper said goodbye after his 18-years presidency of the German Gesellschaft für Phytotherapie. In the past the Berlin Congress on Phytotherapy was developed from four different roots. Since 2001 and now for the 6th time, the meeting was performed as a joint congress in order to increase synergies. Nonetheless each of these associations is at first committed to the interests of its members which may change over the years. Two associations, the Deutsche Gesellschaft für Klinische Pharmakologie und Therapie and the Komitee Forschung Naturmedizin were represented this time by few members only. In contrast, the congress was well accepted by members of two friends from the European neighbourhood, the Schweizer Medizinische Gesellschaft für Phytotherapie and the Österreichische Gesellschaft für Phytotherapie. These changes among the participants will be taken into due account when the next meeting is organized which will probably take place from 10 to 12 September 2009. The presentation of new results from research and recent findings from all domains of phytotherapy were the core of the scientific programme of this congress which mainly focused on therapeutic applications in humans. Special emphasis of lectures and posters was put on the use of herbal medicinal products for respiratory tract disorders, cognitive and affective disorders of the central nervous system, circulatory disorders as well as the use in gastroenterology, oncology, dermatology, rheumatology and gynaecology. Pharmapolitical issues were raised by two discussion panels. The Forum pharmaceuticum, organised and chaired by Dr Frauke Gaedcke, picked up a controversial development from the viewpoint of the products used entitled „Pharmacopoeia monographs for extracts – bane or boon?“ Items resulting from practical experience such as cultivation of medicinal plants and manufacturing methods as well as marketing authorization and distribution of herbal medicinal products were vigorously discussed together with the audience. Various examples demonstrated which chain reactions can be caused by apparently slight modifications within the specifications of extracts. The Forum politicum, „Phytotherapy – more than a bridge between complementary and orthodox medicine“ was moderated by Professor Kemper and Dr Eberwein. According to recent figures, the German health authority BfArM made a positive assessment of approximately 2400 herbal medicinal products developed in the German market. Unlike these positive developments, the changes in the market situation were less appreciated. The measures of the GMG (law on modernization in the healthcare system) of April 2004 which resulted in exemption of non-prescription bound medicinal products from reimbursement by statutory health insurances, gave rise to the option to prescribe herbal medicinal products in exceptional cases only. For this reason many general practitioners lack support with regard to their patients’ treatment with herbal medicinal products. On the pharmacists, there is less impact at
Present which may result in different viewpoints and opinions. Furthermore, the non-academic area plays an increasing role. This forum has contributed to the communication of different viewpoints of physicians, pharmacists and consumers who thus may learn from each other's experiences.

During the congress the annual members meeting of the German Society for Phytotherapy took place. One of the main items of the agenda also being of general interest was the election of the new board for 2008 to 2010. Professor Kemper who guided the election proposed a board of 7 (instead of 9) persons which was agreed by the members meeting. 13 candidates stood for election. The highest quota were received (in alphabetical order) by Dr Bernd Eberwein, Dr Frauke Gaedcke, Dr Werner Knöß, Professor Dr Karin Kraft, Professor Dr Volker Schulz, Dr Barbara Steinhoff and Professor Dr Hilke Winterhoff. The newly elected board appointed Professor Dr Karin Kraft and Dr Bernd Eberwein vice-chairpersons and Professor Dr Volker Schulz chairman of the society; Dr Bernd Eberwein continued to be treasurer of the society.

The cheerful social event in the „Berliner-Kiez Restaurant & Theaterclub Umspanwerk Ost“ was a good opportunity for the members of the new board to introduce themselves to all participants of the congress. Two celebrations were even more important: Professor Dr Dr Heinz Schilcher, one of the founder members of the society, was appointed honorary member with applause of the audience, and Professor Dr Dr mult. Fritz H. Kemper, who directed the fate of the society for 16 years, was awarded honorary chairman of the society with standing ovations of all participants.

B. Steinhoff and V. Schulz

GA worldwide

and their Institutes of Pharmacognosy: International, Interesting and Cooperative

GA is showing a steadily increasing activity all over the world. The following map highlights the provenience of our more than 1,300 members coming from more than 85 countries worldwide. All green-marked countries are GA-countries.

Memberships are steadily increasing over the years, indicating that GA seems to be a valuable platform for medicinal research scientists. The following graph indicates the development of memberships over the last years.
Working area:
Isolation and identification of bioactive compounds from plants, marine organisms, and fungi.
Semi synthesis of natural products, derivatization and in silico studies.
Scale up extraction and isolation procedures (50 lt to 1000 lt).
Chemical ecology studies
Analysis and isolation of secondary metabolites in food.

2 publications, representing the institution:

Coworkers:
13 Academic staff members, 26 PhD, 9 Postdocs and 3 technicians

The “speciality” or the unique selling proposition of the institution:
Development of CDK’s / GSK3 inhibitors
Development of SERMS (Selective Estrogen Receptor Modulators)
Research and development of PPAR ligands (obesity, antidiabetics)
Isolation and exploitation of bioactive compounds from agricultural wastes

Running projects with industrial partners?
Pierre-Fabre (France), Jannsen Pharmaceutica (Belgium), Intra-Cellular Therapies (USA), Lavipharm (Greece & USA), Servier (France), Hiltex (France), Frutarom (Switzerland), Elpen (Greece), Korres Natural Products (Greece).

News on regulatory affairs

Herbal Medicinal Products – Regulatory Developments in Europe
By: Dr. Barbara Steinhoff; German Medicines Manufacturers Association (BAH); Co-chairperson of the ESCOP Scientific Committee; Ubiersstr. 71–73; D-53173 Bonn; Mail: steinhoff@bah-bonn.de

Herbal Medicinal Products – New Regulatory Developments in Europe
The Directive on traditional herbal medicinal products (2004/24/EC, now part of Directive 2001/83/EC, Art. 16a–16i) provides a new category for herbal medicinal products. It comprises products with low indication claims which do not require intervention of a medical practitioner, with defined dosage levels and methods of administration as well as proven pharmaceutical quality and safety. Their efficacy is plausible on the basis of long-standing tradition and experience. Thus, in addition to the already existing category of products with a “well-established medicinal use” which may prove their safety and efficacy based on bibliographic data, the Directive offers an alternative approach for products with a long-term marketing experience but without a scientific proof of efficacy.

Registration of traditional herbal medicinal products
After implementation of the Directive into national legal systems of most of the EU Member States, there is not yet much experience available. So far only few registrations for traditionally used herbal medicinal products have been granted, 11 of them in the United Kingdom, e.g. for Devil’s Claw, Feverfew, Black Cohosh, Saw Palmetto, Valerian, Horse Chestnut and St. John’s Wort. In Germany, 5 registrations have been granted, and many applications will follow in the near future because in this country, the 31 December 2008 was set as the deadline to apply for new registrations of the existing § 109a marketing authorisations for traditional herbal medicinal products.

The Committee on Herbal Medicinal Products
The new Committee on Herbal Medicinal Products (HMPC) which meets 6 times per year under the chairmanship of Dr. Konstantin Keller, Germany, is in charge of preparing guidance documents in the field of quality, safety and efficacy of herbal medicinal products and of establishing Community herbal monographs in the area of...
the “well-established medicinal use” and for traditional herbal medicinal preparations, respectively. Furthermore the group prepares a list of herbal substances, preparations and combinations thereof, which will be eligible for a simplified registration procedure as traditional herbal medicinal products.

Community herbal monographs

During the past few months a large number of further Community herbal monographs were prepared in the HMPC Working Party on Community monographs and Community list (MLWP) and then finally adopted by the HMPC:

- **Community Herbal Monograph on Pimpinella anisum L., fructus** (EMEA/HMPC/137423/2006)
- **Community Herbal Monograph on Pimpinella anisum L., aetheroleum** (EMEA/HMPC/263273/2006)
- **Community Herbal Monograph on Calendula officinalis L., flos** (EMEA/HMPC/179281/2007)
- **Community Herbal Monograph on Echinacea purpurea (L.) Moench, herba recens** (EMEA/HMPC/104945/2006)
- **Community Herbal Monograph on Foeniculum vulgare Miller subsp. vulgare var. vulgare, fructus** (EMEA/HMPC/137428/2006 Corrigendum)
- **Community Herbal Monograph on Foeniculum vulgare Miller subsp. vulgare var. vulgare, aetheroleum** (EMEA/HMPC/263292/2006)
- **Community Herbal Monograph on Foeniculum vulgare Miller subsp. vulgare var. dulce (Miller) Thellung, fructus** (EMEA/HMPC/263293/2006 Corrigendum)
- **Community Herbal Monograph on Melissa officinalis L., folium** (EMEA/HMPC/5341/2007)
- **Community Herbal Monograph on Mentha x piperita L., aetheroleum** (EMEA/HMPC/349468/2006)
- **Community Herbal Monograph on Passiflora incarnata L., herba** (EMEA/HMPC/230962/2006)
- **Community Herbal Monograph on Primula veris L., Primula elatior (L.) Hill, flos** (EMEA/HMPC/64684/2007)
- **Community Herbal Monograph on Primula veris L., Primula elatior (L.) Hill, radix** (EMEA/HMPC/143370/2007)
- **Community Herbal Monograph on Rheum palmatum L., Rheum officinale Baillon, radix** (EMEA/HMPC/189624/2007)
- **Community Herbal Monograph on Rhamnus purshianus D.C., cortex** (EMEA/HMPC/513579/2006)
- **Community Herbal Monograph on Thymus vulgaris L., Thymus zygis L., herba** (EMEA/HMPC/234113/2006)

Scientific and herbal industry associations in principle welcome the preparation of these monographs because they can provide harmonised scientific assessment criteria for herbal medicinal products. However, in many cases comments had been submitted suggesting amendments on individual chapters of the drafts, e.g. the dosage recommendation for the use in children in the *Foeniculum* monographs or the indication and posology for thyme liquid extract DAB (*Thymus vulgaris*).

Draft community herbal monographs and entries to the list

Upon recommendation of the Working Party on Community Monographs and Community List (MLWP) which is chaired by Dr. Herbert Pittner, Austria, the HMPC released the following draft monographs for a 3-months consultation with interested parties:

- **Draft Community Herbal Monograph on Avena sativa L., fructus** (EMEA/HMPC/260998/2007)
- **Draft Community Herbal Monograph on Avena sativa L., herba** (EMEA/HMPC/260998/2007)
- **Draft Community Herbal Monograph on Echinacea purpurea (L.) Moench, herba** (EMEA/HMPC/3948972007)
- **Draft Community Herbal Monograph on Harpagophytum procumbens D.C.; Harpagophytum zeyheri Decne** (EMEA/HMPC/476255/2007)
- **Draft Community Herbal Monograph on Melliotus officinalis (L.) LAM** (EMEA/HMPC/476398/2007)
- **Draft Community Herbal Monograph on Ruscus aculeatus L., rhizoma** (EMEA/HMPC/372915/2007)
- **Draft Community Herbal Monograph on Sambucus nigra L., flos** (EMEA/HMPC/283842/2007)
- **Draft Community Herbal Monograph on Solidago virgaurea L., herba** (EMEA/HMPC/434192/2007)
- **Draft Community Herbal Monograph on Verbascum sp., flos** (EMEA/HMPC/395238/2007)

The comments submitted mainly referred to the “well-established medicinal use” of preparations of *Ruscus aculeatus*, *Solidago virgaurea* and *Urtica* (herb) for which several studies supporting clinical efficacy exist but which had not been taken into consideration. Also in case of the recently discussed draft on *Harpagophyrum* which only includes “traditional” indications thus neglecting a large number on clinical studies performed with *Harpagophyrum* extracts, detailed comments were submitted. All these comments are discussed in the MLWP and HMPC prior to final adoption of a monograph. The comments submitted as well as the HMPC’s assessment reports are published on the EMEA Website on a regular basis (www.emea.europa.eu).

For the following new HMPC projects, rapporteurs from the group were appointed:

- Achillea millefolii flos, Agni caschi fructus, Agrimoniae herba, Agropyri repentes rhizoma, Alli sativi bulbus, Arnicae flos, Capsellae bursa-pastoris herba, Cardui marianae fructus, Cucurbitae semen, Eucalypti aethereoleum, Eucalypti folium, Filipendulae ulmariae herba, Foenugricaci semen, Fragariae folium, Gentianae radix, Ginkgoi folium, Ginseng radix, Hederae helicis folium, Juglandis fructus, Juniperi fructus, Levisci radix, Murrubii herba, Mate folium, Matricariae aethereoleum, Matricariae flos, Millefolii herba, Myrrha, Myrtilli fructus, Oleae folium, Ortheziospheni folium, Plantaginis lanceolatae folium, Quercus cortex, Rosmarini folium, Serenoae repentes fructus, Solanum dulcamara, Taraxaci folium, Taraxaci radix cum herba, Violae tricoloris herba, Vitis viniferae folium and combinations of Primula and Thyme as well as of Valerian and Hops.

Current overviews of the status of the HMPC assessment work can be found on the EMEA Website, indicating for which projects a rapporteur has been assigned, a draft is under discussion or published, the assessment is close to finalisation or a final opinion has been adopted. In this context, it is important to mention that interested parties should take the opportunity to comment on the drafts in case they do not agree with the contents, e.g. with regard to indications, dosage recommendations or risk information.

Guidance documents on quality

A new “Guideline on quality of combination herbal medicinal products/traditional herbal medicinal products” (EMEA/HMPC/2148 69/2006) addresses some approaches for identification and quantitative determination of herbal substances/preparations in combination herbal medicinal products. It takes into account the complex composition of the herbal medicinal product and the difficulties to demonstrate compliance with the existing EU guidelines on quality.

A draft “Reflection paper on markers (marker substances) used for quantitative and qualitative analysis of herbal medicinal products and traditional medicinal products” (EMEA/HMPC/253629/2007) was released for public consultation until 15 April 2008. It describes issues related to markers which are intended for quantitative and qualitative analytical control of herbal medicinal products and provides possible criteria for the selection of markers. The paper may contribute to an appropriate quality standard for herbal medicinal products taking into account their complex nature as well as their analytical particularities.

Guidance documents on safety and efficacy

After publication of the “Guideline on non-clinical documentation for herbal products in applications for marketing authorisation (bibliographical and mixed applications)” and in applications for simplified registra-
tion” (EMEA/HMPC/32116/2005), a draft “Guideline on the assessment of genotoxic constituents in herbal substances/preparations” (EMEA/HMPC/1046 81/2007) was published for public consultation. This document is intended to provide guidance on the practical interpretation and implementation of genotoxicity testing, hazard identification and risk assessment of herbal medicinal products. The new document can be regarded as a pragmatic approach to address the issue of genotoxicity testing describing a stepwise approach according to the requirements of the ICH guidelines. However, the comments submitted emphasized that the need to perform testing should be restricted to an appropriate extent, and additional non-clinical testing should be demanded only in case published literature is not available or insufficient and if there is reasonable suspicion for safety concerns.

Safety evaluation of herbal medicinal products

A former “Draft reflection paper on the risk associated with furocoumarins contained in preparations of Angelica archangelica L.” (EMEA/HMPC/317913/2006) came to the conclusion that only a daily intake of total furocoumarins in herbal medicinal preparations equal or below 15 µg would be acceptable. Comments submitted on this draft stated e.g. that extrapolating data from psoriasis therapy using highly dosed isolated substances to all kinds of herbal preparations made from the genus Angelica did not seem appropriate. The final version published in November 2007 included a more detailed risk assessment approach which also referred to dietary consumption. It came to the conclusion that a daily intake of 1.5 mg furocoumarins was regarded safe, however, a recommendation was added to exclude children and pregnant women from the use of Angelica preparations.

All respective drafts released for public consultation as well as the finalised documents can be found on the EMEA website (www.emea.europa.eu).

ESCOP – The European Scientific Cooperative on Phytotherapy

ESCOP, the European Scientific Cooperative on Phytotherapy, has continued working on the supplement to the book published in September 2003 (to be ordered from the book trade or from the ESCOP Secretariat www.escop.com). The addendum of approximately 30 monographs will contain revisions e.g. on Devil’s claw, Eleutherococcus, Valerian and Echinacea as well as approximately 25 new monographs e.g. on Milkthistle, Capsicum, Pumpkin seed and Hawthorn berries. Furthermore it will include many monographs on medicinal plants with indications supported by few or no clinical data. The latter ones might provide useful information on the safety data for products whose efficacy is plausible on the basis of long-standing tradition and experience.

New Books

Bioactive Natural Products


Duke’s Handbook of Medicinal Plants of Latin America

The greatest diversity of plants in the world occurs in tropical Latin America, which is home to nearly 100,000 of the world’s 300,000 known species. Despite this diversity, Latin American flora remains the least investigated. As interest in medicinal plants continues to develop, Duke’s Handbook of Medicinal Plants of America provides complete coverage of nearly 500 of the most promising Latin American medicinal leads. This comprehensive guide addresses safety, efficacy, and suitability. After a brief introduction, each entry contains scientific and colloquial names, synonyms, illustrations, notes, biological activities, medicinal indications, dosages, potential hazards, extracts.

Key Features: Presents family line, synonyms, notes, common names, activities, indications, dosages, downside, natural history, and extracts; Covers nearly 500 of the most promising Latin American medicinals; Includes over 100 illustrations.


Thin Layer Chromatography in Phytochemistry

Thin layer chromatography (TLC) is increasingly used in the fields of plant chemistry, biochemistry, and molecular biology.
Advantages such as speed, versatility, and low cost make it one of the leading techniques used for locating and analyzing bioactive components in plants. TLC in Phytochemistry is the first source devoted to supplying state-of-the-art information on TLC as it applies to the separation, identification, quantification, and isolation of medicinal plant components. Renowned scientists working with laboratories around the world demonstrate the applicability of TLC to a remarkable diversity of fields including plant genetics, drug discovery, nutraceuticals, and toxicology. Elucidates the role of plant materials in the pharmaceutical industry... Part I provides a practical review of techniques, relevant materials, and the particular demands for using TLC in phytochemical applications. The text explains how to determine the biological activity of metabolites and assess the effectiveness of herbal medicines and nutritional supplements. Part II concentrates on TLC methods used to analyze specific plant-based metabolite classes such as carbohydrates, proteins, alkaloids, flavonoids, terpenes, etc. Organized by compound type, each chapter discusses key topics such as sample preparation, plate development, zone detection, densitometry, and biodetection. Demonstrates practical methods that can be applied to a wide range of disciplines. From identification to commercial scale production and quality control.

Key Features: Underscores the advantages of using TLC for locating and analyzing bioactive compounds from plant sources; Explains the benefits of using TLC over more expensive and complex chromatographic techniques; Reviews the techniques, materials, instrumentation, and procedures specific to the analysis and isolation of each compound class; Discusses methods for online derivatization, detection, identification, and quantification.


Arzneipflanzen entdecken

Everyone interested in Medicinal plants knows the dried herbal material. But in many cases the habitus of the respective fresh plants is not very commonly known. This book represents a publication on the most common medicinal plants used in Europe concerning the morphological details of the fresh plants, the medicinal use according Commission E and ESCOP monographs and many historical and practical details on the plants. High impact color photos highlight the flowering plants and the typical morphological details. The book comprises a quick reference manager with interesting text and pictures.

It has to be noted that the book bases and describes plants from the Medicinal Plant Garden of the University of Münster, one of the largest institution of this kind in Germany.


e-mail: abensel@uni-muenster.de

Price 10,00 Euro plus shipping.

Recent thesis on Medicinal Plant Research

(Notices of Ph.D. and diploma theses to the editor are welcome any time!)


Ph.D. thesis (2008) Interactions of Echinacea Liquid preparations and selected constituents with the cytochrome P450 enzyme system. By Maryam Modarai; Supervisors: Prof. Michael Heinrich, Prof. Andreas Kortenkamp, The School of Pharmacy, University of London, UK.

Ph.D. thesis (2008) Health from Herbs? — Antioxidant Studies on Selected Lamiaceae Herbs in vitro and in Humans. By Anna Nurmi; Supervisors: Prof. Raimo Hiltunen, Dr. Tarja Nurmi, Prof. Matti J. Tikkanen, Adjunct Prof. Sari Voutilainen; Opponent: Adjunct Prof. Marina Heilonen, Faculty of Pharmacy, University of Helsinki, Finland.


Ph.D. thesis (2007) Traditional medicinal use and biological activities of some plant extracts of African Combretum Loefl., Terminalia L. and Pteleopsis Engl. species (Combretaceae). By Pia Fährquist; Supervisors: Prof. Carl-Adam Haeggström, Prof. Raimo Hiltunen and Prof. Pia Vuorela; Opponent Prof. Jacobus Ellof (University of Pretoria, South Africa), Faculty of Biosciences and Faculty of Pharmacy, University of Helsinki, Finland.
Ph.D. thesis (2007) Pharmacovigilance of Traditional Chinese herbal medicine. By Lida Teng; Supervisors: Dr. Joanna Barnes, Dr. Catherine Duggan, Prof. Simon Gibbons, the School of Pharmacy, University of London, UK.


Diploma thesis (2008) Antioxidant and Immune Modulating Effect of Achillea millefolium L. s.l. (Yarrow) in Pharmacological As- says. By: Anna-Maria Baldia; Promotor: Prof. B. Kopp, Department of Pharmacognosy, University of Vienna, Austria.


Diploma thesis (2008) Polare phenolische Inhaltsstoffe in Dryopteris filix-mas und Dryopteris dii lata. By: Gerald Vogler; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2008) HPLC Analytik von phenolischen Sekundärstoffen in Drosera-Arten. By: Jacqueline Strobach; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2008) Versuche zur Isolierung und Charakterisierung von Alkaloide aus Chia zospermum erectum BERNH. By: Cornelia Rammer; Promotor: Ao. Univ.-Prof. Sabine Glasi, University of Vienna, Austria.


Diploma thesis (2007) Contribution to the analysis and quality control of Peru Bal sam. By: Verena Mammner; Promoters: Salvador Canigueral, University Barcelona, and Prof. B. Kopp, Department of Pharma- cognosy, University of Vienna, Austria.


Diploma thesis (2007) REM-ESEM Unter- suchungen an ausgewählten Arznei- pflanzen. By: Marion Kalbacher; Promotor: Prof. R. Länger, Department of Pharma- cognosy, University of Vienna, Austria.

Diploma thesis (2007) Analyse der Flavonoide in Vertretern des Achillea millefolium Aggregats mittels Kapillarelek- trophorese. By: Barbara Loidl; Promotor: Prof. Dr. W. Hagnmüller, Dr. I. Hahn, Prof. Dr. Ch. Franz, Veterinärmedizinische Universität Wien, Austria.

Diploma thesis (2007) Screenung von Ex- trakten des Wurmfans (Dryopteris filix- mas) auf antiphlogistische Aktivité. By: Martina Trensmberger; Promotor: Prof. G. Reznicek, Department of Pharmacognosy, University of Vienna, Austria.


Diploma thesis (2008) Dermatologische Verträglichkeit von verschiedenen Perubalsamen und Reinstoffen an Hunden mit Hilfe des Patch Tests. By: Christa Maria Mascherbauer; Promotor: Dr. W. Hagnmüller, Dr. I. Hahn, Prof. Dr. Ch. Franz, Veterinärmedizinische Universität Wien, Austria.


Diploma thesis (2007) Inhltsstoffe in Dryopteris filix-mas und Dryopteris dii lata. By: Gerald Vogler; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2007) Phenolische In- haltsstoffe in Grindelia robusta NUTT. By: Katja Streyleuthner; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2007) Semiquantitative Er- fassung von Allergenen in Asteraceen. By: Nadja Stille; Promotor: Prof. G. Reznicek, Department of Pharmacognosy, University of Vienna, Austria.


Diploma thesis (2008) Einsatz von Kräutern, Tonmineralien und Mikroorganismen zur Phyprophylaxe des Absetzdrühsfiles. By: Barbara Vielhaber; Promotor: Dr. W. Hagnmüller, Dr. I. Hahn, Prof. Dr. Ch. Franz, Veterinärmedizinische Universität Wien, Austria.


Editorial remark

All contributions for the GA-News- letter are welcome. Deadline for submission for the next edition is fixed to November 30th 2008. Please send all contributions to: Prof. Dr. A. Hensel, University of Münster, Institute for Pharmaceuti- cal Biology and Phytochemistry, Hittorfstrasse 56, D-48149 Münster, Germany; ahensel@uni-muenster.de