



NEWSLETTER

July
2002
No. 1

Gesellschaft für Arzneipflanzenforschung · Society for Medicinal Plant Research

<http://www.ga-online.org>

Message from the President

Almost a year has passed since the election of the new Board of Directors of GA. In the meantime the new board has become active and is managing the business of GA steadily.

We are observing an increasing international interest in a membership in GA and have recently achieved more than 1000 members. A new membership list will be prepared until end of this year and will be distributed as CD-ROM. The attractiveness of medicinal plant research can be also seen in the number of scientists attending our annual meetings. For this year's meeting in Barcelona almost 600 abstracts have been submitted, thanks to the efforts of Prof. Cañigueral in setting up an interesting congress. Therefore we can expect a great meeting in Barcelona and I hope to see you there at our 50th annual congress.

Next year GA will celebrate its 50th anniversary. We have prepared a one day symposium on 8th of April, 2003 at the "birth-place" of GA in Bad Camberg/Germany under the topic "History and future of medicinal plant research". I hope to welcome many of you there. Detailed information can be found in this Newsletter and in a separate flyer.

The interest in GA and medicinal plant research can also be deduced from the hit-rates of our web pages (www.ga-online.org). More than 2000 users are contacting our pages regularly per month and are downloading information. It is not an easy task to keep the sites up to date and I am very thankful that Dr. Jochen Stöhr, Klaus Lohmann and Sebastian Stöber have helped me in that task in recent years. I appreciate also very much that Prof. Wawrosch, Vienna, has taken over the job of being GA www operator recently and that our pages have been transferred to the server of the University of Vienna. So, please update your link, if necessary and send requests to him.

In order to meet your demands in future in an optimum way, we have decided to prepare the enclosed questionnaire. It would be good if many of you would fill it out and send it back to help us to design our future. Many thanks!

R. Bauer

GA in the Worldwide Web (www.ga-online.org)

Since May 1st 2002 Prof. Dr. Ch. Wawrosch is operating the GA web pages. The site has been transferred to the server of the University of Vienna. Please update your link, if you are still using the uni-duesseldorf URL.

Requests regarding the web pages of GA should now be sent to:

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A-1090 Wien
Tel.: +43/1/4277-55286
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E-mail: christoph.wawrosch@univie.ac.at

Invitation to the GA Members' Meeting 2002

During the 50th Annual meeting of our Society which will take place in Barcelona from 8. to 12. September 2002, the regular

Members' Meeting will be held. The meeting will take place on Tuesday, 10 Sept. 2002, at 7.00 – 8.00 p.m.

Location: Room Catalunya, Hotel Intercontinental Princesa Sofia, Pl. Pio XII, 08028-Barcelona (the general congress venue).

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

Preliminary Agenda

1. Passing of the Agenda
2. Approval of the minutes of the Members' Meeting held in Erlangen on 3 Sept 2001
(published in the GA Newsletter 2/Dec 2001)
3. Annual reports
 - 3.1 Report of the President
 - 3.2 Report(s) of the Vice-President(s)
 - 3.3 Report of the Secretary
 - 3.4 Report of the Treasurer, report of the auditor(s)
 - 3.5 Discharge of the Treasurer
4. Report of the Editor-in-Chief of *Planta Medica*
5. Reports of the Permanent Committees
6. Future congresses, symposia and workshops
7. Miscellaneous

On behalf of the Executive Council
Prof. Dr. Rudolf Bauer, GA President

Future GA Meetings

50th Annual Congress in Barcelona, September 2002

The 50. annual congress of our society will be held from 8 to 12 September 2002 in Barcelona, Spain. The organizing Committee, chaired by Prof. Cañigueral, has planned an interesting programme with the main topics:

- analysis of complex mixtures of natural products
- anti-inflammatory natural products
- clinical research on phytopharmaceuticals
- marine natural products
- medicinal plants from Latin America

Poster presentations and short lectures are welcome.

All relevant informations are given on a special homepage: <http://www.ope-uex.com/50congressmedicinalplantresearch>.

Int. Symposium: 50 Years GA – History and Future of Medicinal Plant Research

April 8. 2003, Bad Camberg (near Frankfurt)
www.ga-online.org and: GA Secretariat/Dr R.Seitz
E-mail: ga-secretary@t-online.de
Phone/Fax: +49 8141 613749

51th Annual Congress in Kiel, Germany, 2003

The 51. annual congress of our society will be held from 31. August to 04. September 2003 in Kiel, Germany. The organizing committee, chaired by Prof. W. Blaschek, has planned a programme with the main topics: bioactive carbohydrates, antioxidants, quality of herbal medicinal products.

Other Meetings

33rd International Symposium on Essential Oils
Lisboa (Portugal) September 4–7th. 2002,
<http://biologia.fc.ul.pt/ISEO2002.htm>

Genetic Engineering and the Intrinsic Value and Integrity of Animals and Plants

18th to 21st September 2002
Royal Botanic Garden, Edinburgh, UK
Multidisciplinary workshop on farming, pharmaceutical production etc in genetically modified (GM) animals and plants, environmental ethics, bioethics, marketing the products of GM organisms to the consumer etc.
<http://www.anth.org/ifgene/2002.htm>
David Heaf, Hafan, Cae Llwyd, Llanystumdwy, LL52 0 SG, UK.
Tel/Fax: 01766 523181. E-mail: 101622.2773@compuserve.com

Funktionelle Pflanzenstoffe in der Veterinärmedizin

Vienna (Austria), 4 to 5 October 2002
Veterinärmedizinische Universität
<http://www.vu-wien.ac.at/i104/i104.home.htm>
Symposium on new trends in medicinal plant research and workshop for networking towards the European Research Foundation

Phytopharmaka und Phytotherapie

Gemeinsames Symposium der Gesellschaft für Phytotherapie (GPT), der Gesellschaft für Arzneipflanzenforschung (GA) und der Deutschen Gesellschaft für klinische Pharmakologie und Therapie (GKPHARM) Berlin (Germany) October 10 to 12th. 2002
www.phytotherapy.org/kongress2002.htm

Phytochemistry and Biology of Lignans

Walberberg (Germany), April 6–9, 2003
Petersen@mail.uni-marburg.de

5th European Colloquium on Ethnopharmacology

The cultural interbreeding in ethnopharmacology: From indigenous to scientific knowledges
Valencia (Spain), May 8–10, 2003
<http://www.uv.es/Etnofarmacologia/>

3. Mistelsymposium – 3rd Symposium on Mistletoe

Die Mistel in der Tumortherapie, Grundlagenforschung und Klinik.
Organized by GA, DPhG (German Pharmaceutical Society); Nonnweiler (Germany), September or October 2003
Scheer.carus@t-online.de

Meeting Reports of Selected Symposia in the Year 2001

Medicinal Uses of Cannabis – 26th “LOF” Symposium, 15 February 2002, Leiden, The Netherlands

The “LOF” symposia are annual meetings organised alternately by the pharmacognosy divisions of Dutch and Flemish universities. The 26th meeting was organised by Prof. R. Verpoorte, Head of the Division of Pharmacognosy of the Leiden/Amsterdam Center for Drug Research (LACDR) of Leiden University, in co-operation with Mr W.K. Scholten (Ministry of Health, Welfare and Sport). Professor Scheffer gave a welcome address, both as member of the organising committee and as former GA President, since the symposium was also held as a GA Workshop. He started to explain the historical background of the “LOF” symposia. In the early nineteen seventies, the divisions of Pharmacognosy at the universities of Groningen, Leiden and Utrecht decided to co-ordinate their research and to discuss their teaching programmes. After a few meetings, it was also decided to organise a symposium on Pharmacognosy and Natural Products Chemistry with the aim to bring together scientists active in these fields in The Netherlands. The very first symposium took place in September 1974, in Leiden.

The second symposium was organised in Utrecht and the third one in Groningen. In 1978, the Flemish colleagues joined the discussion group and in 1980, for the first time the annual “LOF” symposium took place in Belgium.

The topic of the 26th symposium was chosen because of the intention of the Dutch Ministry of Health, Welfare and Sport (HWS) to allow the medicinal use of cannabis under certain conditions. For that purpose, a national agency – The Office of Medicinal Cannabis – was established, in order to be the legal source for cannabis (in agreement with international law). In that respect, W.K. Scholten (Ministry of HWS, The Hague, NL) discussed the plans which must lead to a registered cannabis-based medicine. His office will make cannabis available to public pharmacies from 2003 on.

The first lecture entitled “Plant and Brain Cannabinoids” was given by Prof. R. Mechoulam (Hebrew University, Jerusalem, Israel), who is active in cannabis research already for some decades. He first gave an overview and then discussed recent findings on endogenous cannabinoids, e.g. in mice, and their role in neuroprotection. Dr E.M. Williamson and Dr B.J. Whalley (University of London, UK) discussed “cannabis as a medicine: evidence for synergy”. They summarised a large number of studies described in the literature which showed that the effects of cannabis extracts are more powerful – up to four times – than can be expected from their tetrahydrocannabinol (THC) contents. They also presented new preliminary results supporting the case for synergism.

Dr J.H.M. Lange (Solvay Pharmaceuticals, Weesp, NL) gave a lecture on “medicinal chemical aspects of cannabinoid receptors”. He reviewed the recent developments in the design of cannabinoid receptor agonists and antagonists, and endocannabinoid modulators, and discussed the potential indication areas for these compounds.

Dr B.A. Whittle (GW Pharmaceuticals, Salisbury, UK) considered legal and health registration issues of cannabis in the UK, due to the unusual nature of this medication. His company is working with government to produce a cannabis-based medicinal product that will be rigorously evaluated for quality, safety and efficacy.

Dr C. Cripps-Prawak (Office of Cannabis Medical Access, Ottawa, Canada) described under which conditions patients in her country may get a permission to grow a certain number (ca 7–15) of cannabis plants for their own use. Only patients whose lifetime is expected to be limited to a few months, or patients for whom any other treatments of chronic pain have failed may get a registration as cannabis user.

Dr W. Notcutt (James Paget Hospital, Great Yarmouth, UK) focussed on the use of cannabis extracts as a medicine for chronic pain and discussed a number of problems related with studies on the effects of cannabis for this application. The results he observed for patients treated with cannabis were very promising. Patients suffering – for example – from multiple sclerosis, chronic back pain, sciatica and other neuropathic pains showed a variety of benefits, e.g. improvements in pain, sleep, depression, activity, and general health, while side effects were very tolerable. However, larger numbers of patients will be needed for studies over longer periods of time.

Dr K.R. Müller-Vahl (Medical School of Hannover, FRG) discussed some case reports about the treatment of Gilles de la Tourette Syndrome and reported two controlled trials which provided evidence that Δ^9 -THC is effective and safe in the treatment of tics due to the disorder in question.

In addition to the lectures, two short presentations were given. The first one, by J. Burton (Institute for Medical Marijuana, Rotterdam, NL) dealt with requirements and conditions for the production of medicinal cannabis, such as a standardised cultivation, avoidance of pesticides, harvesting and storage according to a set of rules, and analysis of the product.

C. de Roos (Royal Dutch Association for the Advancement of Pharmacy [the Dutch Society of Pharmacists], The Hague, NL) spoke about the problems encountered in public pharmacies if patients are asking for medicinal cannabis of controlled quality when they do not – or no longer – want to buy cannabis from “coffeeshops”.

At the end of the meeting, Prof. Verpoorte concluded that very interesting results had been presented, and that further studies should be carried out, in spite of some legal problems. One should keep in mind that even for narcotics like morphine, solutions for a useful legal treatment have been found.

Apart from all oral presentations on cannabis, a poster session was held around the lunch break; 24 posters on different topics of medicinal plant research including a number on some aspects of cannabis research were on display. About 150 people participated in the meeting. The next "LOF" symposium will be organised by Prof. Vlietinck, Antwerp.

Finally, a more extensive report of the symposium, entitled "Cannabis in der medizinischen Anwendung", has been written by Dr R. Seitz, the GA secretary; it appeared in *Dtsch. Apoth.-Ztg.*: 142 (2002) 1216–1218.

J.J.C. Scheffer

"From Ethnopharmacology to Molecular Pharmacognosy" – Farewell symposium for Prof. Dr. Otto Sticher in honour of his retiring, 25. March 2002, Zürich, Switzerland

A few days before his retirement, Prof Dr Otto Sticher and his working group under the leadership of Dr Jürg Heilmann invited all colleagues interested in the field of pharmacognosy and phytochemistry, all the scientists, which have been in cooperation with Otto Sticher as doctorands, post-doc's or guest professors and all friends within the field of pharmacy and pharmaceutical biology to participate at a symposium titled "From Ethnopharmacology to Molecular Pharmacognosy". A lot of members of GA came to Zurich to say "thank you" to Otto Sticher for his work he has done in the field of medicinal plant research as well as for his engagement in the Society. Sticher has been the head of the chair for Pharmacognosy and Phytochemistry at the ETH in Zurich for thirty years – from 1972 to 2002. His engagement for the GA started already in 1975, when he was elected for the board of the GA. In 1977 he organised the 25th Annual Congress of the Society in Zurich and did this again in 2001. Both congresses were perfectly organised and very stimulating. In 1978 he was designed as the President of GA. He took this leadership for six years. During this period the GA developed more and more from a German to an international society. The subsequent four years Sticher was vice-president and then until 1996 again member of the GA-board. Finally, he initiated the successful series of GA-workshops with a passion flower seminary in Zurich 1996. Workshops about the therapeutical use and quality control of hawthorn and chaste tree as topics followed later. Furthermore, for a long time Otto Sticher was co-editor of the "Planta medica". Sticher participated in every GA-congress except in 2001, when his health did not permit that. Several times he drew big applause of the participants of the symposium for the job he has done for GA and everybody was please about the actual GA-president's – Rudolf Bauer – announcement of the honorary membership, which will be given to Otto Sticher this year at the GA-congress in Barcelona. Professor Dr. A. Nahrstedt presented a review of Otto Stichers education and his scientific career. The key-issue of my view is that Professor Sticher has never forgotten to be a pharmacist. Therefore, his teaching and his research had always a focus onto the needs of pharmacists and the needs of pharmaceutical industry, especially in the field of herbal medicinal products.

His wide field of interest was reflected in the afternoon session, when a handful of prominent researchers presented results and perspectives resulting of the co-operation with Otto Sticher. Jürg Heilmann showed, that Otto Sticher was always open for new technologies and new research. In the last years of Stichers activities at the ETH both have established new cellular test systems that allow to learn more about the molecular mode of action of natural products. Kurt Hostettmann gave an overview about the potential of plants as a source of new drugs and presented new sophisticated analytical techniques to find new bioactive com-

pounds. The guest remembered, that Sticher was one of the first phytochemists who introduced HPLC in his laboratories! Douglas Kinghorn focussed the interest of the participants, when he presented the new developments in the United States. The boom of natural products helped to provide new funding opportunities for academic research. Meanwhile, in Europe there is a contrary trend. Michael Heinrich demonstrated the strategy and the success of a ten-year co-operation in the field of ethnobotany and ethnopharmacy in indigenous groups in Mexico. Myself, I presented the interdisciplinary research in the analysis, pharmacology and clinical research of *Vitex agnus castus* – a successful project in co-operation between academia (ETH Zurich, University of Basle) and small industry (CAMAG, Muttenz; Zeller AG, Herbal Medicinal Products, Romanshorn).

Otto Sticher was a successful teacher and he is a worldwide well respected scientist. He stimulated not only a lot of young but also a lot of experienced researchers to follow their ideas in his laboratory. This stimulating atmosphere, which is not often observed in Europe, induced a lot of results in the field of structure elucidation, standardisation of herbal medicinal products, analytical techniques (especially in chromatography) and general knowledge about the phytochemistry, pharmacology and traditional use of more than one hundred medicinal plants. Therefore, the name of Otto Sticher will still be present in future, because a lot of the nearly 400 scientific papers must be included in the references of the new papers of a lot of younger scientists in the next and overnext future. There is still a small hope that the successful work of Otto Sticher will be continued at Zurich in future. Most of the speakers announced this hope to the members of the election commission, participating at the symposium. Up to now, a successor is unfortunately not nominated.

Beat Meier,
Member of the GA-board,
after a 30 year long successful and satisfying co-operation with Otto Sticher

Obituary

Prof. Dr F.H.L. van Os (1907–2001)

On 2 December 2001, Professor F.H.L. van Os – honorary member of the Gesellschaft für Arzneipflanzenforschung (GA) since 1982 – passed away. Prof. Van Os was born 15 July 1907 in Barneveld, a small village in the centre of The Netherlands. He studied pharmacy at the University of Utrecht, and graduated as pharmacist in 1933. Together with his wife, he subsequently worked in a public pharmacy in Harderwijk. He then worked in other positions and obtained his Ph.D. degree in 1942, in Utrecht. On 1 January 1943, he was appointed at the University of Groningen, where he became professor of pharmacognosy and galenic pharmacy in 1945.

In the starting period, pharmacognosy was a more or less descriptive science, with emphasis on the macroscopic and microscopic characterisation of herbal drugs. However, over the years, he developed his research into an experimental science with the application of various chromatographic methods in order to study the (active) components of plants and herbal drugs. His main interests were on heart glycosides of *Digitalis purpurea* (in the nineteen fifties) and the analysis of essential oils, but attention was also paid to various subjects in connection with studies for pharmacopoeia monographs.

Professor Van Os was not only a very inspiring teacher for his (Ph.D.) students, but he also served the pharmaceutical society in various ways. In his own country, he served the Dutch Society of Pharmacists – in various functions – and the Dutch Pharmacopoeia Commission, and he acted as secretary and as president of the "Dutch Society for Medicinal Plant Research" from 1937 until 1982 (!), to give only a few examples. He served the University of Groningen as Rector (1957–58; 1961–65). On an international

level, he was chairman of the groups 13 and 13 H of the European Pharmacopoeia, and an active member of the GA.

Professor Van Os was honoured for his activities by the governments of The Netherlands and of Italy; he received an honorary medal of the University of Liège, was awarded honorary doctorate degrees by the University of Strasbourg and the University of Gent, and was appointed honorary member of the GA.

Also after his retirement, in 1972, Prof. Van Os continued to participate in scientific symposia and congresses and he was always interested to hearing the latest results presented during these meetings and to discuss these.

We have not only lost an excellent pharmacognosist, with much enthusiasm for education and research, but also a faithful friend; during his whole lifetime, he always was much interested in his colleagues, old students and society. I consider it a great privilege to have known him.

J.J.C. Scheffer

Anniversaries

Professor Dr. Dr. h. c. Max von Schantz, 80 years

Professor Dr. Dr. h. c. Max von Schantz, our honorary member since 1987, celebrated his 80th birthday on January 20, 2002. Although born in Helsinki, he studied natural sciences at the Swedish speaking University, Åbo Akademi, in Turku, Finland and graduated from there with a Master of Science in the spring of 1949. In the autumn of the same year, he graduated as a Bachelor of Science (Pharmacy) at the University of Helsinki. Between 1950 to 1958 he continued his academic studies both at the University of Helsinki, where he received a Master of Science in Pharmacy (1951) and at the University of Turku where he obtained a Licentiate degree in natural science in 1954 and his Doctorate in Philosophy in 1958.

In addition to his academic pursuits at the University of Turku, during 1951 to 1954 he was sequentially an assistant in the divisions of pharmacognosy, chemistry and pharmaceutical chemistry at the Department of Pharmacy (University of Helsinki). He was awarded an associate professorship in pharmacognosy (1955–1960) and appointed a full professor in April, 1960. For the following thirty years he held the chair in pharmacognosy and during the last twenty years in this position, he simultaneously held the post of Dean of the Department of Pharmacy (University of Helsinki) until his retirement in 1987.

Because of his unusual strengths in the natural sciences, e.g. chemistry, biology, botany and pharmaceutical sciences, he was ideally suited to educate and encourage young aspiring scientists and drive forward scientific endeavours which during that epoch were entirely innovative in the field of pharmacy. He intensively followed the development of emerging technologies, for instance, in novel separation techniques. At that time a young talented researcher carrying out his research at the University of Karlsruhe, Dr. Egon Stahl, had just created a new separation technique thin layer chromatography. Professor von Schantz had recognised the importance of this technique and immediately started to correspond with Dr. Stahl to explore the application of this completely new technique in natural products research. Dr. Stahl pronounced to the then Ph.D. student von Schantz in the middle of 1950s "This new technique will have an extremely high importance in separation techniques in the future". von Schantz incorporated this technology in his studies of volatile oils and specifically *Acorus calamus* L. – the theme of his doctoral dissertation.

In the early 1960s, once the first generation of commercial devices were readily available, he thereafter incorporated the application of gas chromatography to his volatile oil research. He was amongst the first to introduce the hyphenated technique of gas chromatography and mass spectrometry (GC-MS) in Finland during this period. He envisaged the importance that such techniques in the field of pharmacognosy and this was the beginning of a new epoch in research and which would influence teaching in the Department of Pharmacy.

After the completion of his doctoral dissertation, his interests principally centered on plant volatile oils, from members of a range subclasses (e.g. Coniferous trees) and families such as Asteraceae and Lamiaceae plants with emphasis not only upon analytical studies but on the elucidation of the biosynthetic terpene pathways. Furthermore, he was also interested in and intensively studied non-volatile plant secondary metabolites, e.g. steroids, saponins, phloroglucinols, anthroquinones, alkaloids, phenylpropane derivatives, flavonoids etc.. Furthermore, he pursued his interests in plant breeding e.g. selective breeding of *Vicia faba* L. in order to improve L-dopa production and the cross-breeding of summer turnip rape (*Brassica campestris* L var. *annua*) to alter the fatty acid content and composition.

As Head of the Division of Pharmacognosy and Dean of the Department of Pharmacy, Prof. von Schantz did not forget the importance of other departmental divisions and ensured they had sufficient resources to strengthen and expand their role within the Department of Pharmacy. In addition to this, he inspired young researchers in their work and developed strong international collaboration between leading university departments and institutes.

Throughout his academic career he was extremely hard working yet his enthusiasm was complete for the science of his chosen subject, pharmacognosy, but also for the administrative tasks associated with running a Department of Pharmacy.

Professor von Schantz is a board member of a number of scientific societies including the Akademi of Finland (Research Council for Natural Sciences), Finnish Society of Young Researchers and Teachers (Chairman) and the Finnish Society of Entomology (Associate Chairman). However, he has been a long-time member and board member (1969–1986) of the Society of Medicinal Plant Research, to which he was awarded the position of honorary Member in 1987.

It is truly amazing that despite his devotion to the Division of Pharmacognosy and the Department of Pharmacy, Professor von Schantz is also an expert in entomology, especially in the group of microlepidoptera.

Up to now he has published numerous original articles within the scientific disciplines of chemistry, pharmacognosy and entomology, two books, hundreds of congress abstracts, proceedings, oral presentations, and numerous articles in non-scientific publications.

The Society of Plant Research congratulates its honorary member Professor Max von Schantz, Helsinki, on his birthday and wishes him all the best, health and vigour in the years to come.

Raimo Hiltunen

New Books and Journals

Phytotherapy of Chronic Fatigue Syndrome – Evidence-based and potentially useful botanicals in the treatment of CFS. Patarca-Montero R. 2000, 81 pages with chapters on phytotherapy of the multiple manifestation of CFS (immunity, cardiology, up to neurology and psychiatry. Haworth Press, New York, London, Oxford. 25 \$.

Cannabis Therapeutics in HIV/AIDS, Ethan Russo, 2001, 205 pages with 12 chapters on Cannabis efficiency on emesis, on immunity, on AIDS crisis, on differences between plant and extracts etc. Haworth Press, New York, London, Oxford. 39 \$.

Americas Botanical-Medical Movements, Berman A., Flannery M.A. 2000, 275 pages, with 7 chapters on the background of the botanical-medical movement and the revival in the last years. Haworth Press, New York, London, Oxford. 25 \$.

Traditional Chinese Medicines, Xan Y, Zhou J, Xie G; Editor Milne G. 1999, 1250 pages with details on molecular structures, natural sources, applications for about 1500 medicinally useful plants. Ashgate Publishing, Abington, Oxon U.K. £ 195

Recent thesis on medicinal plant research

PhD. thesis, January 2001: Vergleichende phytochemische und pharmakologische Untersuchungen zur Hemmung der Prostaglandin-H-Synthase Isoenzyme mit Arzneidroge der chinesischen Medizin, insbesondere *Platycodi radix* und *Chaenomelis fructus*. By Eveline Reininger; promotor: Prof. Dr. R. Bauer, University of Düsseldorf, Institute of Pharmaceutical Biology, Germany

PhD. thesis, July 2001: Charakterisierung von *Achillea pannonica* anhand der Terpenoide und vergleichende Untersuchungen an *Achillea* Arten mittels IR-Spektroskopie. By Ingrid Werner; promotor: Prof. Dr. J. Jurenitsch, Prof. Dr. E. Haslinger, University of Vienna, Institute of Pharmacognosy, Austria

PhD. thesis, August 2001: Antiprotozoal activity of guatemalan medicinal plants. By Ingeborg Berger; promotor: Prof. Dr. W. Kubelka, Prof. Dr. H. Kollaritsch, University of Vienna, Institute of Pharmacognosy, Austria

Ph.D. thesis, October 2001: Investigations on the antimutagenic properties of oligomeric proanthocyanidins and other tannins from the bark of *Hamamelis virginiana* L. in *Salmonella typhimurium* and human hepatoma cells (Hep G2). By Andreas Dauer; promotor: PD Dr. A. Hensel, Hochschule Wädenswil – University of Applied Sciences, Switzerland.

Ph.D. thesis, March 2002: Phytochemical investigation of *Ficaria verna* HUDS. herbs. By Michal Tomczyk; promotor: Prof. Dr. J. Gudej, Department of Pharmacognosy, Medical University of Lodz/ Medical Academy of Bialystok, Poland

PhD. thesis, April 2002: Biodiversität südosteuropäischer Schafgarben – Analyse von Wildaufsammlungen. By Florian Rauchensteiner; promotor: Prof. Dr. J. Saukel, Anton Weber, University of Vienna, Institute of Pharmacognosy, Austria

PhD. thesis, April 2002: Biodiversität südosteuropäischer Schafgarben – Analyse und Nachzucht von Hybridmaterial aus Bulgarien. By Shahbaz Nejati; promotor: Profs. J. Saukel, Anton Weber, University of Vienna, Institute of Pharmacognosy, Austria

PhD. thesis, March 2002: Martin Lessner. Entwurf eines Pflanzenbuchs. Wien 1803. Eine pharmakognostische Bearbeitung. By Valentina Eidler; promotor: Profs. W. Kubelka, K. Holubar, W. Kubelka, K. Holubar, University of Vienna, Institute of Pharmacognosy, Austria

Ph.D. thesis, May 2002: Metabolic profiling of salicylic acid-producing transgenic tobacco plants. By Laurentius H. Nugroho; promotor: Prof. Dr R. Verpoorte, Division of Pharmacognosy, LACDR, Leiden University, The Netherlands

Ph.D. thesis, May 2002: Biosynthesis of anthraquinones in cell cultures of *Cinchona* and *Morinda* species. By Ying-Shan Han; promotor: Prof. Dr R. Verpoorte, Division of Pharmacognosy, LACDR, Leiden University, The Netherlands

Ph.D. thesis, June 2002: Biochemistry of the processing of vanilla beans. By Mark J.W. Dignum; promotor: Prof. Dr R. Verpoorte, Division of Pharmacognosy, LACDR, Leiden University, The Netherlands

PhD. thesis, 2002: Biosystematische Untersuchungen europäischer Arten der *Achillea millefolium*-Gruppe. By Wolfgang Wlach; promotor: Prof. Dr. W. Kubelka, Prof. Dr. F. Ehrendorfer, University of Vienna, Institute of Pharmacognosy, Austria

Diploma thesis

Diploma thesis 2001: Effect of some extractive factors on *Clina-canthus nutans* (Phaya yo) leaf extracts. By Dagmar Kajtna; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2001: Bestimmung der antimikrobiellen und antioxidativen Aktivitäten von *Rhus aromatica*. By Birgit Dockner; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2001; Phytochemical and biological investigations on *Aleurites moluccana* husks. By Elisabeth Bertl; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2001; Untersuchungen der antibakteriellen und antioxidativen Aktivität eines pflanzlichen Kombinationspräparates. By Birgit Schulz; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2002; Phytochemical and biological investigations on *Aleurites moluccana* husks. By Elisabeth Bertl; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2002; Erfahrungen mit Heilkräutern und Zubereitungen der TCM in Österreich. By Christa Brottrager; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2002; Phytochemical investigations on the active principle of *Pomacea canaliculata*. By Bärbl Kellermann; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2002; Phytochemical investigations on the active principle of *Achatina fulica*. By Barbara Kriechbaum; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

Diploma thesis 2002; Phytochemical investigations on the active principle of *Pomacea canaliculata*. By Bärbl Kellermann; promotor: Prof. Dr. Adelheid H. Brantner, Institute of Pharmacognosy, University of Graz, Austria

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