

# PHYTOCHEMICAL SOCIETY OF NORTH AMERICA

NEWSLETTER FEBRUARY 1977

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1. The 1977 meeting: August 29- September 3. First ever international meeting of phytochemists. Chief organizer: Professor Dr. C.F. van Sumere, Laboratorium voor Plantenbiochemie, Rijksuniversiteit te Gent, Ledeganckstraat 35, 9000 Gent, Belgium. The symposium program (overleaf) is a lengthy one and leaves no time for contributed sessions, but poster sessions are planned. The symposium will be published as Volume 12 of Recent Advances. Dr. G. Waller has organized a block travel grant proposal, 45 pages long, and officially submitted in December by Oklahoma State University to NSF, requesting travel funds for 40 participants. Dr. Waller also arranged an ADVANCED BOOKING CHARTER with Holiday Travels, Inc. in Stillwater, OK 74074, P.O. Box 1048, Phone 377-0400. The charter flight departs New York for Brussels, August 16, 1977 and London for New York, September 7, 1977. Fare is \$359 per person, and a deposit of \$25 was required by January 1, 1977. Reservations received after that date are accepted on a "subject to confirmation basis", however, and final payment is due June 1, 1977. If you plan to go to the meeting, and this flight fits your plans, get in touch with the travel agency as soon as possible.

2. The 1978 meeting: August 14-17, 1978, Stillwater, Oklahoma. This will be a joint meeting with the American Society of Pharmacognosy. A planning meeting was held at Purdue University on October 18-19, 1976, the PSNA represented by Drs. Waller, Caspi, Conn, and McClure. The symposium topic decided on was: Topics in the Chemistry of Natural Products. A list of speakers to be invited was also drawn up. The symposium will be published as Volume 13 of Recent Advances. Contributed papers will be poster sessions only.

3. The 1979 meeting: As decided at the business meeting in Vancouver, the president, Jerry McClure, waited 2 months (actually 3 months) then accepted the invitation to hold the 1979 meeting at Northern Illinois University, DeKalb. Drs. D.M. Piatak, Dept. of Chemistry, and P.D. Sorenson, Dept. of Biology, will head the local committee.

#### 4. SYMPOSIUM PROGRAM (Ghent meeting, 1977)

Recent advances in the isolation, identification, and quantitative determination of plant phenolic compounds.  
(C.F. VAN SUMERE, Ghent, Belgium)

The Shikimate Pathway.  
(H.G. FLOSS, Lafayette, Indiana, U.S.A.)

Enzymology of phenylpropanoid biosynthesis.  
(K.R. HANSON, New Haven, Conn., U.S.A.)

Recent work on cinnamyl-CoA derivatives.  
(M.H. ZENK, Bochum, Germany)

Recent advances in the chemistry and biochemistry of lignin.  
(R.L. MANSELL, Tampa, Florida, U.S.A.)

The biosynthesis of flavonoids.  
(H. GRISEBACH, Freiburg, Germany)

Recent advances in the biochemistry of coumarins and furanocoumarins.  
(S.A. BROWN, Peterborough, Canada)

Recent advances in the chemistry and biochemistry of quinone pigments.  
(R.H. THOMSON, Aberdeen, U.K.)

The Biochemistry of Gossypol.  
(P.H. HEINSTEIN, Lafayette, Indiana)

Metabolism and degradation of phenolic compounds in plants.  
(W. BARZ, Münster, Germany)

Aromatic metabolism in fungi.  
(G.H.N. TOWERS, Vancouver, Canada)

Oxidases in aromatic metabolism.  
(BUTT, Oxford, U.K.)

New flavonoid glycosides in plants.  
(J. HARBORNE, Reading, U.K.)

Vegetable Tannins.  
(E. HASLAM, Sheffield, U.K.)

The physiology of phenolic compounds in plants.  
(J. McCLURE, Oxford, Ohio, U.S.A.)

Phenolic substances and plant diseases.  
(J. FRIEND, Hull, U.K.)

Plant phenolics of pharmaceutical interest.  
(H. WAGNER, Munich, Germany)

Phenolics in the environment.  
(T. SWAIN, Boston, U.S.A.)

Plant phenolics - The Future  
(T. MABRY, Austin, Texas, U.S.A.)

5. Financial statement of the Vancouver meetingPHYTOCHEMICAL SOCIETY OF NORTH AMERICA

## Annual Meeting, 1976

RECEIPTS

Registration:	
Members (52)	1300.00
Partial & Student (18)	180.00
Non-members (20)	700.00
	<u>2180.00</u>
Social Events (Banquet and Cruise)	1285.00
SUB-TOTAL (Receipt Book)	<u>3465.00</u>
Miscellaneous (Mixer, coffee)	214.23
Subsidies:	
PSIA	3000.00
UBC	1100.00
NRC (Canada)	1000.00
	<u>5100.00</u>
TOTAL	<u>8779.23</u>
LESS Expenditures	<u>7238.04</u>
BALANCE	<u>1541.19</u>

EXPENDITURES

Honoraria & Speaker Expenses:	
Cote	507.60
Delmer	457.60
Lampert	457.60
Sakakibara	157.60
Gross	807.60
Hillis	1057.60
Reese	507.60
Kirk	454.90
Kolattukudy	189.40
Mullick	207.60
Hergert	-
	<u>4805.10</u>
Convention Expenses:	
Coffee	150.00
Room charges	45.00
Bar permit & supervisor	27.00
Mixer	215.34
Ladies' Program (D.J. Green)	29.42
	<u>466.76</u>
Social Events:	
Banquet	1131.00
Boat Cruise	542.18
Buses	293.00
	<u>1966.18</u>
TOTAL	<u>7238.04</u>

Note: The above figures are expressed in Canadian dollars, regardless of whether or not money was received in Canadian funds, i.e. Canadian and U.S. currency was considered at par.

6. Summary of responses to Phytochemistry course questionnaire  
(September newsletter)

Dr. Fuchsman, who submitted the questionnaire, has also prepared a seven page summary and analysis of the responses obtained. Excerpts are published below - if you would like to have the full report, get in touch with the Secretary or Dr. Fuchsman.

Respondents:

- 1) Bemidji State University (Center for Environmental Studies) -  
Dr. Charles H. Fuchsman
- 2) Cornell University (N.Y. State College of Agriculture and Life  
Science - Dept. of Food Science and Technology) - Dr. G. Hrazdina
- 3) Miami University (Oxford, Ohio) (Botany Dept.) - Dr. Jerry W. McClure
- 4) New York Botanical Garden - Dr. David W. Giannasi
- 5) Purdue University (School of Pharmacy - Dept. of Medicinal Chemistry  
and Pharmacognosy) - Dr. H.G. Floss; Dr. Jerry L. McLaughlin;  
Dr. James E. Robbers
- 6) San Francisco State University (Dept. of Chemistry) - Dr. David Dreyer
- 7) University of California (Irvine) (Dept. of Developmental and Cell  
Biology) - Dr. Eloy Rodriguez
- 8) University of Guelph (Dept. of Chemistry) - Dr. Brian E. Ellis
- 9) University of Idaho (Dept. of Bacteriology and Biochemistry) - Dr.  
Duane Le Tourneau
- 10) University of Massachusetts (Dept. of Biochemistry) - Dr. Trevor  
Robinson
- 11) University of Minnesota (Dept. of Chemistry) - Dr. Edward Leete
- 12) University of Nebraska (Medical Center - College of Pharmacy) - Dr.  
S.J. Stohs
- 13) Western Carolina University (Biology Dept.) - Dr. James W. Wallace
- 14) Wright State University (Dept. of Biological Sciences) - Dr. J.  
Mark Scriber
- 15) Mississippi State University (Dept. of Chemistry) - Dr. D. Howard  
Miles
- 16) Louisiana State University (Dept. of Chemistry) - Dr. Nikolaus H.  
Fischer

Subject matter:

9 aspects of phytochemistry are considered, although the relative importance of each depends on the instructor and on the level at which the course is given.

1. Metabolic pathways
2. Medical-pharmaceutical applications
3. Chemical taxonomy
4. Environmental-ecological aspects
5. Literature of phytochemistry
6. Techniques of isolation of natural products
7. Industrial-economic significance
8. Proof of structure; lab synthesis
9. Field collection of plants

5.

Number of courses: 9 undergrad, 11 grad.

Average enrolment: 25 undergrad, 10 grad.

Average scheduling: 3 hours per week, usually without a lab, undergrad every year, grad. every other year.

Prerequisites: organic chemistry, the main requirement - biochemistry and botany less frequently demanded.

Textbooks recommended: Goodwin and Mercer - Introduction to Plant Biochemistry

Geissman and Crout - Organic Chemistry of Secondary Plant Metabolism

Robinson - Organic Constituents of the Higher Plants

Bonner and Varner - Plant Biochemistry

7. Editor-in-Chief: The Executive Committee is pleased to announce that Dr. T. Swain, Department of Biology, Boston University, has accepted the post of Editor-in-Chief. Volume 11 of Recent Advances, the Vancouver symposium, is being edited by Drs. Loewus and Runeckles. Dr. Swain will edit Volume 12, the symposium volume of the Ghent meeting,

8. Upcoming meetings of interest to phytochemists:

February 20-25, 1977, AAAS, Denver, Colorado- Symposium on Feb. 21 organized by Dr. G.A. Rosenthal: Herbivore-Secondary Plant Metabolite Interactions

March 20-25, 1977, ACS, New Orleans- Symposium on Tall oil, Oleo-resins and Naval Stores chaired by Dr. J.W. Rowe.

April 3-8, 1977, Chicago, Ill. FASEB

May 9-11, 1977, Beltsville, Md. Beltsville Symposium II- Bio-systematics in Agriculture (more information from Dr. James Duke, Plant Taxonomy Lab., Rm. 117, Bldg. 001, BARC West, USDA, Beltsville MD 20705).

July 4-9, 1977, Halle, (Saale), GDR. International Conference on Regulation of Developmental Processes in Plants. Contact Institute of Plant Biochemistry, P.O Box 250, Academy of Sciences, Halle(Saale) DDR-401

August 16-20, 1977, Madison, Wisc. ASPP and Can. Soc. Plant Physiol.

August 21-26, 1977, East Lansing, Mich. AIBS

**AUG 29 - Sept 3 PSNA in Ghent!**

9. Miscellany:

Our Treasurer, Dick Mansell, is to be congratulated on the fine job he did on the directory. If you didn't get your copy, and enclosed dues notice, write to Dick, and pay your dues! Dr. S. Brown was author of the concise Society history in the preface.

During the past year, the Treasurer received a letter requesting help from the Society in the form of text book donations to students of Phytochemistry in a "third world" university. The Society has no formal provision for such donations but if any of the membership would like to contribute as individuals or to organize such a contribution as a group, the Treasurer or Secretary would be happy to act as intermediary.

The Treasurer has also had a request for information about anyone working on Aloe vera in burn research. He would appreciate receiving names and addresses.

10. Personalia:

Dr. R.E. Schultes was an invited guest at the centennial celebration of the rubber industry in Sri Lanka (Ceylon) in December. His search for Hevea species in the Amazon basin during World War II played an important role in development of the modern rubber plant. The November and December issues of Horticulture contain his account of the fascinating history of "The Taming of Wild Rubber".

Dr. H. Morita, Central Experimental Farm, CDA, Ottawa, Canada, needs some gossypetin, at least enough for a chromatographic standard. Can anyone help him out?

Dr. G. Waller is on sabbatical leave in Sweden, but will be back on the job after the Ghent meeting.

Dr. Randolph T. Major, who joined the Society in 1974, died at his home in Storrs, Conn. on November 1, 1976 at the age of 75. The University of Connecticut, where he had been Research Professor of Chemistry since 1970, has established two foundations in his name: 1) an annual lectureship in the Chemistry Department generously funded by Merck, Sharp, and Dohme with whom he had spent 27 years directing scientific research and development, and 2) an emergency loan fund for graduate students in the Chemistry Department funded by contributions from friends and associates.

Dr. K Mothes was pleased with his copy of Volume 10 of Recent Advances as the letter on p. 7 attests.

Dr. D. Hoffmann's office has moved to Valhalla, N.Y. 10595

Dr. Eloy Rodriguez is now assistant professor at Irvine (address on p.4)

New additions to the membership list, and one temporary change (Wallace);

Dr. Jochen Berlin  
Biochemie der Pflanzen  
Hinderburgplatz 55  
D-44 Münster  
W. Germany

Mr. Thomas J. Delendick  
Herbarium  
New York Botanical Garden  
Bronx, NY 10458

Dr. David F. Rhoades  
Dept. of Zoology  
Univ. of Washington  
Seattle, WA 98195

Dr. James W. Wallace  
DSIR-Chemistry Division  
Private Bag, Petone  
New Zealand

111

Prof. Dr. K. MOTHES

DDR - 401 Halle (Saale), 24. August 1976

August-Bebel-Straße 50a

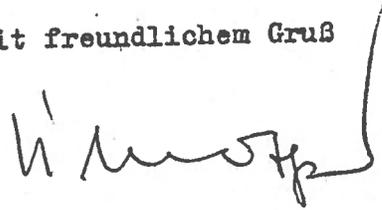
Leopoldina

Telefon: 25014

Verehrter Herr Kollege Mansell!

Ich erhielt den 10. Band der "Recent Advances in Phytochemistry",  
der unter meinem Porträt eine überaus freundliche Widmung enthält.  
Ich möchte mich sehr herzlich für die große Liebenswürdigkeit bedanken.  
Ich fühle mich sehr geehrt durch diese Aufmerksamkeit.

Mit freundlichem Gruß



12. Orders for symposium volumes. The Treasurer has offered to handle orders for the volumes of Recent Advances in Phytochemistry, at least to the extent of forwarding your order to the publisher(s), but leaving the details of billing etc. to them. If you are interested, tear off the form below and send it to: Dr. R.L. Mansell, Dept. of Biology, Univ. of S. Florida, Tampa FL 33620.

Please enter my order for the volumes checked off below:

Volume #	Publisher	Price*	Volume #	Publisher	Price*
--- 10	Plenum	\$35.00	--- 8	Academic	\$22.50
--- 9	Plenum	\$27.50	--- 7	Academic	\$18.50
--- 4	Plenum	\$32.50	--- 6	Academic	\$16.00
--- 3	Plenum	\$25.00	--- 5	Academic	\$19.50
--- 2	Plenum	\$20.00			
--- 1	Plenum	\$39.50			

Name and address: (Signed)

\*Prices are 25% less (40% for Vol. 9 & 10) to PSNA members.

# PHYTOCHEMICAL SOCIETY OF NORTH AMERICA

EXECUTIVE COMMITTEE 1976-1977

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Department of Agricultural Chemistry  
Washington State University  
Pullman, WA 99163

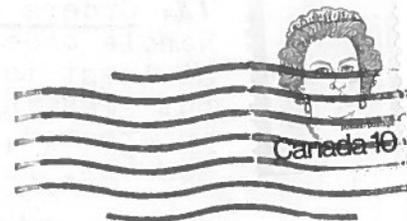
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Ottawa, Ontario K1N 6N5  
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Rochester, MI 48063

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**PAR AVION**

# Attendees

## Special Discount

---

Dear Society Member:

This is to notify you that you are eligible to purchase *Recent Advances in Phytochemistry, Vol. 11*

the proceedings of the Annual Meeting of the Phytochemical Society of North America

held at Vancouver, Canada

ON August 8-11, 1976

edited by Dr. Frank A. Loewus and V.C. Runeckles

at \$29.70 a 40% discount off the list price of \$49.50.

If you wish to order this volume please return the bottom of this notice with your remittance.

ORDER FORM

Please forward \_\_\_\_\_ copy(s) of Recent Advances in Phytochemistry, 11 Vol. 11  
at the 40% discounted price of ~~\$49.50~~ \$29.70

Enclose check or money order and send to

Dr. R.L. Mansell  
Department of Biology  
University of South Florida  
Tampa, Florida 33620

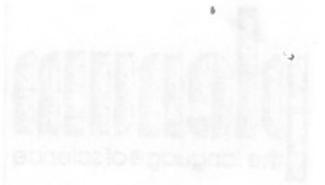
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# Attendees Special Discount

Dear Society Member:  
This is to notify you that you are eligible to purchase recent Advances in  
Psychobiology, Vol. 11

the proceedings of the Annual Meeting of the Psychological Society  
of North America

held at Vancouver, British Columbia, Canada, August 1-5, 1978

edited by Dr. Frank A. Lewis and W.D. Rines

at \$29.50 a 40% discount off the list price of \$49.50.

If you wish to order this volume please return the bottom of  
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Please forward \_\_\_\_\_ copy(ies) of \_\_\_\_\_ recent Advances in Psychobiology, 11  
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Enclose check or money order and send to

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Tampa, Florida 33620

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City \_\_\_\_\_

Zip Code \_\_\_\_\_

ORDER REQUO

First joint meeting of  
The American Society  
of Pharmacognosy  
and  
The Phytochemical  
Society of  
North America

Oklahoma State University  
Stillwater, Oklahoma 74074

August 14-17, 1978

Scientific Program Committee

Dr. Eliahu Caspi (PSNA)  
The Worcester Foundation of  
Experimental Biology  
Dr. Eric E. Conn (PSNA)  
University of California (Davis)  
Dr. Heinz Floss (PSNA & ASP)  
Purdue University  
Dr. George Hatfield (ASP)  
University of Michigan  
Dr. William J. Kelleher  
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Dr. Jerry W. McClure (PSNA)  
Miami University (Ohio)  
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School of Pharmacy  
University of Pittsburgh  
Pittsburgh, Pennsylvania 15261  
Dr. Constance Nozzolillo,  
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Department of Biology  
University of Ottawa  
Ottawa, K1N 6N5 Canada  
Dr. George R. Waller  
Professor of Biochemistry  
Department of Biochemistry  
Oklahoma State University  
Stillwater, Oklahoma 74074

The symposia will be jointly  
published by both societies as:

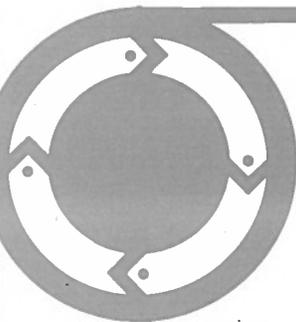
Recent Advances in  
Phytochemistry  
Volume 13

Dr. Tony Swain,  
editor-in-chief  
Department of Biological  
Sciences  
Boston University  
Boston, Massachusetts 02215

A discount will be made  
to all members of each  
organization and to  
registrants at the meeting.

Abstracts of all contributed  
paper (poster sessions) will  
be published in:  
Lloydia, The Journal of  
Natural Products  
Volume 41

Dr. Jack L. Beal, Editor  
College of Pharmacy  
The Ohio State University  
Columbus, Ohio 43210



Topics in the Biochemistry of Natural Products

- alkaloids
- stereochemistry of enzyme action
- terpenoids
- marine natural products

GENERAL INFORMATION

Presentations: Poster sessions will be held from 2 to 4:30 p.m. Monday and Tuesday (Aug. 14 & 15) and 9 a.m. till noon Thursday (Aug. 17). All posters will be located in Exhibit Rooms I, II, & III on the fourth floor of the Student Union near the head of the escalators.

Lodging: The 83-room Student Union Hotel at Oklahoma State University is located in the same building that most of the conference's meetings will be held. Lodging will also be available in the high-rise residence halls on campus, and in any of the motels located in Stillwater within three to four miles of the Student Union. The enclosed lodging list contains more detailed information about each of the available lodging locations.

You will be expected to make your own room reservations directly with the facility of your choice. You are urged to make your reservations well in advance of the conference dates. Those who arrive in Stillwater without accommodations pre-arranged will be assisted in finding lodging. There will be ample room available in the university's residence halls.

Transportation: Major airlines serve both Oklahoma City and Tulsa. Airports in both cities are about 70 miles from Stillwater. A limousine service is available for transportation to and from these airports. Bus lines also provide service from these cities. Two national car rental agencies are also available. The Stillwater Municipal Airport is also available for those with private aircraft accommodations.

U.S. Highway 177 passes through Stillwater north and south, and State Highway 51 passes east and west. Interstate 35 is located 15 miles west of the city, and the Cimarron Turnpike connects Stillwater with Tulsa, as does S.H. 51. These highways provide four-lane roadways connecting Stillwater with Oklahoma City, Tulsa and other points across the nation.



Registration: Advance registration is requested. Attendees may complete registration and pick up conference credentials and materials upon arrival in Stillwater. A registration desk will be open in the lobby of the Student Union Hotel from 8:30 a.m. to 5:30 p.m. Monday and Tuesday (Aug. 14 & 15) and 8:30 a.m. till noon Wednesday and Thursday (Aug. 16 & 17) of the conference.

Fees: A registration fee of \$30 is charged to assist in defraying the expenses of the conference. (All persons attending the joint meetings, except members of the working press, must pay the registration fee.) The fee covers attendance at all conference sessions.

Parking: On-campus parking is available only at the multi-level parking garage located adjacent to the Student Union Hotel and at metered spaces elsewhere. Garage parking is free for guests of the Union Hotel and available at nominal rates for others. All other parking on campus is restricted.

Directory of participants: All participants should fill out a card with name, hotel or motel, room number and local telephone number. This information will be immediately posted in a directory located near the registration desk. A separate section of the directory will list the names and telephone numbers of the host staff.

Recreation: Entertainment will be provided for three days of the conference. Sunday night, the first night of the meetings, cocktails and entertainment will be provided at the Stillwater Golf and Country Club. A barbeque and Indian dance will be presented Monday evening, and Wednesday afternoon and evening will be spent at the Arkansas-Verdigris Waterway, the Ancient Cherokee Village and Tsa-la-gi in eastern Oklahoma.

Participants will board busses at 1 p.m. Wednesday to make the trip to the Tahlequah, Okla., area to witness the Tsa-la-gi, an historic drama of the Trial of Tedra which describes the Cherokee Nation's forced flight from Florida to North Carolina to Oklahoma. Presented in the world's only artificially air-cooled outdoor theatre, the historical drama known as the "Trail of Tears" unfolds. The Cherokee National Museum, a striking structure of native stone and concrete housing the largest collection of Cherokee-related historical materials in the nation, is also nearby. A Cherokee Arboretum and Herb Garden has been started as a bicentennial project, and will contain and identify trees and plants traditionally used by the Cherokee for food, fiber or medicine. The site has been listed on the National Register of Historic Sites.

Telephone contact: For additional information on the technical content of the program, contact Dr. George R. Waller, program committee chairman at (405) 624-6199, or Mrs. Sue Hail, executive secretary, at (405) 624-6189. For general or other types of information contact Henry Buchanan at (405) 624-6260.

Registration: Advance registration is requested. Attendance may  
complete registration and pick up conference credentials and  
credentials upon arrival in Stillwater. A registration desk will be  
open in the lobby of the Student Union Hotel from 8:30 a.m. to  
5:30 p.m. Monday and Tuesday (Aug. 14-15) and 9:00 a.m. till noon  
Wednesday and Thursday (Aug. 16-17) of the conference.

Fees: A registration fee of \$20 is charged to be paid in advance  
for expenses of the conference. (All persons attending the  
meeting, except members of the working program, must pay the reg-  
istration fee.) The fee covers attendance at all conference sessions.

Parking: On-campus parking is available only at the hotel-level  
parking garage located adjacent to the Student Union Hotel and at  
meter spaces elsewhere. Large parking is also available for guests at  
the hotel and adjacent to normal rates for outside. All  
other parking on campus is restricted.

Directory of participants: All participants should fill out a card  
with name, hotel or motel, room number and hotel telephone number.  
This information will be immediately posted in a directory located  
near the registration desk. A separate section of the directory  
will list the name and telephone number of the host.

Registration: Participants will be notified for three days of the  
conference. Sunday night, the first night of the meeting, cooking  
and entertainment will be provided at the Stillwater hotel and  
conference center. A special dinner will be served at the  
conference center on Wednesday, August 16, 1967. The dinner will  
feature a special menu prepared by the Student Union Hotel and  
conference center.

Participants will board buses at 11:00 a.m. Wednesday to make the  
trip to the Stillwater Hotel. After lunch, the bus will  
depart from the hotel at 1:00 p.m. and arrive at the Cherokee  
Nation's located 110 miles from Stillwater in North Carolina. On  
Thursday, the bus will arrive at the Cherokee Nation's located  
in the town of Cherokee, North Carolina. The "Trail of Tears" exhibit  
located at the Cherokee Nation's is a striking structure of native stone  
and concrete housing the largest collection of Cherokee-related  
historical materials in the Nation. It is also nearby. A Cherokee  
Abolitionist Herb Garden has been started as a presentational project  
and will contain and identify trees and plants traditionally used  
by the Cherokee for food, fiber or medicine. The site has been  
listed on the National Register of Historic Sites.

Telephone number: For additional information on the technical  
content of the program contact Dr. George E. Walker, program  
committee chair at (405) 524-6100 or Mrs. Sue Hall, executive  
secretary at (405) 524-6100. For general or other types of  
information contact Henry Buchanan at (405) 524-6100.

# PHYTOCHEMICAL SOCIETY OF NORTH AMERICA

NEWSLETTER

SEPTEMBER

1977

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### 1. The 1977 meeting in Ghent

According to the official list of participants provided to all registrants, 189 phytochemists attended. Of those listed, a few did not appear and presumably a few more showed up at the last minute so that, including wives, offspring and assorted hangers-on, a total of about 250 congregated in the pleasant Flemish town of Ghent. Europeans, including therein members of the European Society of Phytochemistry and the Groupe Polyphenol understandably dominated the attendance figures (about 75% of the total) but PSNA members, both those subsidized by the NSF joint Travel Grant (17 in all) and those not so funded numbered about 15% with the remaining 10% or so representing every other continent except Antarctica. Chris Van Sumere is to be heartily congratulated for a superb job of organizing. No detail was overlooked that would ensure the comfort of the attendees - from the sandwiches imported into an otherwise foodless residence for the Sunday evening reception to the cheerful jill-of-all-trades who manned the reception desk and looked after a myriad requests for aid: getting stamps, arranging travel schedules, advising as to local shopping, etc. etc. The full day break in the middle of the sessions was just what was needed. Those of us who went on the trip to the Ardennes had a day we will remember with pleasure for a long time to come. The symposium banquet on Thursday evening was held in an imposing hall on St. Pieter's Plein, near the residence. The food was good, wine flowed freely, and speeches, including one from each of the three Society Presidents, were mercifully short. The symposia were given as scheduled but there were a few changes in speakers. Dr. G.G. Gross delivered the lecture on lignin chemistry in place of Dick Mansell, and Dr. C-K (Lily) Wat took over for Neil Towers in describing their work on aromatic metabolism in fungi. The lectures were a useful updating of the various aspects of plant phenolics. No new exciting break-throughs were reported but rather a slow and steady progression into the hitherto unknown, especially into the area of function and biosynthetic pathways. Tom Mabry had a doubly difficult task-1, as last speaker on the last day and 2, as soothsayer predicting the future. The large audience still in attendance is a tribute to his standing

in the world of phytochemistry. His predictions centered on the application of advances in technology to phytochemistry, especially the use of computers and rapid methods of isolation and identification. Abstracts of 55 papers were also given to each registrant. Most of these papers appeared in the poster display which could be seen from Tuesday to Friday in a spacious room just off the lecture hall. An hour at the end of each day except Wednesday was set aside for the authors to discuss their presentations with interested colleagues. Titles and authors of these papers will be published in the November newsletter.

Professor C. F. Van Sumere	Laboratorium voor Pflanzenbiochemie, Rijksuniversiteit Gent (Belgium).	RECENT ADVANCES IN THE ISOLATION, IDENTIFICATION AND QUANTITATIVE DETERMINATION OF PLANT PHENOLICS
Dr. V. M. Chari Professor H. Wagner	Institut für Pharmazeutische Arzneimittellehre der Universität München (Germany)	ADVANCES IN THE SPECTROSCOPY OF PHENOLIC COMPOUNDS
Professor H. Floss	School of Pharmacy and Pharmacal Sciences, Purdue University, West Lafayette, Indiana (U.S.A.).	THE SHIKIMATE PATHWAY
Dr. K. R. Hanson	The Connecticut Agricultural Experimental Station New Haven (U.S.A.).	ENZYMOLGY OF PHENYLPROPANOID BIOSYNTHESIS
Professor M. H. Zenk	Lehrstuhl für Pflanzenphysiologie, Ruhr-Universität, Bochum (Germany).	RECENT WORK ON CINNAMYL CoA DERIVATIVES
Professor G. G. Gross	Lehrstuhl für Pflanzenphysiologie, Ruhr-Universität, Bochum (Germany).	RECENT ADVANCES IN THE CHEMISTRY AND BIOCHEMISTRY OF LIGNIN
Professor H. Grisebach	Lehrstuhl für Biochemie der Pflanzen, Biologisches Institut II der Universität Freiburg i. Br. (Germany).	THE BIOSYNTHESIS OF FLAVONOIDS
Professor S. A. Brown	Department of Chemistry, Trent University, Peterborough, Ontario (Canada).	RECENT ADVANCES IN THE BIOCHEMISTRY OF COUMARINS, AND FURANOCOUMARINS
Professor R. H. Thompson	Department of Chemistry, University of Aberdeen (U.K.).	RECENT ADVANCES IN THE CHEMISTRY AND BIOCHEMISTRY OF QUINONE PIGMENTS
Professor P. F. Heinstein	Department of Medical Chemistry and Pharmacognosy, Purdue University, West Lafayette, Indiana (U.S.A.).	THE BIOCHEMISTRY OF GOSSYPOL
Professor W. Barz	Lehrstuhl für Biochemie der Pflanzen Westfälische Wilhelms-Universität Münster (Germany)	METABOLISM AND DEGRADATION OF PHENOLIC COMPOUNDS IN PLANTS
Professor G. H. N. Towers Dr. Chi-Kit Wat	Department of Botany, University of British Columbia, Vancouver (Canada).	AROMATIC METABOLISM IN FUNGI
Dr. V. S. Butt	Botany School, University of Oxford (U.K.).	OXIDASES IN AROMATIC METABOLISM
Professor J. B. Harborne	Department of Botany, Plant Science Laboratories, University of Reading (U.K.).	NEW FLAVONOID GLYCOSIDES IN PLANTS
Professor E. Haslam	Department of Chemistry, University of Sheffield (U.K.).	VEGETABLE TANNINS
Professor J. W. McClure	Department of Botany, Miami University, Oxford, Ohio (U.S.A.).	THE PHYSIOLOGY OF PHENOLIC COMPOUNDS IN PLANTS
Professor J. Friend	Department of Plant Biology, University of Hull (U.K.).	PHENOLIC SUBSTANCES AND PLANT DISEASES
Professor H. Wagner	Institut für Pharmazeutische, Arzneimittellehre der Universität, München (Germany).	PLANT PHENOLICS OF PHARMACEUTICAL INTEREST
Professor T. Swain	Biological Science Center, Boston University (U.S.A.).	PHENOLICS IN THE ENVIRONMENT
Professor T. Mabry	Department of Botany, University of Texas at Austin (U.S.A.).	PLANT PHENOLICS: THE FUTURE

2. The 1978 meeting in Stillwater:

An information sheet on this meeting is enclosed in the newsletter.

3. Mail ballot for new executive:

Because of the European site of the meeting this year there was no annual business and executive meeting. The nominating committee composed of Frank Loewus (past president), Rodney Croteau, and Dietrich Hoffman, has come up with the enclosed ballot form to fill the vacant spot of President-elect, left by Helen Stafford who is now President. Jerry McClure has more or less formally turned over the job of chief executive to her in a letter to the executive dated September 15, 1977. He is now Past-President thus ending, to quote him, "a very interesting, rewarding, and tiring year." The Society owes him a hearty vote of thanks for a job well done. The incumbents of the posts of Treasurer, Secretary and Editor-in-Chief remain unchanged for at least another year. Please return the ballot as soon as possible to Frank Loewus. The results will be published in a newsletter as soon as they become available. Note that a deadline of November 1, 1977 has been set and that space has been left for write-in candidates.

4. Order form for Recent Advances Vol. 11:

Dick Mansell will welcome orders for Vol. 11 of Recent Advances. This is the symposium volume for the meeting in Vancouver 1976. The speakers and titles of that symposium are given below.

"THE STRUCTURE, BIOSYNTHESIS AND DEGRADATION OF WOOD"

W.A. Cote, SUNY, Syracuse, N.Y., U.S.A.: Wood ultrastructure in relation to chemical composition.

Deborah Delmer, Michigan State U., East Lansing, U.S.A.: Biosynthesis of cell wall polysaccharides.

D.T.A. Lamport, Michigan State U., East Lansing, U.S.A.: Biosynthesis, structure and significance of cell wall glycoproteins.

G.G. Gross, Ruhr U., Bochum, Germany: Biosynthesis of lignin and related monomers.

W.E. Hillis, CSIRO, Melbourne, Australia: Wood transformations during ageing.

T.K. Kirk, Forest Products Laboratory, Madison, Wisconsin, U.S.A.: Microbiological degradation of lignin.

E.T. Reese, U.S. Army Natick Development Center, Natick, Mass., U.S.A.: Microbiological degradation of wood carbohydrates.

B.D. Mullick, Canadian Forestry Service, Victoria, B.C., Canada: Changes in wood resulting from insect attack.

P.E. Kolattukudy, Washington State U., Pullman, Wn., U.S.A.: Chemical resistance of wood to injury and pathogenesis.

H.L. Hergert, ITT Rayonier Ltd., New York, U.S.A.: Problems and prospects of utilization of wood extractives.

Members may place only one order per year at the discounted price. Please return your order with payment as early as possible and before November 1, 1977 when Dick plans to forward the orders en masse.

5. Preparation of New Directory:

Dick Mansell is presently in the throes of updating the Society Directory. Check in the current directory to verify that a) your name is there! and b) that spelling, address, telephone number etc. is correct. Inform Dick promptly (by November 1, 1977) of changes or errors and be sure to include your telephone number.

6. Notice of New Book on Citrus:

The attention of members is called to the book Citrus Science And Techology, Avi Publishing Co., P.O. Box 831, Westport, Conn. 06880. (See details below)

# CITRUS SCIENCE & TECHNOLOGY

Edited by STEVEN NAGY, Ph.D.  
Research Chemist  
PHILIP E. SHAW, Ph.D.  
Research Leader  
MATTHEW K. VELDHUIS, \*Ph.D.  
Formerly Laboratory Chief  
all of  
U.S. Citrus and Subtropical Products  
Laboratory  
Southern Region, Florida Antilles Area,  
USDA, ARS  
Winter Haven, Florida  
\*Deceased

## VOL. 1 • NUTRITION, ANATOMY, CHEMICAL COMPOSITION & BIOREGULATION

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Cloth Bound Domestic \$30.00—Foreign \$31.00

**VOLUME 2—CONTENTS:** Chapter 1. Fruit Production; 2. Packinghouse Procedures; 3. Production Costs; 4. Processing of Oranges, Grapefruit and Tangerines; 5. Lemon and Lime Juice Processing; 6. Specialty Citrus Products; 7. Citrus Beverages; 8. Manufacture of Citrus Pulp and Molasses; 9. New Citrus Products; 10. Nutritional Labeling; 11. Microbiology; 12. Quality Control, Assurance, and Evaluation; 13. Waste Prevention, Handling and Treatment; 14. Personnel Management; 15. Citrus Processing Around the World. Index.

Cloth Bound Domestic \$34.00—Foreign \$35.00

7. Notice of Symposium on Citrus:

Dr. Steve Nagy is organizing a symposium under the Division of Agricultural and Food Chemistry of the American Chemical Society. It will be held in Miami, Florida on September 10 - 15, 1978. The papers to be presented will be published in book form by AVI publishing company.

The subject of the symposium will be "Nutrient and Flavor Qualities of Tropical and Subtropical Fruits". If anyone is interested in participating in the program or has knowledge of colleagues who might come under this category will you please write Steve as early as possible. He is interested in obtaining persons with information on essences, oils, chemistry, vitamins etc. Let's help Steve make this a good and complete symposium.

Dr. Steve Nagy  
P.O. Box 2385  
Winter Haven, FL 33880

BALLOT

PSNA

BALLOT

President-Elect  
1977-1978

Gordon Maclachlan

George R. Waller

\_\_\_\_\_

Return to: F. Loewus  
Dept. Agricultural Chemistry  
Washington State University  
Pullman, WA 99164

Deadline: November 1, 1977

CUT ALONG THIS LINE ↓ FOLD, STAPLE, AND MAIL!

George R. Waller

B.S. North Carolina State 1950  
M.S. Delaware 1952  
Ph.D Oklahoma State 1961  
NIH Fellow, Nobel Institute 1963-64  
Currently Professor of Biochemistry at Oklahoma State University,  
Stillwater.

Gordon Maclachlan

M.A. Saskatchewan 1954  
Ph.D. Manitoba 1956  
NRC Research Fellow, Imperial  
College, London 1956-58

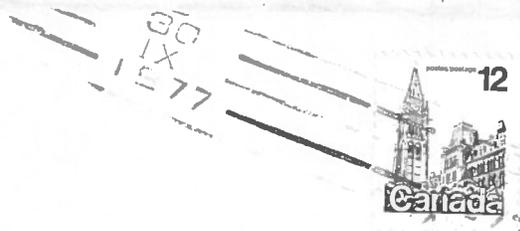
Currently Professor of Biology at McGill University, Montreal.



PSNA Ballot  
 ATTN: Frank A. Loewus  
 Dept. Agricultural Chemistry  
 Washington State University  
 Pullman, WA 99164

AIR MAIL  
 PAR AVION

FIRST CLASS  
 1<sup>re</sup> CLASSE



FROM DE

Dr. Constance Nozzolillo, Secretary, PSNA  
 Department of Biology  
 University of Ottawa  
 Ottawa, Ontario K1N 6N5  
 CANADA

Dr. John T. Romeo  
 Dept. of Biological Sciences  
 Oakland University  
 Rochester, MI 48063

# PHYTOCHEMICAL SOCIETY OF NORTH AMERICA

NEWSLETTER

DECEMBER

1977

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### 1. The 1978 meeting in Stillwater.

This meeting will be the first joint meeting with the American Society of Pharmacognosy. It will be held August 14-17 at Oklahoma State University. The symposium title is "Topics in the Biochemistry of Natural Products". Poster sessions will be held as well. If you didn't get the notice enclosed in the September newsletter, or would like to get another, drop a line to the Secretary or to George Waller.

### 2. Results of the mail ballot.

A mail ballot was resorted to this year because of the European site of the 1977 meeting and the decision on the part of the Executive Committee not to hold an annual business meeting which few members would be able to attend. Frank Loewus reports that 61 ballots were returned (slightly better than double the number of members who got to Ghent). The majority of votes went to George Waller who thus becomes President-elect.

### 3. Future PSNA meetings.

The 1979 PSNA meeting will be held at Northern Illinois University, DeKalb, but no further information is available at the moment from our hosts, Dr. Piatak and Dr. Sorensen.

The 1980 PSNA meeting will be a joint one again, this time with the American Society of Plant Physiologists. The date is set for August 4-7, 1980 at Washington State University, Pullman and a local arrangements committee has already held an organizational meeting. Contact Frank Loewus for further information.

Society members are hereby requested to think about sites for the 1981 and 1982 meetings. Suggestions will be welcomed by the President, Helen Stafford.

4. Notice of job opportunities for phytochemists:

①

Wanted: Plant Physiologist  
Ph.D. required  
5 years minimum experience in Research  
with pesticides and herbicides  
Position open immediately  
Salary: \$38,000

For information call collect to:

Dr. R.F. Johnson  
1441 E. Fletcher Avenue  
Tampa, FL 33612  
(813) 971-1177

②

Plant Biochemist

The Department of Biology at the University of South Carolina has an opening in the fall of 1978 for an assistant professor with strong commitments to research in the area of plant biochemistry. The appointee should be interested in teaching biochemistry and plant physiology. Send curriculum vitae, reprints, a summary of research plans, and names of three referees to Dr. Anthony Huang, Biology Department, University of South Carolina, Columbia, SC 29208. Affirmative Action/Equal Opportunity Employer.

5. Recent Advances in Phytochemistry, Vol. 12.

Tony Swain has received the following manuscripts in his capacity as Editor-in Chief; enough to keep him busy until the remaining authors get their final copies to him!

Ghent Symposium

- An Introduction to the Enzymology of Phenylpropanoid Biosynthesis  
by K.R. Hanson and E.A. Havir
- Metabolism of the Aromatic Amino Acids by Fungi  
by Chi-Kit Wat and G.H.N. Towers
- Vegetable Tannins  
by Edwin Haslam
- Metabolism and Degradation of Phenolic compounds in Plants  
by W. Barz and W. Hoesel
- Phenolic Substances and Plant Diseases  
by J. Friend
- Biochemistry of the Coumarins  
by S.A. Brown
- Selected Topics in Flavonoid Biosynthesis  
by H. Grisebach

- The Physiology of Phenolic Compounds in Plants  
by J.W. McClure
- Oxidases in Aromatic Metabolism  
by V.S. Butt
- Phenolic Compounds-o' Pharmaceutical Interest in Plants  
by H. Wagner
- Recent Advances in the Chemistry and Biochemistry of Quinone Pigments  
by R.H. Thomson
- Recent Advances in the Chemistry and Biochemistry of Lignin  
by Georg G. Gross
- Phenolic Substances and Plant Disease  
by J. Friend
- Recent Work on Cinnemyl CoA Derivatives  
by H.H. Zenk
- Variation in and Functional Significance of Phenolic Conjugation in Plants  
by J.B. Harborne

Don't forget that Volumes 1-11 of the series can be ordered at a discount to members of the PSNA- through the Treasurer.

6. List of poster titles submitted for the Ghent meeting.

The list on pp.3-4 is taken from the programme of that meeting. A few authors were unable to come at the last minute and thus their posters were not on display.

**B. AHMAD & S. RAZAQ**, Institut für Pharmazeutische Arzneimittellehre, Universität München, BRD and Natural Products Division, P.C.S.I.R. Laboratories, Peshawar, PAKISTAN. — THE SYNTHESIS OF DIMETHYLCHLORFLAVONIN

**R. ALVES DE LINA & O.R. GOTTLIEB**, Universidade Federal de Alagoas, 57 000 Recife and Instituto de Química de Universidade de Sao Paulo, Sao Paulo, BRASIL. — CONSTITUENTS OF CARAIPA SPECIES (GUTTIFERAE)

**M. ANRHEIN**, Lehrstuhl für Pflanzenphysiologie, Ruhr-Universität, 4830 Bochum, FRG. — AMINOXY-COMPOUNDS AS EFFECTIVE INHIBITORS OF PHENYLPROPANOIC SYNTHESIS

**A. ANIOL, A. RUDNICKA, E. NOWACKI & G.R. VALLER**, Dept. of Physiology and Biochemistry of Cultivated Plants, I.U.N.G., Pulawy, POLAND and Dept. of Biochemistry, Oklahoma State University, Stillwater, OK, U.S.A. — ALKYLRESORCINOLS IN THE GRAMINEAE

**M.E. BILLETT, W. WALLACE & E. SMITH**, Department of Physiology and Environmental Studies, University of Nottingham, School of Agriculture, Sutton Bonington, Loughborough, LE12 5RD, Leicestershire, UNITED KINGDOM. — A MACROMOLECULAR INHIBITOR OF PHENYLALANINE AMMONIA-LYASE (PAL) AND CINNAMIC ACID 4-HYDROXYLASE (CAH) FROM GHERKIN HYPOCOTYLS

**E. CASPI**, Worcester Foundation, Shrewsbury, MA 01545, U.S.A. — METHOD FOR LARGE SCALE SYNTHESIS OF (1R) (1S)-PRIMARY ALCOHOLS AND METHYLS

**C.-J. CHOU**, Institute of Botany, Academia Sinica Pankang, Taipei, Taiwan, REPUBLIC OF CHINA. — PHYTOXIC PHENOLICS PRODUCED DURING THE DECOMPOSITION OF RICE RESIDUES IN SOIL

**Y. COHEN & M. HOCHBERG**, Department of Life Sciences, Bar-Ilan University, ISRAEL. — SCOPOLLIN : A POTENT INHIBITOR OF CATALASE

**Y. COHEN & M. REUVENI**, Department of Life Sciences, Bar-Ilan University, ISRAEL. — SCOPOLETIN INCREMENTS IN MILDREWED AND ETHYLENE-TREATED TOBACCO PLANTS

**R. COOPER, H.E. GOTTLIEB & D. LAVIE**, Department of Organic Chemistry, The Weizmann Institute of Science, Rehovot, ISRAEL. — AEGICIN - A NEW "FLAVONOLIGNAN" OF BIOGENETIC INTEREST FROM *AEGILOPS OVATA* L.

**L.S. CREAMY**, Cornell University, Ithaca, New York U.S.A. — REGULATION OF PHENYLALANINE AMMONIA-LYASE BY INACTIVATION

**A.B. DE OLIVEIRA, G.C. DE OLIVEIRA, L.O. PIMENTA, J.E. de P. REIS & O.R. GOTTLIEB**, Instituto de Ciências Exatas da Universidade Federal de Minas Gerais, Belo Horizonte; Instituto de Ciências Exatas da Universidade Federal de Juiz de Fora, Juiz de Fora; Instituto de Química da Universidade de Sao Paulo, Sao Paulo, BRASIL. — OXIDATION OF 2'-HYDROXYCHALCONES BY THALIUM (III) NITRATE

**A.B. DE OLIVEIRA, M.I.L.M. MADRUGA & O.R. GOTTLIEB**, Centro de Ciências da Universidade Federal do Ceará, Fortaleza; — ISOFLAVONOIDS FROM *MYROXILON BALSANUM*

**R.A. DIXON & D.S. BENDALL**, Dept. of Biochemistry, University of Cambridge, Cambridge CB2 1QW, UNITED KINGDOM. — FLAVANONE SYNTHASE ACTIVITY AND PHASEOLLIN BIOSYNTHESIS IN CELL SUSPENSION CULTURES OF *PHASEOLUS VULGARIS*

**S.P. DOSSAJI & I. KUBO**, Department of Botany, University of Nairobi, P.O. Box 30197, Nairobi, KENYA and Department of Chemistry, University of Columbia, New York, N.Y. 10027, U.S.A. — FURTHER EVALUATION OF THE POLLUSCICIDAL PROPERTIES OF *POLYGONUM SENEGALENSE* FORMA *SENEGALENSE*

**B. EFFERTZ & G. WEISSENBOCK**, Botanisches Institut der Universität, Köln, BRD. — METABOLISM AND LOCALIZATION OF FLAVONOIDS IN DEVELOPING OAT PRIMARY LEAVES (*Avena sativa* L.)

**H.H. FISCHER, R.A. WILEY, D.L. PERRY, P.C. SEAMAN & D.R. DIFEO**, Department of Chemistry, Louisiana State University, Baton Rouge, Louisiana 70803 and Tod F. Stuessy, Department of Botany, The Ohio State University, Columbus, Ohio 12345, U.S.A. — THE STRUCTURE, ELUCIDATION, CHEMISTRY AND BIOCHEMICAL SYSTEMATICS OF SESQUITERPENE LACTONES IN THE GENUS *HELIANPODIUM* (COMPOSITAE, HELIANTHEAE)

**A. FLEURIET & J.-J. MACHEIX**, Laboratoire POVAR, CNRS, 4ter Route des Gardes, 92190 Meudon, FRANCE. — VARIATIONS IN THE CONTENT OF PHENOLIC COMPOUNDS AND IN PAL ACTIVITY OF CHERRY TOMATOES MAINTAINED UNDER ANAEROBIC CONDITIONS

**B. FRITIG, M. DUCHESNE & L. BIRTE**, Institut de Biologie Moléculaire et Cellulaire du C.N.R.S., 15, rue Descartes, 67000 Strasbourg, FRANCE. — PHENYLALANINE AMMONIA-LYASE IN TOBACCO MOSAIC VIRUS-INFECTED HYPERSENSITIVE TOBACCO : DENSITY LABELLING EVIDENCE OF *DE NOVO* SYNTHESIS

**C. GRAND, R. RANJEVA, A.M. BOUDET & G. ALIBERT**, Centre de Physiologie Végétale, Université Paul Sabatier 118, route de Narbonne 31077 Toulouse Cédex, FRANCE. — DEVELOPMENTAL VARIATION AND TISSULAR DISTRIBUTION OF ENZYMES RELATED TO LIGNIFICATION IN POPLAR STEM

**Sofia GRACZYŃSKA-ZACHEWIEJA & Krzysztof VALOCHA**, Department of Organic Chemistry, School of Medicine, Kraków and Department of Organic Chemistry, Jagiellonian University, Kraków, POLA D. — MASS-SPECTROMETRY ANALYSIS OF ISOMERIC PHENOLIC ACIDS, DERIVATIVES OF CINNAMIC ACID

**C. GRUJW LD & Sai Y. CHANG**, Botany and Plant Pathology Illinois Natural History Survey, Urbana, Illinois 61801, and Department of Internal Medicine, Arizona Medical Center, University of Arizona, U.S.A. — DUVATRIENEDIOL A NEW CUTICULAR DITERPENE

**K.R. HANSON & E.A. HAYIR**, Department of Biochemistry, The Connecticut Agricultural Experiment Station, New Haven CT 06504, U.S.A. — THE ENZYMOLOGY OF PHENYLPROPANOIC METABOLISM

**P.G. KAYE DE & J.D. DWYER**, GTE Labs, Inc. 40 Sylvan Rd. Waltham, Mass. 02154, and St. Louis University, St. Louis, Missouri 63104, U.S.A. — STUDIES ON THE STEROIDAL SAPOGENINS OF THE SUBCELLULAR ORGANELLES OF *DIOSCOREA BERNOULLIANA* TUBERS

**S.D. KUNG & T.C. TSO**, Department of Biological Sciences, University of Maryland, Baltimore County, Catonsville, Maryland 21228 and Tobacco Laboratory, Agricultural Research Service, USDA, Beltsville, Maryland 20705, U.S.A. — AMINO ACID COMPOSITION AND NUTRITIONAL VALUE OF FRACTION 1 AND FRACTION 2 PROTEINS FROM DIFFERENT SPECIES OF *NICOTIANA*

**M. LEGRANI, B. FRITIG & L. BIRTE**, Institut de Biologie Moléculaire et Cellulaire du C.N.R.S., 15, rue Descartes, 67000 Strasbourg, FRANCE. — ON THE PRESENCE IN TOBACCO OF THREE CATECHOL O-METHYLTRANSFERASES WITH PARA- AND META-O-METHYLATING ACTIVITIES

V. LOFFELHARDT, Institut für Allgemeine Biochemie der Universität Wien und Ludwig-Boltzmann-Forschungsstelle für Biochemie, Mähringerstraße 38, A - 1090 Vienna, AUSTRIA.	METABOLISM OF AROMATIC AMINO ACIDS IN THE BLUE-GREEN ALGA <i>ARACYSTIS NIDULANS</i> : ANALOGIES TO CHLOROPLASTS
J. LINDERSTADT, Institut für Forstzoologie der Universität Göttingen, Bösigenweg 3, D-3400 Göttingen, BRD.	MIXED FRACTIONS OF PROTEINS AND PHENOLICS IN NEEDLES OF NORWAY SPRUCE ( <i>PICEA ABIES</i> KARST)
J. HACK & E.E. CONN, Department Biochemistry and Biophysics, University of California, Davis, CA, 95616, U.S.A.	AN IMMobilIZED FORM OF PHENYLALANINE-AMMONIA LYASE
K. MADHAVA HADYASTBA & CARMINE J. COSCIA, E.A. Doisy Dept. of Biochemistry, St. Louis Univ. Sch. of Med., St. Louis, MO., U.S.A.	PURIFICATION AND CHARACTERIZATION OF DETERGENT-SOLUBILIZED NADPH-CYTOCHROME C REDUCTASE FROM THE HIGHER PLANT, <i>CATHARANTHUS ROSEUS</i>
M. MARIEN-HOLDREZ & L. HAGELS RUCA, Groenenborgerlaan, 171, B-2020 Antwerpen, BELGIE.	ORGANIC SYNTHESIS OF SOME NATURALLY OCCURRING GLUCOSE ESTERS
E.I. MBADIKE, Department of Biochemistry, University of Nigeria, Nsukka, NIGERIA.	BINDING OF CAFFEYLPUTRESCINE BY PROTEIN ON AEROBIC AUTOLYSIS AND ITS EFFECT ON LYSINE AVAILABILITY
N. NAKATANI, Department of Food and Nutrition, Faculty of Science of Living, Osaka City University, Osaka, JAPAN.	ANTHOCYANINS FROM <i>ZEA MAYS</i> L. (MAIZE MORADO)
P. NIEBES, E. ENGELS & H. NORDMANN, Zyma S.A., Nyon, SWITZERLAND.	ANGIO-LATHYRISM AND FLAVONOID
C. NOZZOLLELO, Department of Biology, University of Ottawa, Ottawa, K1N 5G6, CANADA.	ANTHOCYANIN PIGMENTS IN SEEDLINGS OF THE GENUS <i>PISUM</i>
M. OGURA, K. KOIKE, G.A. CORDELL & H.R. FARNSWORTH, Department of Pharmacology and Pharmacology, University of Illinois at the Medical Center, College of Pharmacy, Chicago, Illinois 60612, U.S.A.	ANTILEUKEMIC PRINCIPLES OF <i>BALIOSPERHUM MONTANUM</i> (EUPHORBIAEAE)
O. OLSEN & B. SØRENSEN, Chemistry Department, Royal Veterinary and Agricultural University, 40 Thorvaldsensvej, Copenhagen DK-1871, DENMARK.	o-HYDROXYBENZYLAMINE AND o-(o-L-RHAMNOPYRANOSYLOXY) BENZYLAMINE IN <i>RESEDA ODORATA</i>
C. POSTIUS & B. KINDL, Biochemie (FB Chemie), Universität Magburg, BRD.	THE OCCURRENCE OF PHENYLALANINE AMMONIA-LYASE AND CINNAMYL ACID p-HYDROXYLASE ON THE ENDOPLASMIC RETICULUM OF CELL SUSPENSION CULTURES OF GLYCINE MAX
D.A. ROSE & S. GUTTERIDGE, Department of Biochemistry, University of Strathclyde, Glasgow, UNITED KINGDOM, and University of Oregon Medical School, Portland, Oregon, U.S.A.	SUBUNIT DIFFERENCES IN TYROSINASES
Instituto V. ROBLES & R.L. LARSON, Agronomy Department, University of Missouri and U.S. Department of Agriculture, Agricultural Research Service, Columbia, Mo., U.S.A.	FLAVONOID HYDROXYLATION IN MAIZE : CHARACTERIZATION AND SUBSTRATE SPECIFICITY
E. RODRIGUEZ, School of Biological Sciences, University of California, Irvine, CA 92717, U.S.A.	FLAVONOID SYSTEMATICS OF PLANT SPECIES EXHIBITING NORTH SOUTH AMERICA DISJUNCT DISTRIBUTIONS
G.A. ROSENTHAL & D.L. DANLHAN, University of Kentucky, Lexington, Kentucky 40506, U.S.A.	L-CANAVANINE-INSECT INTERACTIONS
D.G. ROUX, Department of Chemistry, University of the Orange Free State, P.O. Box 339, Bloemfontein-9300, SOUTH AFRICA.	CHEMICAL EVIDENCE FOR THE INCORPORATION OF o-HYDROXYCHALCONES INTO BIFLAVONDIOLS IN <i>BERCHEMIA ZEBHERI</i>
Abdel A.M. SALEH, Biologisches Institut II der Universität Freiburg i.Br., Lehrstuhl für Biochemie der Pflanzen, 7800 - Freiburg i.Br., Schänzlestrasse 9-11, BRD.	FLAVONOID GLYCOSYLTRANSFERASES AND CHEMOSYSTEMATICS
J.A. SAUNDERS & E.E. CONN, Department of Biochemistry and Biophysics, University of California, Davis, CA 95616, U.S.A.	IDENTIFICATION OF THE CYANOGENIC GLUCOSIDE OF <i>BORGHUM</i> FROM ISOLATED MATURE VACUOLES
G. SCHULTZ & H. BICKEL, Institut für Tierernährung, Arbeitsgruppe Phytochemie und Futtermittelkunde and Institut für Botanik, Tierärztliche Hochschule, D-3000 Hannover, BRD.	BIOSYNTHESIS OF PRENYLQUINONES AND AROMATIC PRECURSORS IN ISOLATED, INTACT SPINACH CHLOROPLASTS UNDER IMPROVED CONDITIONS
David S. SEIGLER, Department of Botany, The University of Illinois, Urbana, Illinois, U.S.A.	THE RELATIONSHIP BETWEEN AND CONFIGURATION OF THE CYANOGENIC GLYCOSIDES TETRAPHYLLIN A, DEIDACLIN, TETRAPHYLLIN B, AND GYNOCARDIN
I.A. SHARIFI & P.R. STERNITZ, Department of Chemistry, University of Isfahan, Isfahan, IRAN and Department of Chemistry, Colorado State University, Fort Collins, Colorado 80523, U.S.A.	NEW BENZOPHENANTHRIDINE ALKALOID FROM <i>ZANTHOXYLUM PUNCTATUM</i>
S.J. SHEEN, Department of Plant Pathology, University of Kentucky, Lexington, Kentucky 40506, U.S.A.	ACCUMULATION OF SOLANESOL IN CHLOROPHYLL MUTANTS OF TOBACCO
E. SMITH & E.E. BILLET, Department of Physiology and Environmental Studies, University of Nottingham, School of Agriculture, Sutton Bonington, Loughborough, LE12 5RD, Leicestershire, UNITED KINGDOM.	CINNAMIC ACID 4-HYDROXYLASE FROM GHERKIN COTYLEDONS
H.A. STAFFORD & L.L. LEWIS, Biology Department, Reed College, Portland, Oregon 97202, U.S.A.	INTERFERENCE BY A PHENYLACETIC ACID PATHWAY IN ISOTOPIC ASSAYS FOR THE PRODUCTION OF CINNAMIC ACID AND ITS DERIVATIVES FROM PHENYLALANINE IN LEAF EXTRACTS
Aura STARK, Department of Biology, Trenton State College, Trenton, New Jersey 08625, U.S.A.	EXUDATE AND INTRACELLULAR FLAVONOIDS OF <i>PITYROGRAMMA</i> spp
B. SUYFELD & R. WIERNANN, Botanisches Institut und Botanischer Garten der Westfälischen Wilhelms-Universität, D-44 Münster (Westf.), Schlossgarten 3, BRD	TWO S-ADENOSYL-L-METHIONIN : 3,4-DIHYDROIC PHENOL 3-O METHYLTRANSFERASE IN ANTHERS
G.R. WALLER & R.B. LAWRENCE, JR., Dept. of Biochem., Oklahoma State University, Stillwater, OK 74074, U.S.A.	IDENTIFICATION OF NEW DITERPENOID ALKALOIDS IN <i>DELPHINUM AJACIS</i> BY MASS SPECTROMETRY
E. WOLLENBERGER, Institut für Botanik der Technischen Hochschule, D-6100 Darmstadt, BRD.	EXCRETION OF FLAVONOID AGLYCONES IN FERNS OF THE GENUS <i>NOTHOLAENA</i>

7. Meetings of interest to phytochemists.

The Royal Society of London has sent notice of the following meeting:

Thursday 26 January 1978 at 9.40 a.m.

and

Friday 27 January 1978 at 9.40 a.m.

at 6 Carlton House Terrace, London SW1Y 5AG

A MEETING FOR DISCUSSION

THE BIOLOGICAL FUNCTIONS OF TERPENOIDS IN PLANTS

Organized by Professor T.W. Goodwin, F.R.S.

All interested in the subject are welcome at the meeting. Tickets for admission are not issued, but it is essential that all those wishing to attend the meeting should give prior notice by completing the tear-off sheet at the back and returning it by 16 January 1978 to the Executive Secretary, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG (reference: DM.1(78)/CAJ).

Buffet lunch for a limited number will be available on both days: tickets costing £1.94 each, including value added tax (drinks extra), may be purchased in advance by sending in the tear-off sheet at the back with a cheque or postal order. It will not be possible to refund any money after 16 January 1978. Lunches can be reserved only for those who have bought tickets, but it is possible that a few unsold lunch tickets may be available at the meeting.

Telephone enquiries to: 01-839 5561, extension 278.

Telex: 917876.

The biological functions of terpenoids in plants

This page is to be completed and returned by 16 January 1978 by those who will be attending the meeting on 26 and 27 January 1978 or who are interested in the published report. Paragraphs that do not apply should be deleted.

- (1) I shall attend the meeting on 26 January 27 January and shall be accompanied by ..... † and ..... † (if accompanied, please indicate number for each day).
- (2) Number of lunches required for myself and my party: on 26 January ..... and on 27 January .....

(Lunch tickets cost £1.94 each, including v.a.t.)

I enclose a cheque/postal order for £..... to cover the cost of the lunch tickets.

I enclose a stamped addressed envelope for the lunch tickets to be posted to me

or

\*Please hold the lunch tickets for me to collect at the meeting

(† Insert ✓ where applicable)

\*NOTE: No lunch tickets will be reserved unless this form is accompanied by the necessary remittance in sterling.

- (3) I should like to be notified when the report of this meeting is published.

Please complete clearly in CAPITAL LETTERS:

Name .....

Address .....

To: The Executive Secretary

The Royal Society  
6 Carlton House Terrace  
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(Reference: DM.1(78)/CAJ)

Date: .....

Thursday 26 January 1978

Morning Session

Chairman: Professor T.W. Goodwin, F.R.S.  
Department of Biochemistry,  
University of Liverpool

9.40	Chairman's introductory remarks
9.45	Dr R. Horgan Department of Botany and Microbiology, University College of Wales, Aberystwyth, Wales (1*) Nature and distribution of cytokinins
10.25	Discussion
10.35	Interval for coffee
11.05	Dr M. Laloue C.N.R.S., GPP/PC, Gif-sur-Yvette, France (2) Functions of cytokinins
11.45	Discussion
11.55	Dr T. McMorris Department of Chemistry, University of California, La Jolla, California, U.S.A. (3) Anthieridol and oregoniol, steroid hormones which control sexual reproduction in <i>Achlya</i>
12.35	Discussion
12.45	Interval for lunch

\*The serial numbers refer to the abstracts which follow

## Afternoon Session

- Chairman:** Dr D.H. van den Ende  
*Department of Plant Physiology, University of Amsterdam, Netherlands*
- 14.15 Professor T.A. Mansfield  
*Department of Biological Sciences, University of Lancaster*  
(4) The rôle of abscisic acid and farnesol in the alleviation of water stress, and their mechanism of action on stomata
- 14.55 Discussion
- 15.05 Professor P.F. Wareing, F.R.S.  
*Department of Botany and Microbiology, University College of Wales, Aberystwyth, Wales*  
(5) Other functions of abscisic acid
- 15.45 Discussion
- 15.55 Interval for tea
- 16.30 Private meeting for Fellows of the Royal Society
- 16.35 Professor K. Dörffling  
*Institut für Allgemeine Botanik und Botanischer Garten, Universität Hamburg, G.F.R.*  
(6) The possible role of xanthoxin in plant growth and development
- 17.15 Discussion
- 17.25 Dr G.W. Gooday  
*Department of Microbiology, University of Aberdeen, Scotland*  
(7) Functions of tripartic acid
- 18.05 Discussion
- 18.15 Close

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## Friday 27 January 1978

## Morning Session

- Chairman:** Professor P.F. Wareing, F.R.S.
- 9.40 Chairman's introductory remarks
- 9.45 Professor L. Rappaport  
*Plant Growth Laboratory, University of California, Davis, California, U.S.A.*  
(8) Gibberellin function and compartmentation
- 10.25 Discussion
- 10.35 Interval for coffee
- 1.05 Dr C. Grunwald  
*Section of Botany and Plant Pathology, Illinois Natural History Survey, University of Illinois, Urbana, Illinois, U.S.A.*  
(9) Functions of sterols
- 1.45 Discussion
- 1.55 Professor F.W. Hemming  
*Department of Biochemistry, University of Nottingham*  
(10) Polyphenyl phosphates as coenzymes in protein and oligosaccharide glycosylation
- 2.35 Discussion
- 2.45 Interval for lunch

## Afternoon Session

- Chairman:** Dr W.D. Loomis  
*Department of Biochemistry, Oregon State University, Corvallis, Oregon, U.S.A.*
- 14.15 Dr R. Cogdell  
*Department of Botany, University of Glasgow*  
(11) Carotenoids in photosynthesis
- 14.55 Discussion
- 15.05 Professor N.I. Krinsky  
*Department of Biochemistry and Pharmacology, Tufts University School of Medicine, Boston, Massachusetts, U.S.A.*  
(12) Non-photosynthetic functions of carotenoids
- 15.45 Discussion
- 15.55 Interval for tea
- 16.25 Professor A. Trebst  
*Lehrstuhl für Biochemie der Pflanzen, Ruhr Universität Bochum, Bochum-Querenburg, G.F.R.*  
(13) Nastoquinones in photosynthesis
- 17.05 Discussion
- 17.15 General Discussion
- 17.30 Close of meeting

**NOTE:** Only the names of those presenting the papers are given above. Full authorship appears in the numbered synopses which follow and will appear in the published report.

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7. Meetings ( cont'd and cribbed from the ASPP newsletter)

AAAS Annual Meeting, Washington, D.C., February 12-17, 1978. Contact: AAAS Meetings Office, 1776 Massachusetts Ave., N.W., Washington, DC 20036. (202-467-5441).

Propagation of Higher Plants through Tissue Culture: A Bridge Between Research and Application, Symposium, April 16-19, 1978, Univ. of Tennessee. Contact: Propagation of Higher Plants, Dept. of Botany, Univ. of Tennessee Knoxville, TN 37916.

ASPP, June 25-30, 1978. Virginia Polytechnical Institute and State Univ., Blacksburg, with PGRWG, BSA, American Society of Plant Taxonomists, American Fern Society and the International Association of Wood Anatomists.

Botany Teaching Symposium, sponsored by the Teaching Section of the Botanical Society, June 1978 Annual Meeting, Blacksburg, VA. Contact: Dr. Charles Curtis, Dept. of Biology, University of Maryland, College Park, MD 20742, (301-454-3816).

The 4th International Congress of Pesticide Chemistry will be held under the sponsorship of the International Union of Pure and Applied Chemistry (IUPAC) in Zurich, Switzerland, on 24-28 July 1978. Congress language is English. For further information write: M. Spindler, Congress Secretariat, 4th International Congress of Pesticide Chemistry, P.O. Box 182, CH-4013, Basle, Switzerland.

International Legume Conference, Royal Botanical Garden, Kew, England. July 24 - August 4, 1978. Contact: A. Bunting, University of Reading, RG6 2AS England.

Society for Cryobiology, Annual Meeting, August 6-10, 1978, Tokyo, Japan.

XXth International Horticultural Congress sponsored by the American Society for Horticultural Science, will be held in Sydney, Australia, August 15-23, 1978.

4th International Congress on Plant Cell and Tissue Culture, 20-25 August 1978, Univ. of Calgary, Calgary, AB, Canada. Contact: International Association for Plant Tissue Culture, Conference office, Univ. of Calgary, Calgary, AB T2N 1N4, Canada.

Recent Advances in the Biochemistry and Physiology of Plant Lipids Meeting, August 28-30, 1978, Goteborg, Sweden. Contact: Dr. Conny Liljenberg, Botanical Institute, Carl Skottsbergs gata 22, S-413 19, Goteborg, Sweden.

8th International Colloquium on Plant Analysis and Fertilizer Problems, August 28 - September 1, 1978, Univ. of Auckland, New Zealand. Contact: Dr. R. L. Bielecki, Dept. of Scientific and Industrial Research, Plant Diseases Division, Private Bag, Auckland, New Zealand.

International Arid Lands Conference on Plant Resources, October 8-15, 1978, Texas Tech University, Lubbock, TX. Contact: J. R. Goodin, Dept. of Biological Sciences, Texas Tech University, Lubbock, TX 79409.

1978 - Canadian Society of Plant Physiologists with the Canadian Phytopathological Society, Winnipeg, Manitoba.

8. Miscellany:

Some new members:

Dr. D. John Abernart  
Dept. of Chemistry  
Catholic Univ. of America  
Washington, D.C. 20064

Dr. R.D. Stipanovic  
Nat. Cotton Path. Res. Lab.  
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