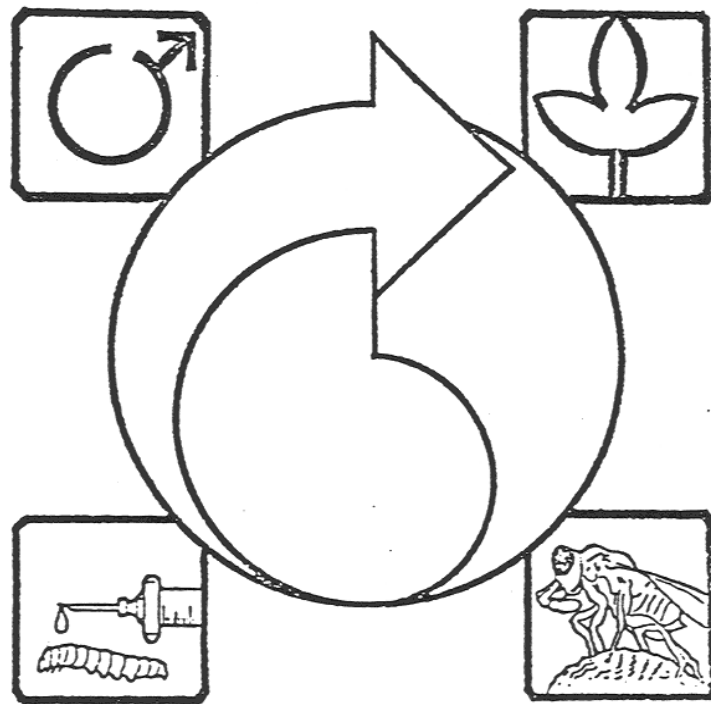


F R A S S

newsletter



LOCKY 77

INSECT REARING GROUP

VOL. 7

NO. 1

1981

CONTAINED IN THIS ISSUE:

1. 1981 Meeting Schedule
2. Paper presentation notice for National ESA meeting
3. Letter; Source of 1 oz. cups
(submitted by D. Hoffman)
4. Publications Lists
5. Article: "A new technique for attaching cloth closures to
insect cages" by Sam Coniglio & Richard Guy (submitted by
N. Leppla)
6. Diet Ingredient and Container Source List (compiled by D. Hoffman)
7. Request, Comments, and Frass

IN THE NEXT ISSUE:

1. News (hopefully) about the publication of the 1980 Insect Rearing
Conference in Atlanta
2. Insect Rearing Group Membership List
3. More publications, requests, comments, etc.!!

TEAR ALONG LINE

REQUEST FORM (circle one)

Send membership list

New subscription

Delete subscription

Correct address

NAME: _____

ADDRESS: _____

Return to: R. E. Wheeler, Chevron Chemical Co., 940 Hensley St., Richmond, CA 94804

Editorial Staff:

Coordinator: Gail Rymeus
Zoecon Industries
12200 Denton Drive
Dallas, TX 75234

Mailing List: Ronald Wheeler
Chevron Chemical Corp.
940 Hensley St.
Richmond, CA 94804

The "Frass" newsletter is published twice a year by the Insect Rearing Group, with this issue coming to you through the courtesy of David Grant, Zoecon Corporation, Palo Alto, California. The newsletter is provide free to scientists interested in insect rearing.

The quality of this newsletter depends upon the support of its readers. Keep your colleagues informed by sending comments, news of upcoming publications, and other communications pertinent to insect rearing. Requests for information are published. Promote the Insect Rearing Group and keep informed on the current state of the art by supporting "Frass" with your input!

"Excretions of insects called frass
Soon drop from the leaves to the grass,
Where washed by the rain
And recycled again
To more leaves and more bugs and more frass."

- from the Xerces Newsletter

(Submitted by R. Wheeler)

Entomological



Society of America

ENTOMOLOGY COAST TO COAST

Paper Presentation Notice

**1981 Meeting of the Entomological Society of America
29 November—3 December 1981
Town and Country Hotel, San Diego, California**

May 15

The form below must be completed and postmarked on or before the ~~12 June 1981~~ deadline when received by the Program Chairman. There will be no exceptions to this deadline.

There will be three formats for papers presented at the 1981 San Diego meeting (1) an 8-minute presentation with 2 minutes for discussion; (2) a paper by title and abstract only; and (3) a display presentation. Details on the three forms are printed on the previous page. Please consult this page before submitting a paper title. These formats are designed to give the program flexibility and provide more participation. When submitting your title, please state your choice of format. However, there will be no guarantee that everyone's choice of format can be honored. Notification of time of presentation and format will be made after program arrangement is completed. Each individual will be restricted to either one 8-minute paper, one symposium paper, one title and abstract, or one poster presentation.

Submission of a 50-word synopsis is required to aid in assigning 8-minute and display papers to sections. They will not be printed in the program. The synopsis is also required for the title and abstract papers; and the author is responsible for providing 50 copies of his abstract to the Program Chairman.

CUT ALONG LINE

PLEASE TYPE

Gail Rymeus, Zoecon Industries, 12200 Denton Dr., Dallas, TX, 75234

Mail to: ~~Dr. Valdemar Savchenko, Dept. of Entomology, University of California, Riverside, CA 92521~~

Title of paper (not to exceed 15 words): _____

To be read by: _____ (Note: Paper must be read by one of the authors)

Author name(s): _____
(First) (Middle Initial) (Last)

Institution and address: _____

Zip _____ Tel. No. _____

CHECK SECTION PREFERENCE:

- | | | |
|--|---|--|
| <input type="checkbox"/> A. Systematics, Morphology, Evolution | <input type="checkbox"/> Cd. Behavior and Bionomics | Independent Subsections: |
| <input type="checkbox"/> B. Physiology, Biochemistry, Toxicology | <input type="checkbox"/> D. Behavior and Veterinary | <input type="checkbox"/> Acarology |
| <input type="checkbox"/> Ca. Biological Control | <input type="checkbox"/> Ea. Extension | <input type="checkbox"/> Aquatic Insects |
| <input type="checkbox"/> Cb. Apiculture and Social Insects | <input type="checkbox"/> Eb. Regulatory | <input type="checkbox"/> Teaching |
| <input type="checkbox"/> Cc. Insect Vectors in Relation to Plant Disease | <input type="checkbox"/> F. Crop Protection | INSECT REARING CONFERENCE |

FORMAT PREFERENCE: T & A only 8 Minutes Display Presentation

This Space for use by Program Committee.

Section	Date	Day	Time	Paper No.	Received	Misc.
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1981 Meetings

Pacific Branch

June 23-25
Airport Hilton Inn
Oakland, CA

Eastern Branch

October 5-7
Hotel Syracuse
Syracuse NY

National ESA

November 29 - December 3
Town and Country Hotel
San Diego, CA

A Formal Conference on Insect Rearing will be held Tuesday evening, December 1, moderated by Gail Rymeus. The program will be followed by a short business meeting.

*****CALL FOR PAPERS*****CALL FOR PAPERS*****

If you wish to present a paper on a topic related to insect rearing, please refer to the paper presentation notice in this issue.

Please complete the form and return to the editor, who will schedule the conference and submit the program to Dr. Vaham Sevacherian, the program chairman.



ENTOMOLOGY COAST TO COAST Description of Paper Categories for ESA San Diego Meeting

8-Minute:

A formal presentation of research information and data that has had an extensive background of study and from which some definite conclusions can be given. Two minutes will be allowed after the presentation for brief questions and change of speakers. A 50-word abstract reflecting summary of work completed is required upon submission.

Title and Abstract only:

Provides for the dissemination of information *in lieu* of an oral presentation. Each submitted title must be accompanied by a 50-word abstract that summarizes significant results. The title and author(s) will appear in the program. In addition, the title and author(s) will be identified at the close of the respective eight-minute oral session so those people interested in the subject can contact the author(s) for further information. Authors are responsible for providing 50 copies of the title and abstract to the program chairman.

Display Presentation:

May be a formal or informal presentation by exhibit with more satisfactory contact made between scientists. The display area is a Celotex poster board 4 feet (1.2m) high and 6 feet (1.8m) wide resting on adjustable easels. In special cases the poster boards may be turned to be 6 feet high and 4 feet wide. Several presentations are scheduled simultaneously in one room. A 50-word abstract outlining purpose or object of study and summary of work is required upon submission.

Deadline for submission of titles—12 June 1981

Authors are restricted to a single presentation at the annual meeting: either a symposium paper, an 8-minute paper, a title and abstract, or poster presentation.

ENTOMOLOGY COAST TO COAST Informal Conferences, Workshops, and Symposia for ESA San Diego Meeting

Members planning to organize Informal Conference or Workshops on specialized topics are required to contact the Program Chairman **before April 1**. The number of symposia will be restricted to 2 for each Section and 1 for each unattached group (workshops, conferences, unattached subsections). In addition, up to 5 more symposia of outstanding quality may be selected by the Program Chairman. When a symposium is sponsored by two or more Sections or groups, one symposium will be counted against each participating Section or group.

In the case of closely related proposals, the submitting members will be contacted and requested to arrange for a common theme. In the event that more proposals are received than can be accommodated for reasons of space and time, the final subject selection will remain at the discretion of the Program Committee.

Please provide the following information in submitting your proposals for Informal Conferences or Workshops: title, proposed moderator, anticipated attendance, Section affiliation, and projection equipment required.

Mail to: Dr. Vahram Sevacherian, Dept. of Entomology, University of California, Riverside, CA 92521, (714) 787-3588.

Ideas for Symposia should be submitted to the appropriate Section Chairman along with the above information **before April 1**.

NOTICE TO MEMBERS

1. The privilege of presenting submitted papers at the annual meeting of the ESA is generally reserved for members in good standing. However, certain exceptions exist. Nonentomologists who are members of other professional societies may present papers which are co-authored by ESA members. Foreign entomologists, who may be temporarily studying or working in the U.S. and who are members of sister societies, may present a submitted paper. These restrictions do not apply to nonmembers who are invited to present papers. No member shall be permitted to read more than one submitted paper, but may serve as co-author on other papers.

2. New slide policy—Speakers are encouraged to have slides organized in standard Kodak carousel slide trays and bring these directly to the meeting room at least 10 minutes prior to the beginning of the session. Extra carousels will be available in the meeting rooms and speakers should organize their slides in these at least 10 minutes before the beginning of the session. Also a projection room will be available 8:00 a.m.-5:00 p.m for previewing slides. Be sure to retrieve your slides at the conclusion of the session.

3. Slides are to be made as uncluttered as possible. As a courtesy to color-blind members, try to avoid red and green colors, substituting blue, orange or yellow. LIMIT DATA TO 14 SINGLE SPACED LINES (INCLUDING TITLE) PER SLIDE. Use cardboard mounted 2 x 2 slides only. For additional information refer to "Guidelines for Preparing Slides For Use In Oral Presentations." Bull. Entomol. Soc. Am 23(4): 255.

4. Display Presentation—Keep the display simple. Prepare a label bearing the title of the presentation and the names(s) of the author(s) for the top of your poster space. The lettering should not be less than 25 mm high. All drawings and illustrations should be enlargements readable from a distance of 1 m or more. Bring your own pins. Presentation at this time is 1 hour—subject to change.

5. Time Limits—The 8-minute maximum for the presentation of submitted papers will be enforced. If discussion is desired beyond 2 minutes, presentation time *must* be shortened.

6. The San Diego meeting will be 5 days, Sunday afternoon through Thursday evening. Pre-meeting conferences and post-meeting events will be publicized in the September BULLETIN and the ESA NEWSLETTER.

7. Authors presenting papers that would be of public interest, or of interest to science editors, should prepare 25 copies of a newspaper-type summary of his or her paper and turn it in at the ESA Press Room at the San Diego meeting.



United States
Department of
Agriculture

Science and
Education
Administration

Agricultural Research
Southern Region

Delta States Area
Crop Science and Engineering
Research Laboratory
P. O. Box 5367
Mississippi State, MS 39762

March 24, 1981

SUBJECT: Sources of 1 Oz. Cups

TO: David J. Hoffman
USDA/SEA
P. O. Box A
Bio Control Lab
Columbia, MO 65201

As you probably already know, Thunderbird Inc. in El Paso, TX, folded doors, thus, causing some concern among people who use the 1 oz. clear styrene plastic cups. I have found several sources of 1 oz. cups that I would like to pass on to FRASS members.

1 oz. Clear Plastic Cup Sources	Price/CS of 5m	Cap Size
Fill-Rite Corp. 49-55 Liberty Street Newark, NJ 07102	\$53.75	1.476 poly
Premium Plastics 465 W. Cermak Road Chicago, IL 60616	\$90.00	1.476 poly
Bio-Serv Inc. P. O. Box BS Frenchtown, NJ 08825	\$143.50/5m	1.580 poly

* Prices decrease as quantity goes up.

Also, a new piece of rearing equipment is now available commercially from Starkville Tool and Die (P. O. Box 107 Starkville, MS 39759). It is the 'Insect Dispenser Capper Machine.' This machine was designed from the machine that I modified for infesting diet-filled 1 oz. cups with larvae mixed in corn cob grits and then caps the cups in a continuous process. The machine infests and cages up to 6,000 cups/hour. Four of these machines have been sold and are performing satisfactorily. They cost between \$7-8 thousand dollars each.

I appreciate very much your peer reviewing my manuscript on the southwestern corn borer oviposition cage. I am presently completing a manuscript on the pupal harvester and would like for you to also review it, if possible.

Come see me when you can.

FRANK M. DAVIS

Publications List

1. AUTHOR: Akutsu K; Honda K; Arai S
TITLE: Mass Rearing Method of the Udo Longicorn Beetle
on an Artificial Diet
SOURCE: Jpn J Appl Entomol Zool 24 (2). 1980.
2. AUTHOR: Atkinson, T.H.; Wilkinson, R.C.
TITLE: Microsporidan and Nematode Incidence in Live-Trapped
and Reared Southern Pine Beetle Adults
SOURCE: Florida Entomologist; 1979. 62: 3: 169-175
3. AUTHOR: Baqar S; Hayes C G ; Ahmed T
TITLE: The Effect of Larval Rearing Conditions and Adult
Age on the Susceptibility of Culex
SOURCE: Mosq News 40 (2). 1980.
4. AUTHOR: Besemer, H.A. Soria, S. De J.
TITLE: Laboratory Rearing of Forcipomyia Spp. Midges
SOURCE: Rev Theobroma (revista Theobroma.) Apr/June 1978.
V. 8 (2) P. 43-59.
5. AUTHOR: Brenner R J ; Cupp E W
TITLE: Rearing Black Flies Diptera Simuliidae in a Closed
System of Water Circulation
SOURCE: Tropenmed Parasitol 31 (2). 1980.
6. AUTHOR: Chandler L D; Meyerdirk D E; Hart W G; Garcia R G
TITLE: Laboratory Studies of the Development of the Parasite
Anagyrus-Pseudococci Ed Planococcus-Citri
SOURCE: Southwest Entomol 5 (2). 1980.
7. AUTHOR: Chen Z-H; Chen E-Y; Yan F-S
TITLE: Effects of Diets on the Feeding and Reproduction of
Coccinella-Septempunctata
SOURCE: Acta Entomol Sin 23 (2). 1980.
8. AUTHOR: Dahlman D L; Vinson B
TITLE: Glycogen Content in Heliothis-Virescens Parasitized by
Microplitis-Croceipes
SOURCE: Comp Biochem Physiol A Comp Physiol 66 (4). 1980.
9. AUTHOR: Darsie R F Jr; Lopez G A
TITLE: Studies of Colonization of El-Salvador Strains of
Anopheles-Ennis
SOURCE: Mosq News 40 (2). 1980.
10. AUTHOR: Foott, W. H.; Timmins, P. R.
TITLE: The Laboratory Rearing and Biology of (Coleoptera:
Nitidulidae)
SOURCE: Canadian Entomologist; 1979. 111: 12: 1337-1344

Publication List
Page 2

11. AUTHOR: Griffin J G; Roberson J; Malone O L; Mississippi,
Miss. 39762. USA.
TITLE: Boll Weevil Anthonomus-Grandis-Grandis Development in
Mass Rearing Effects of Temperature
SOURCE: Environ Entomol 9 (1). 1980.
12. AUTHOR: Gusteleva L A
TITLE: Optimization of the Laboratory Rearing of IPS-Subelongatus
Coleoptera Ipidae Larvae on an Artificial Medium
SOURCE: Entomol Rev (Engl Transl Entomol Obozr) 58 (2). 1979.
13. AUTHOR: Harvell, E.H., and J.G. Griffin
TITLE: Facility for Mass Rearing of Boll Weavils
SOURCE: Engineering Aspects. 1981. USDA, SEA AAT-s-19. 77 p.
14. AUTHOR: Hassan, S. A.; Hagen, K. S.
TITLE: A New Artificial Diet for Rearing Chrysopa Carnea Larvae
SOURCE: Zeitschrift Fur Angewandte Entomologie; 1978. 86: 3:
315-320.
15. AUTHOR: Jones R H; Educ. Adm.
TITLE: Colonization of Culicoides-Variipennis-Variipennis From
New York, USA
SOURCE: Mosq News 40 (2). 1980.
16. AUTHOR: Kariappa B K; Narasimhanna M N
TITLE: Effect of Insecticides in Controlling Mulberry Thrips and
Their Effect on Rearing Silkworms
SOURCE: Indian J Seric 17 (1). 1978.
17. AUTHOR: King, E. G.; (and 5 others) (Bioenvironmental Insect
Control Lab. SEA. USDA. Stoneville, MS 38776, USA.)
TITLE: Production of the Tachinid Lixophaza Diatraeae on its
Natural Host.
SOURCE: Advances in Agricultural Technology. Southern Series.
USDA 1979. 3. 16 pp
18. AUTHOR: Klassen, W.
TITLE: Interdisciplinary Programs in Insect Mass Rearing and
in Insect Population Management
SOURCE: Proceedings of an ESA Symposium: Entomology-Engineering
Thrusts - Past. Present and Future; Bulletin of the
ESA; 1978. 24: 1: 63-71; EN
19. AUTHOR: Koyama K; Mitsuhashi J
TITLE: Rearing of the White-Backed Planthopper on a Synthetic
Diet
SOURCE: Jpn J Appl Entomol Zool 24 (2).
20. AUTHOR: Louveaux A; Mainguet A M; Gillon Y
TITLE: Feeding Locusts on Freeze Dried Plants a New Rearing
Method for Herbivorous Insects
SOURCE: Entomol Exp Appl 27 (3). 1980.

21. AUTHOR: Moore R F
TITLE: Dispenser of Laboratory Diet Into Multiple Rearing Containers
SOURCE: J Econ Entomol 73 (3). 1980.
22. AUTHOR: Muraleedharan, D.; Prabhu. V. K. K.
TITLE: Effect of Quality of Food on Midgut Invertase Activity in the Red Cotton Bug
SOURCE: Indian Journal of Experimental Biology; 1979. 17: 11: 1262-1263; EN
23. AUTHOR: Nagarkatti S
TITLE: Experimental Comparison of Laboratory Reared vs. Wild Type Trichogramma
SOURCE: Entomophaga 24 (4). 1979
24. AUTHOR: Ocio, E.; Vinaras, R.; Rey, J. M.
TITLE: House Fly Larvae Meal Grown on Municipal Organic Waste as a Source of Protein ETS.; (EN;)
SOURCE: Animal Feed Science and Technology; 1979. 4: 3: 227-231.
25. AUTHOR: Palmer M
TITLE: Rearing Tiger Beetles in the Laboratory
SOURCE: Cicindela 11 (1)
26. AUTHOR: Poonia F S
TITLE: Studies on Food Utilization and Rate of Growth During the Developmental Stages of Silkworms RM Philosamia-Ricini Lepidoptera
SOURCE: Indian J Seric 17 (1). 1978
27. AUTHOR: Rohrmann G F; Rossman A Y
TITLE: Nutrient Strategies of Isoptera Termitidae
SOURCE: Pedobiologia 20 (2). 1980.
28. AUTHOR: Russell R C
TITLE: Influence of Some Environmental Factors on the Development of Anopheles During Development of Immature Stages on Adult Fecundity
SOURCE: Gen App Ent 11 (0). 1979.
29. AUTHOR: Sandhu G S; Varma G C
TITLE: Control of an Infestation by the German Cockroach Blattella-Germanica in a Parasite Rearing Laboratory
SOURCE: Int Pest Control 22 (3). 1980.
30. AUTHOR: Sarkisov R N; Sarkisyan S M
TITLE: Breeding of Homoptera Coccoidea Under Artificial Conditions
SOURCE: Biol ZH Arm 32 (3). 1979.

Publication List
Page 4

31. AUTHOR: Savage K E; Lowe R E; Bailey D L; Dame D A; ES.
TITLE: Mass Rearing of Anopheles-Albimanus
SOURCE: Mosq News 40 (2). 1980.
32. AUTHOR: Sherlock, P.L.
TITLE: A Method for Mass-Rearing the Cutworm *Agrotis Segetum*
in the Laboratory
SOURCE: Entomologia Experimentalis Et Applicata; 1979. 26: 3:
245-251
33. AUTHOR: Williams D F; Lofgren C S; Lemire A
TITLE: A Simple Diet for Rearing Laboratory Colonies of the Red
Imported Fire Ant
SOURCE: J Econ Entomol 73 (1). 1980.
34. AUTHOR: Yazlovetskii I G; Mencher E M; Nepomnyashchaya A M;
Sumenkova V V
TITLE: New Approach To Developing Artificial Nutritive Media
For Mass Cultivation of Entomophagous Insects
SOURCE: Izv Akad Nauk Mold Ssr Ser Biol Khim Nauk 0 (1). 1979.

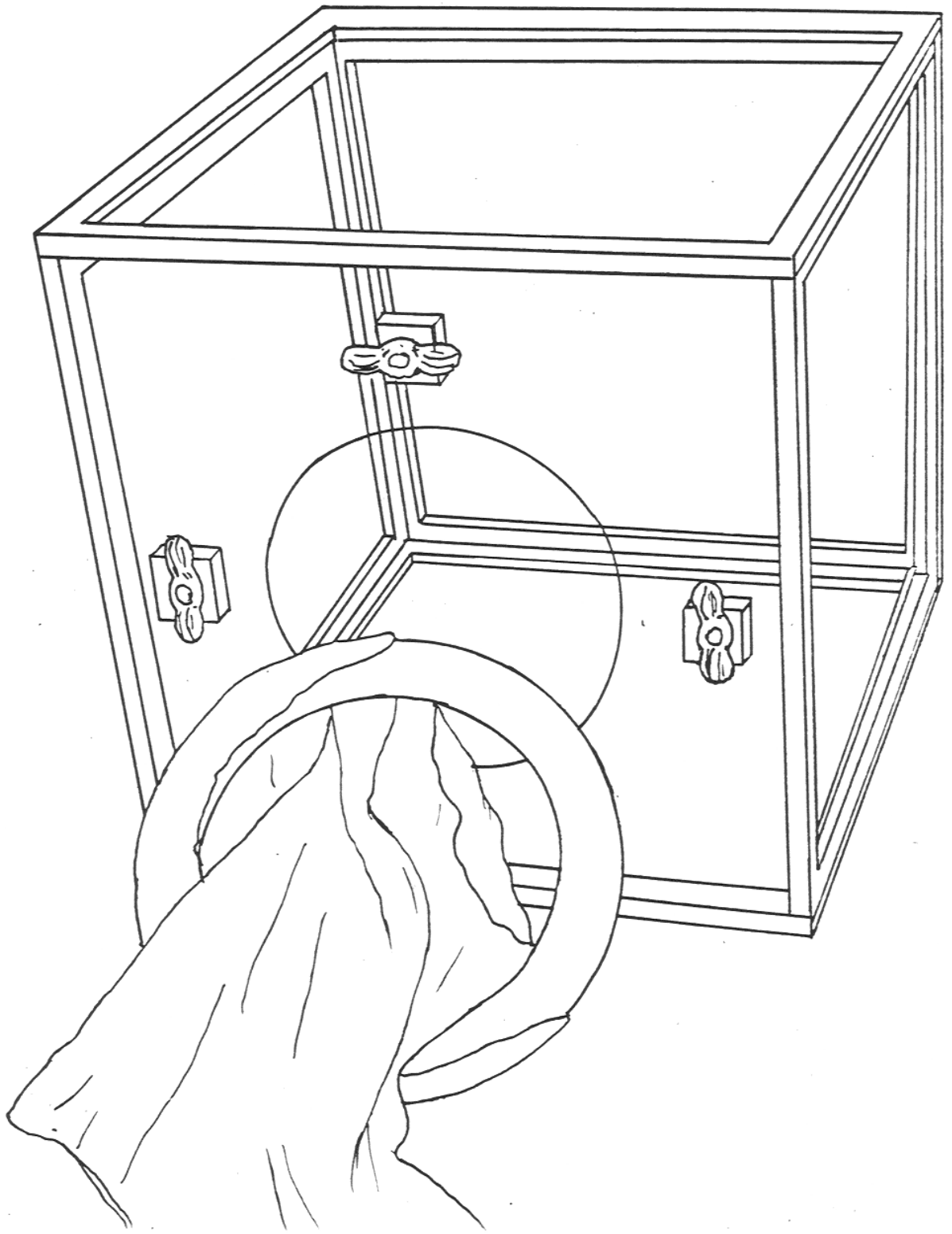
A New Technique for Attaching Cloth Closures to Insect Cages

Sam Coniglio and Richard Guy

USDA - SEA

Insect Attracts, Behavior & Basic Biology Research Laboratory
Gainesville, Florida 32604

The cloth sleeves customarily used as closures for insect cages often are difficult to clean or replace (see Entomological Techniques, A. Peterson, 1964 edition, plate 159). Consequently, various gadgets and mounting devices have been developed to facilitate their removal. One of the most common practices is to position one end of the cloth sleeve beneath a frame bolted to a removable side of the cage. Because of minor differences in fabrication, both the frame and side must be uniquely aligned and fitted to each cage. This requires careful labeling and all of the parts must be arranged before assembly. Moreover, positioning the bolts and wingnuts is a tedious and time-consuming task. Therefore, a new method has been devised using orthopedic stockinette^R supported by a plexiglass frame held in place by turn bottoms (see figure). If the cage must be cleaned frequently, this is vastly more efficient than previous techniques.



DIET INGREDIENT-CONTAINER SOURCE AND PRICE LIST

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>Cost</u>
Agar	fine	Morehead & Co. 14801 Oxnard St. Van Nuys, CA 91401 8-213-873-6640	\$8.45/lb. They pay shipping on 200 lb. or more
Alfalfa	meal	Nutrilite Products P.O. Box 98 Lakeview, CA 92353 714-521-3900	*\$55.00/cwt
Aureomycin	chlorotetracycline soluable powder 64 g/lb (25.6 gm act./6.4 oz. pkg)	Ozark Supply Co. American Cyanamid 1614 Wyoming Kansas City, MO 816-229-6100	*\$2.55/6.4 oz.
Alphacel #900453	non-nutritive, bulk	Nutritional Biochemicals Inc., 26201 Miles Road Cleveland, OH 44128 216-662-0212	\$110.00/cwt
Ascorbic Acid		Roche Chemical Division Hoffman-LaRoche, Inc. Nutley, NJ 07110 201-235-5000	\$4.56/lb in * 1-5 lb quant. \$4.31/lb in 6-10 lb quant. \$4.08/lb in 11-25 lb quant.
Calcium alginate	Kelgin HV	Kelco Co. 20 N. Wacker Drive Chicago, IL 60606 312-372-1352	\$212.00/cwt
Gelcarin	HWG	Marine Colloids, Inc. 2 Edison Place Springfield, NJ 210-379-6620	*\$5.00/lb under 200 lbs. \$3.75/lb in 200- 800 lb. quant. \$3.25/lb in 800- 1000 lb quant. (50 lb min. odr.)
Casein	loctic, 30-40 mesh	National Casein Co. 601-W. 80th St. Chicago, IL 60620	\$1.54/lb. 25 kg bag (55 lb)
CSM		Krause Milling Co. 4222 W. Burnham St. P.O. Box 1156 Milwaukee, WI 53215 414-272-6200	exact price unavailable

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>Cost</u>
ETOH	190 proof	U.S. Industrial Chem. Co., Box 7157 Louisville, KY 40207 502-426-6100	\$189.75/55 gal. drum
Formaldehyde F-78-p	40%	Fisher Scientific 1241 Ambassador Blvd. St. Louis, MO 63132 314-991-2400	\$25.65/20 l. poly pac GSA contract \$21.40/ 5 gal others
KOH 50-P-236	45%	Fisher Scientific	\$64.80/ 20 l. poly pac GSA contract \$40.50/5 gal others
Linseed Oil 8010-00-656-1639	raw	GSA	\$30.00/5 gal *
Methyl-P	methyl-para hydroxybenzoate, technical	Tenneco Chemicals, Inc. Organics & Polymers Div Turner Place, Box 365 Piscataway, NJ 08854 201-981-5000	\$3.07/lb in * 100 lb. quant. \$3.17/lb in 50 lb quant. \$3.27/lb in 25 lb quant.
Paper towels (rolls)		GSA 8540-00-291-0391 (25 rolls/case)	\$17.30/cs.
Pinto beans	whole	Bemhem & Co. c/o South Western Sales Assoc. P.O. Box 2948 Jacksonville, FL 32203 904-356-8535	\$19.05/cwt *
Potassium Sorbate, powder	Sorbistat K	Pfizer Corp. 6460 W. Courtland St. Chicago, IL 60635 c/o J.M. Dugger, Res. Mgr. 312-381-9500	\$240.00/cwt *
Salt mix (W)	Wesson	ICM Pharmaceuticals 26201 Miles Cleveland, OH 44128 216-831-3000	\$10.05/5 lb * \$34.75/25 lb
Soy Protein	Supro 610 100 mesh	Ralston Purina Co. Checkerboard Square St. Louis, MO 63188 314-982-0111	\$.74/lb * Min. 50 lb.

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>Cost</u>
Tenox	PG	Eastman Chemical Prod. Inc., Order Service Kingsport, TN 37662 615-246-2111	\$8.95/5 lb *
Vitamin Pre-mix	#26862	Roche Chemical Div. Hoffman-LaRoche, Inc. Nutley, NJ 07110 210-235-5000	\$3.349/lb
Wheat germ	raw	Earthwonder 1735 E. Trafficway Springfield, MO 65802	.732/lb
Wheat germ	toasted, regular toasted, flaked use flaked	Kretchmer Products Inter. Multifoods Corp. 1200 Multifoods Bldg. Minneapolis, MN 55402 612-340-3300	\$.50/lb *
Wheat germ	raw (flaked)	Niblack Foods 555 Flint St. Rochester, NY	\$39.50/cwt \$.3525/lb 2000 lb lots
Yeast-torula		St. Regis Paper Co. Lake States Division 603 W. Davenport St. Rhineland, WI 54501 715-369-4100	\$.34/lb * in drum \$.32/lb in sack
<u>Containers & Other Supplies</u>			
Cups-plastic	1 oz.	Thunderbird Container Corp. P.O. Box 12033 El Paso, TX 79012 915-584-1151	\$33.85/5000 * (case)
Lids - 1 oz.	paper (press in) 1.476 diam.	Standard Cap & Seal P.O. Box 80336 Chamblee, GA 30341 404-457-6332	\$20.00/10,000 *
Tray	50 cell #J-2	Trend Mfg. of America 1663 N. McDuff Ave. P.O. Box 6915 Jacksonville, FL 32205 904-388-6525	\$63.15 * 1 case = 500 trays
Mylar	lidding for 50 cell tray	Champion Package 15 Spinning Wheel Road Hensdale, IL 60521	\$1.60/roll (4500 ft)

<u>Item</u>	<u>Description</u>	<u>Source</u>	<u>Cost</u>
Assorted Paper towels		Scott Paper Co. Bob Shell, Production Manager Scott Plaza Philadelphia, PA 19113	\$17.42/30 unit * case (25 case minimum)
** Cell-Pac (CP-25)	Autoclavable holders for Thunderbird 1 oz. cups	Diamond National P.O. Box 697 Phoenix, AZ 85001	\$40/case * (200 pks/case)
Choline Chloride	Crystals	ICM Pharmaceuticals 26201 Miles Road Cleveland, OH 44128	\$2.30/200 gm * bottle
Hexcell	Expanded resin-coated honeycomb HRH-10	Hexcell Corp. * 6151 W. Century Blvd. Suite 1114 Los Angeles, CA 90045 213-776-8740	

*Last year's price. 1981 cost information unavailable

**Diamond will no longer be manufacturing this item. Bio Quip Products is considering buying up the supply and the mold, if a need for this product can be established. If you need this product to remain available, please contact Clark Johnson of Bio Serv at (201) 996-2155.

REQUESTS, COMMENTS, AND FRASS

The Senior Scientist in the Ethology Department at the University of Leiden sent in a request for sources of three parasitic wasps:

Neocatolaccus mamezophagus, a pteromalid parasite of weevils

Heterospilus prosopoidis, a braconid parasite of granary weevils

Melittabia chalybii, an eulophid parasite of solitary wasps and bees

You can contact him at Zoologisch Laboratorium der Rijk univeriteit Leiden Kaiserstraat 63, Post bus 9516, 2300 RA, Leiden Nederland.

The shortest poem in the world is titled "Fleas", author unknown:

FLEAS

Adam

Had'm

Stephen Cornes of the Green Lacewing Lab in Winton, CA, wants the newsletter to continue using the Logo designed by Lockley. Any more opinions?

Notice of another newsletter! Women interested in receiving "Women in Entomology" should contact:

Diane M. Calabrese, PhD
Dept. of Biology, Trinity College
Washington, D.C. 20017

From the writer Don Marquis (who collected the literary typings of the cockroach, archy)

"the centipede adown the street
goes braggartly with scores of feet
a gaudy insect but not neat"