

ASSOCIATION NEWS

MINUTES OF THE 20TH ANNUAL MEETING OF THE AMERICAN MOSQUITO CONTROL ASSOCIATION

CHICAGO, ILLINOIS, MARCH 1-4, 1964

REPORTS OF OFFICERS AND COMMITTEES

REPORT OF THE PRESIDENT

March 1, 1964

This past year was begun with the Association at a new low in membership and subscriptions as the result of the increase in dues which had become effective the first of the year. During recent months, however, signs of recovery have been most encouraging. New accounts are running ahead of requested cancellations, and advance payments for 1964 exceeded those of 1963. Not until this coming June will we know just how well we have fared.

A number of letters and memoranda have gone out from the President's office to the Board requesting action on matters of importance to the Association. Other communications were directed to Committee Chairmen. As a result of Board action to drop unpaid 1963 accounts with the June issue of *Mosquito News*, nearly 200 copies of our journal were saved. The decision was likewise made to initiate spine binding of *Mosquito News* with the first issue of Volume 24. Still other Board action has enabled us to proceed with arrangements to reproduce missing numbers of our journal economically to meet the continuing demand which has been excellent this past year. All funds in the Miscellaneous Publications Account were transferred to the Savings Account to increase our income.

A special committee under the chairmanship of Dick Peters spelled out specific duties and responsibilities for the Regional Directors. This plan, which

was approved by the Board, for the first time converts the title of Regional Director from simply an honorary one to that of a service responsibility. Acting as a "one-man committee," Rollie Dorer accepted the gigantic and important task of developing a plan for expanding the activities and services of the American Mosquito Control Association. The comprehensive product of his labors lays the groundwork for definitive action for Association growth.

In addition to Bob Hedeem's Miscellaneous Publications Committee, previously designated to revise Bulletin No. 1, another committee under the chairmanship of Helen Louise Durkee was appointed to rewrite Bulletin No. 3. Also, Jack Rogers has accepted the chairmanship of a committee to revise Bulletin No. 2.

The Association was involved with two NIH grant applications during the year. In the first instance, we agreed to have an NIH grant administered through us to Dr. Luis Vargas for the publication of an extensive manuscript. Later, Dr. Vargas was notified that his application was not approved. Bill Bickley was appointed chairman of a committee to prepare an application to the NIH, requesting funds for travel of some AMCA members to the XIIth International Congress of Entomology which is to be held in London next July. This application was not approved.

Very recently, and with Board approval, Tommy Mulhern was appointed chairman of the Harold Farnsworth Gray Memorial Award Committee. This Committee has as its first responsibility the selection of a candidate for the 1964 award.

The President had the privilege of providing assistance in the name of the Association to individuals in Mississippi interested in organizing a three-county district, and requested assistance from the Board in locating a qualified director. This district is now in operation.

It was a distinct pleasure to act as one

of the official delegates of the AMCA (along with Fred Bishopp and Tony Brown) to the VIIIth International Congress of Tropical Medicine and Malaria, which met in Rio de Janeiro this past September. A substantial part of the program was provided by AMCA members.

I have very much enjoyed serving the Association this past year and wish to take this opportunity to express my sincere thanks to all of the officers, committees and other members who have given so unselfishly of their time and talents.

DON W. MICKS

REPORT OF THE BYLAWS COMMITTEE

The Bylaws Committee unanimously approves and recommends the following changes in the Bylaws of the AMCA, for the reasons stated:

PROPOSED CLARIFICATIONS IN THE Association Bylaws

Article III, Section 1, paragraph b: Change the word "Treasurer" to "Executive Secretary." Since all other funds are routed through the Executive Secretary's office before deposit by the Treasurer, bookkeeping would be more orderly if Life Membership payments went through the same channels.

Article III, Section 1, paragraph c(4): Change the words "a national" to "an annual." AMCA has grown beyond national boundaries.

Article IV, Section 2, paragraph a: Change "said director not to succeed himself for more than one term" to "with tenure limited to two consecutive terms." The males may dominate the group but women are nice to have around. There is a member of the fair sex on the Board now.

Article IV, Section 1, Regions: Substitute numbers (1) to (10) in lieu of the letters (a) to (j).

Proposals to define which states should be in the various regions created such a preponderance of suggestions—such as cutting the regions to six or eight; making eleven regions; having the regions divided on a basis of membership rather than location—that it is the recommendation of this Committee that any definite changes in the

components of the regions be a consideration of the 1964 Bylaws Committee.

Article IV, Section 2, paragraph b: Change "at least three blank spaces" to "a blank space." Only one office is up for consideration, and a member has only one vote.

Change "outgoing Regional Director" to "incumbent Regional Director." The present wording puts the director finishing a first term in an awkward position.

With respect to Jack Kimball's suggestion that Regional Directors be selected, eliminating the necessity of an election, the majority of this Committee recommends no change of this section in the present Bylaws.

Article V, Section 1, paragraph c: Change "by appointment by action of the" to "by the." The present wording takes up a lot of superfluous space.

Article XI, Section 2: Add the word "present" after "membership." Getting three-fourths of the membership to even vote on anything would be impossible. I am sure the intent was for voting by three-fourths of the members present at a regular business session.

Respectfully submitted,

E. CHESTER, ROBINSON, *Chairman*,

MEL WILLIAMS

JOHN PRITCHARD

FRANKLIN WRAY

CHRIS WILLIAMSON

GEORGE KNOWLTON

REPORT OF TREASURER
 AMERICAN MOSQUITO CONTROL ASSOCIATION, INC.
 METUCHEN, NEW JERSEY
 SUMMARY OF CASH RECEIPTS AND DISBURSEMENTS
 TREASURER'S ACCOUNT
 Year Ended December 31, 1963

RECEIPTS	Checking Accounts General Account	Special Publications	Savings Account #19400
Balance on deposit—January 1, 1963			
Dues	\$12,442.59	\$ 6,118.34	\$6,360.36
Advertising	2,870.43		
Back issues	718.50		
Reprints	1,879.41		
Good Neighbor Club	541.00		
Sale of pins	3.00		
Special publications	50.06		
Refund—excess printing costs	351.00	122.00	4.00
Exchange—Wildlife Proceedings	20.00	18,875.99	
Transfer from Special Publications Account			681.50
Interest credited			192.23
	24,994.33	681.50	7,238.09
DISBURSEMENTS			
Printing of <i>Mosquito News</i>	\$11,393.01		
Mailing charges— <i>Mosquito News</i>	376.29		
Reprints	1,317.11		
Other postage expense	71.64		
Office supplies and expenses	561.54		
Fidelity bonds	86.47		
Traveling expenses	600.00		
Examination of Treasurer's records	125.00		
Executive Secretary's salary	1,200.00		
Clerical services—Editor	400.00		
Honorarium	150.00		
Miscellaneous expenses	85.76		
California Sales tax	17.08		
Exchange—Wildlife proceedings	20.00	16,403.90	
Transfer to savings account		681.50	
Balance December 31, 1963 (on deposit—Commonwealth Bank of Metuchen, Metuchen, New Jersey)	\$8,590.43	0	\$7,238.09

NOTE: On August 21, 1963 the Special Publications Account was closed and all subsequent transactions were reflected in the General Account.

REPORT OF EDITOR OF MOSQUITO NEWS

The statistics presented in the accompanying tables reveal no unusual trends. The total number of pages is less in Vol. 23 than in Vol. 22 because the responsibility for printing the *Proceedings* papers (papers presented at the annual meeting), was assumed by the New Jersey Mosquito Extermination Association, which agreed to incorporate them in their Golden Anniversary volume. The total cost of Volume 23 of *Mosquito News* is correspondingly less, since the cost of printing the proceedings papers, which is ordinarily underwritten in part by contributions from the host association, was in this instance absorbed by the New Jersey Association. The total budget for *Mosquito News* as planned in advance for the fiscal year just passed was therefore less than the previous year, and was slightly less than adequate.

TABLE 1. Comparison of statistics on Vols. 22 and 23.

	No. of pages	
	Vol. 22 (1962)	Vol. 23 (1963)
Proceedings	40½	*
Articles	259¾	262
Operational N.	7	6¼
Scientific N.	14	11¼
Editorial	3¼	1
Assoc. News	28	26
News & Notes	20¼	19¼
Rev. & Abstracts	3	1
Bibliography	35¾	36
Advertising	79	71
Miscellaneous	7	6¼
Total	500	440

* Proceedings papers printed with those of New Jersey Mosquito Extermination Commission Annual Meeting for 1963.

TABLE 2.—Statistics on Vol. 23, nos. of pages.

	Arti- cles	Oper. N.	Sci. N.	Edi- torials	Assoc. N.	N. & N.	R. & A.	Bibli- ography	Adv.	Misc.	Total
March	48	1¾	¼	5	1	8½	16	3	84
June	91	½	6	..	21	3½	..	9½	19	1	152
Sept.	59	1	3	1	3	5	..	9¼	18	¾	100
Dec.	64	3	2	..	2	5¾	..	8¾	18	½	104
	262	6¼	11¼	1	26	19¼	1	36	71	6¼	440

REPORT OF MISCELLANEOUS PUBLICATIONS COMMITTEE

(Project to Re-write AMCA Bulletin No. 1, "The Use of Aircraft in the Control of Mosquitoes")

Several of the members of the Committee met in Atlantic City last year to discuss this project and to prepare a tentative table of contents. As a result of these discussions the following table of contents was prepared.

1. Foreward
2. Introduction
3. Historical Background
4. Advantages and Limitations of the Use of Aircraft
5. Principles of Application
 - A. Planning the Mission
 - B. Selection of Aircraft

- (1) Fixed Wing Aircraft
 - a. Single Engine
 - b. Multi Engine
- (2) Rotary Wing Aircraft
6. Equipment Used on Aircraft in Mosquito Control Operations
 - A. Dispersal Equipment
 - B. Safety Equipment
 - C. Auxiliary Equipment
7. Insecticides Dispersed by Aircraft for Mosquito Control
 - A. Toxicants
 - B. Formulations
 - C. Calibration of Equipment
 - D. Safety

- (1) To Humans
- (2) To Wildlife
- 8. Appraisal of Operations
- 9. Legislation and Legal Aspects
- 10. Public Relations
- 11. Insurance
- 12. Appendix
 - A. List of Agricultural Aircraft Currently Available
 - B. Civil Air Regulations
 - C. List of State Aeronautical Agencies
 - D. Cost Analysis of the Use of Aircraft
 - E. Items to be Included in a Contract
- 13. Advertisements.

Our primary problem then was to secure the services of a qualified author for each of the sections. The cooperation of the individuals contacted was, for the most part, splendid, and by late summer commitments for each of the sections had been secured.

In order that the material presented would be as uniform as possible, an editorial group consisting of D. L. Collins,

K. D. Quarterman, and me was appointed.

By the fall of last year the contributions started coming in, and at the date of this writing we are happy to report that manuscripts have been received for approximately two thirds of the sections. I hope that some of the authors brought their contributions to this meeting.

We are seeking commercial advertisements for the bulletin to partially defray the cost of publication, but no one seems to know what should be charged for this space. It is hoped a decision on this matter can be made at this meeting in order that we may proceed to contact potential advertisers.

Barring unforeseen difficulties, we hope the new Bulletin No. 1 will be in print sometime this year.

Respectfully submitted,
ROBERT A. HEDEEN, *Chairman*

REPORT OF THE MEMBERSHIP COMMITTEE

The purpose of this report is to inform the Board of Directors of the activities of the Membership Committee for the past year, and to comment briefly on the fluctuation in memberships during this period.

When the Association voted to increase dues from five to eight dollars per annum effective January 1, 1963, it was expected that one result of this necessary action would be a decrease in membership. These losses did occur, and the Membership Committee endeavored to counteract by active solicitation of new accounts. This was accomplished primarily by three mailings. The first of these was to the libraries of universities, colleges and junior colleges throughout the United States and Canada. The second was directed to each member of the Association—soliciting his aid in encouraging associates to join with us. The last was aimed at a rather small number of commercial ac-

counts. A sample of each of these mailings is attached.

The effect of the change in our dues structure since its inception is illustrated by the following table:

Date:	Dec., 1962	Dec., 1963	Feb., 1964
Subscriptions:	1,722	1,582	1,646
Net loss:	...	140	76
Percent loss:	...	8.1	4.4
Income:	\$8,080.00	\$11,808.00	\$12,320.00
Net gain:	...	3,728	4,240
Percent gain:	...	46	52

The positive increase of more than fifty percent in income speaks for itself. It is the opinion of this committee that the small numerical loss in membership can be overcome, and we are confident that with the help of each of our members, this will be accomplished during 1964.—

J. W. MILLER

REPORT OF RESEARCH AND DEVELOPMENT COMMITTEE, AMCA FOR 1963

The stabilization of both types of resistance to the chlorinated hydrocarbons in many regions and the undesirability of residues of persistent larvicides for wildlife has stimulated the search for new chemicals in mosquito control; this, therefore, is the subject of the present committee report. In recent years a large number of organophosphorus insecticides have become available, and these have become the principal weapons in California and Florida, while the rise of organophosphorus-resistance in certain species has stimulated investigation of the new group of carbamate insecticides. Moreover the spread of both types of chlorinated-hydrocarbon resistance in anopheline mosquitoes has focussed attention on OP compounds and carbamates as residual adulticides, and on OP compounds as residual fumigants.

Malathion has been in use in California and Florida for over 10 years, being the substitute first chosen wherever the chlorinated hydrocarbons begin to fail (as in certain parts of the Pacific Northwest and Midwest at the present time), because it is safe for the applicator. However, it is unsuitable for large-scale larviciding since its additional cost is not matched by a greater larvicidal potency, applications as high as 0.5 lb./acre being required. Thus more experienced personnel have returned to the cheaper but more hazardous parathion, with application rates in California ranging from 0.05 to 0.1 lb. per acre. The hazard to the applicator and to other forms of life has been reduced by the use of granules containing 5 percent of the

OP compound. Some years ago use was made of EPN (as an emulsion), but this formulation was discontinued. Other OP compounds ranging between malathion and parathion in larvicidal activity and toxic hazard were investigated, such as Chlorthion, diazinon, naled (Dibrom), guthion, dicapthon, ronnel and carbophenothion (Trithion). One to achieve practical use was methyl-parathion, safer than parathion and remaining more effective than parathion against *Aedes nigromaculis* as it became more OP-resistant. Finally the compound fenthion (Baytex, Bayer 29493) is achieving practical recognition because of its high larvicidal potency combined with a modest toxic hazard.

Subsequent testing has revealed Bayer 37343 and compound AC-52160 to be larvicides with 4 times the potency of parathion. The compound Sumithion, with a toxic hazard nearly as low as malathion, has proved almost as larvicidal as fenthion in one set of tests on *C. 5-fasciatus*, but in another investigation on this species and on *A. aegypti* and *A. quadrimaculatus* larvae Sumithion proved to be only one-twentieth as larvicidal as fenthion.

Of the carbamate compounds, the most effective larvicides were Ortho 5353 and Hercules 5727, being of the same order of insecticidal activity as dicapthon or ronnel (LC₅₀ 0.03).

In Florida, the OP compounds are not used as larvicides, and the salt-marsh mosquitoes have not developed OP-resistance. There has been extensive application of

TABLE 1.—The relative larvicidal potencies (as measured by the median lethal concentration in parts per million to *Culex 5-fasciatus*) and toxic hazards (measured by the oral LD₅₀ dose for rats).

	MLC in p.p.m. to C. 5 f. larvae	LD ₅₀ to rats		Larvae	Rats
Parathion	.0045	8	Ronnel	.029	2500
EPN	.0050	28	Chlorthion	.030	980
Fenthion	.0075	310	Diazinon	.033	76
Methyl-parathion	.011	18	Carbophenothion	.070	10
Guthion	.024	13	Naled	.074	430
Dicapthon	.025	475	Malathion	.075	1000

TABLE 2.—The LC₅₀ and LD₅₀ data on the most promising new compounds.

	LC ₅₀ larvae	LD ₅₀ rats		LC ₅₀ larvae	LD ₅₀ rats
Bayer 37343	.0012	14	Sumithion	.0098	670
AC-52160	.0012	360			
Shell SD-7438	.0041	280	Stauffer N-2404	.004	32
Shell SD-7587	.0067	58	Dow K-7229	.01	800
Fenthion (standard)	.0075	310	Bayer 37342	.072	3000+

thermal aerosols containing malathion at a toxicant dosage of 0.1–0.4 lb./acre. More recently naled (Dibrom) has been found effective at one-fifth the dosage, while fenthion (Baytex) has proved effective at an even lower dosage and has received label approval for fogging. In the earlier years, the amount of malathion in the formulation was reduced by one-half by adding Lethane 384; this thiocyanate insecticide has also been employed to enhance malathion as a larvicide in the Sacramento district of California. Other interesting larvicidal materials are 5 percent paris green pellets which have seen use in Florida, and the new insecticide Dimethrin which is as safe to add to drinking water as the pyrethroids to which it is closely related. Laboratory results indicate that DDT-resistant *Aedes aegypti* larvae may be combatted with some success by adding the synergist WARF-Antiresistant, and even more effectively by substituting Deutero-DDT.

In developmental work for the malaria eradication program, where application of the toxicant is made to give a deposit density of 200 mg. per sq. ft. on walls and ceilings, malathion proved to be more effective than diazinon in terms of duration of residual activity. Subsequently, fenthion proved to be not less and often considerably more effective and persistent, but when applied in a large-scale field trial it caused sickness in spray crews and in some of the inhabitants of treated houses. Sumithion proved about as effective as fenthion, and from initial field trials its use in human habitations promises to be much safer. Among the carbamate in-

secticides, Hercules 5727/Union Carbide 10854 showed excellent residual activity against adult mosquitoes, but in limited field trials it caused sickness in the inhabitants of treated houses. Bayer 39007, about one-fourth as toxic as the preceding, proved extremely persistent in staged tests and has given an adequate performance in field trials without producing any ill effects on the inhabitants of treated houses. Sevin which is even safer than B-39007 has shown adequate residual activity in tests with mosquitoes caged on treated surfaces but has performed very erratically against wild mosquito populations. The substitution for residual spraying of a new system of residual fumigation with dichlorvos (DDVP) gradually volatilizing from a small dispenser suspended from the roof or ceiling has given effective results when used at the rate of one dispenser per 165–500 cu. ft.

In initial operations for the control of *Culex fatigans*, the vector of filariasis, use has been made of malathion, diazinon and more recently fenthion. It is against this disease, which is becoming increasingly prevalent in the cities of the tropics, that North American experience in developing new larvicides can make its greatest contribution to the world at large.

A. W. A. BROWN, *Chairman*
 J. B. GAHAN,
 D. M. JOBBINS,
 J. B. KITZMILLER,
 R. L. METCALF,
 K. D. QUARTERMAN,
 A. J. ROGERS,
 H. F. SCHOOF,
 C. N. SMITH

MINUTES OF THE 20TH ANNUAL MEETING

March 4, 1964

The annual business meeting of the American Mosquito Control Association was held in the Great Hall of the Pick Congress Hotel, Chicago, Illinois, at 8:15 a.m. on March 4, 1964, with approximately sixty-five in attendance.

President Don Micks presented a report of activities of the American Mosquito Control Association during the past year. The treasurer, Lester Smith, presented a treasurer's report orally, and referred the membership to the detailed report to be published in *Mosquito News*. Editor Don Collins gave a brief report on the publication of *Mosquito News*; summarizing the full report presented to the Board of Directors. Wayne Miller, chairman of the membership committee, gave a brief report and solicited the help of all present in securing new memberships. A report of the Research and Development Committee was presented by A. W. A. Brown.

The membership was advised by the Secretary that George H. Bradley had been properly nominated for honorary membership in the Association. A motion to elect Dr. George H. Bradley to honorary membership was made by John A. Mulrennan, seconded by W. E. Bickley, and carried unanimously.

Thomas D. Mulhern, chairman of the Harold F. Gray memorial awards, presented the following resolution:

THE AMERICAN MOSQUITO CONTROL ASSOCIATION,
INC. RESOLUTION TO ESTABLISH A MEMORIAL
CITATION AWARD FOR MERITORIOUS
SERVICE TO MOSQUITO CONTROL

WHEREAS: Harold Farnsworth Gray, an Honorary Member of this Association, who symbolized and exemplified the highest order of devoted and responsible public service, and

WHEREAS, his published contributions to mosquito control were many, including co-authorship of "Mosquito Control" (Hermis & Gray), the most prominent work in this field, and

WHEREAS, he characteristically extended invaluable professional and technical advice and information to his contemporaries, often at considerable personal effort and expense, and

WHEREAS, he epitomized the disappearing American known as "The Rugged Individualist,"

and was a living example of intellectual independence and honesty in public service, and

WHEREAS, the outstanding services to this Association and the field of mosquito and related vector control are largely performed by the kind of individual reflecting the philosophy and selfless generosity of HAROLD FARNSWORTH GRAY,

NOW, THEREFORE, BE IT RESOLVED, that the American Mosquito Control Association, Incorporated, does hereby establish a memorial citation award, to be presented to an active member for exceptional service to the Association, and to mosquito or related vector control in 1964, to be designated as a living memorial to HAROLD FARNSWORTH GRAY,

AND BE IT FURTHER RESOLVED, that a copy of this resolution, with a copy of the citation, be sent to Mrs. Gray.

Mr. Mulhern moved adoption of the resolution, as read. This motion was seconded by John A. Mulrennan, and carried by a unanimous vote. Mr. Mulhern immediately read a citation to Dr. Fred Corey Bishopp for the year 1964, as follows:

THE HAROLD FARNSWORTH GRAY CITATION FOR MERITORIOUS SERVICE TO MOSQUITO CONTROL IS AWARDED BY THE AMERICAN MOSQUITO CONTROL ASSOCIATION, INCORPORATED TO FRED COREY BISHOPP, PH.D.

Who has devoted his entire professional career of some fifty years to Science, principally in the field of Entomology, of which the elimination or control of mosquitoes and other bloodsucking arthropods for the protection of man and animals has been a tremendously important part. He was President of this Association in 1953, and for many years before and since, his wise counsel has been of inestimable value to the Association.

His contributions to the science and practice of mosquito control have been many. His formal papers include a wide variety of subject matter in this field, and his voice in the informal discussions among the membership has been a source of continuous inspiration and guidance. He has ably represented mosquito control to other scientific societies, in many of which he is or has been a respected officer, and he has most ably fostered the ideals of the American Mosquito Control Association within the United States Government, wherein he long held most important positions in the Department of Agriculture as Chief of the Division of Insects Affecting Man and Animals, and Chief in Charge of Research, of the former Bureau of Entomology and Plant Quarantine, until his retirement.

Presented March First, at the 1964 Annual

Meeting of The American Mosquito Control Association, Incorporated, at Chicago, Illinois.

The Resolutions Committee chairman, L. E. Hagmann, offered the following resolutions:

During the past year, we have lost through death, the friendship and professional contributions of some of our co-workers and Association members.

THEREFORE BE IT RESOLVED: That we record our sorrow over this loss and express our respect by observing a few moments of silence.

BE IT RESOLVED: That the American Mosquito Control Association express its appreciation to the officers and members of the Illinois Mosquito Control Association for the excellent arrangements and stimulating program that has made this joint meeting a memorable occasion.

BE IT RESOLVED: That we express our appreciation to the personnel of the Pick Congress Hotel for their cooperation in extending their splendid facilities for this joint meeting.

BE IT RESOLVED: That the American Mosquito Control Association commend the commercial exhibitors for their participation in this Convention.

Dr. Hagmann moved for adoption of the above resolutions. This motion was seconded by John A. Mulrennan, and carried.

President Micks requested approval from the Association of actions taken by the Board of Directors during the past year. Upon motion of A. W. Buzicky, seconded by J. A. Mulrennan and J. G. Foyle, this request was approved with no dissenting votes.

President Micks read a resolution regarding *Aedes aegypti* which has been adopted by the Entomological Society of America, as follows:

WHEREAS the United States Public Health Service has been delegated to eradicate *Aedes aegypti* in this country, and

WHEREAS this mosquito has research value in the laboratory quite apart from its destructive disease-vectoring potential in the field, having historically been and continuing to be a superb experimental animal for biochemical, physiological, his-

tological, cytological, genetical and ethological researches, and having, as a consequence, produced an accumulation of knowledge applicable to all phases of culicidology and especially to rapid advance when it is itself the experimental animal, and

WHEREAS it may be that the proposed field eradication program will demand eradication as well of all *Aedes aegypti* laboratory research colonies, and

WHEREAS such action would constitute a calamitous set-back not only to research into the disease-transmission characteristics of this species but to all research into the biology of mosquitoes and into the epidemiology and control of mosquito-borne diseases, now therefore

BE IT RESOLVED that a committee of the Entomological Society of America be appointed to devise plans and proposals for the protection of laboratory research colonies of *Aedes aegypti* compatible with nation-wide eradication, and

BE IT FURTHER RESOLVED that this Committee shall discuss such plans and proposals with the proper and responsible authorities of the United States Public Health Service and work with them toward satisfactory implementation, and

BE IT FURTHER RESOLVED that copies of this resolution be dispatched at once to the Surgeon General of the Public Health Service, to the American Society of Tropical Medicine and Hygiene, and to the American Mosquito Control Association.

This resolution was passed without dissent at the final business meeting of the Tenth Annual Meeting of the Entomological Society of America, St. Louis, Missouri, on 5 December 1963. It was also passed without dissent by Section D (Medical and Veterinary Entomology) of the E.S.A. on the same date.

George B. Craig moved that the American Mosquito Control Association endorse the resolution as presented. This motion was seconded by W. E. Bickley, and carried with one dissenting vote.

In presenting the secretary's report, Ted Raley advised the group that all missing back issues of *Mosquito News* are now available at a cost of \$10.00 a volume, or \$2.50 for a single issue. He also issued a call for all membership application forms carrying the \$5.00 dues rate to be destroyed. The secretary gave a brief report for the Good Neighbor committee, in which he advised that Good Neighbor membership had dropped from 102 to 64 in the past year.

The results of the election of officers for

the ensuing year were presented, as follows:

- John A. Mulrennan, President
- Dr. A. W. A. Brown, President-Elect
- Jay E. Graham, Vice-President
- T. G. Raley, Executive Secretary
- Lester W. Smith, Treasurer
- T. W. Miller, Jr., Recording Secretary

President Micks asked that Past Presidents Daniel Jobbins and A. D. Hess escort Jay E. Graham, Vice President, to the front of the room. He then requested Past Presidents Bob Vannote and Lester Smith to escort President-Elect A. W. A. Brown forward, and lastly, requested Past Presidents W. E. Bickley and A. W. Lindquist to escort President John A. Mulrennan to the rostrum, where he was pre-

sented with the gavel of his office. President Mulrennan expressed his appreciation to the Association for elevating him to the office of President, and spoke briefly on his plans for the coming year.

Past President W. E. Bickley, substituting for Past President Art Geib, read a citation for Retiring President Don Micks for his sincere efforts in carrying forward the work of the Association during his term of office, and presented Dr. Micks with a Past President's lapel pin. President Micks acknowledged the citation with thanks, and at this point the meeting was adjourned.

Respectfully submitted,
 T. W. MILLER, JR.
Acting Recording Secretary

MINUTES OF THE BOARD OF DIRECTORS MEETING OF THE AMERICAN MOSQUITO CONTROL ASSOCIATION March 4, 1964

The first meeting of the 1964 Board of Directors of the American Mosquito Control Association was held in the Plaza Room of Pick Congress Hotel, Chicago, Illinois, at 4:30 p.m. on March 4, 1964, with President J. A. Mulrennan presiding. Those present included:

- | | |
|---------------------|-------------------|
| A. W. A. Brown | William S. Murray |
| Albert W. Buzicky | Lewis T. Nielsen |
| Oscar W. Doanc, Jr. | Robert Ostergaard |
| R. E. Dorer | T. G. Raley |
| J. G. Foyle | Andrew J. Rogers |
| A. F. Geib | J. A. Shemanchuk |
| Jay E. Graham | Harry T. Smith |
| T. W. Miller, Jr. | Lester W. Smith |
| Thomas D. Mulhern | |

President Mulrennan advised the Board that the North Pacific Region had not properly selected a Regional Director for that area, and recommended that Gaines W. Eddy, Post Office Box 332, Corvallis, Oregon, be appointed by the Board to fill this vacancy. Approval of this appointment was moved by Lester W. Smith, seconded by A. F. Geib, and passed with no dissenting votes. Therefore, Mr. Gaines W. Eddy will serve as Director for the North Pacific Region for the ensuing two-year term.

In considering a vacancy for the region of Mexico, Carribean, Central & South America, it was recommended that Dr. Solon De Camargo be appointed by the Board. Approval of this appointment was moved by A. F. Geib, seconded by A. W. A. Brown, and approved with no dissenting votes.

On motion by A. W. Buzicky, seconded by J. A. Shemanchuk, Ted Raley was reappointed Executive Secretary for the ensuing year.

Travel allowances for the 1965 meeting in Tampa were requested, as follows:

Executive Secretary	\$300.00
Treasurer	150.00
Editor	150.00
Advertising Manager	150.00

J. G. Foyle moved that the travel allowances requests be approved as presented. This motion was seconded by A. F. Geib, and approved unanimously.

On motion of T. D. Mulhern, and seconded by Robert Ostergaard, Harry T. Smith was approved to serve the Association as Assistant Treasurer during the ensuing year.

It was recommended that the Board approve publication of the 1964 proceedings in *Mosquito News*, and that funds be made available to include publication of all symposium papers presented, subject to the approval of the Editorial Board. A motion to approve this recommendation was made by J. G. Foyle, seconded by A. J. Rogers, and carried with no dissenting votes.

A motion to authorize the Executive Secretary to drop from the mailing list after the June issue, any member delinquent in the payment of dues, was made by A. W. Buzicky, seconded by J. G. Foyle, and carried.

President Mulrennan offered the following committee appointments for the Board's approval:

Approval of these appointments was moved by Lester Smith seconded by Joe Shemanchuk and carried.

A special committee to define the future of memorials and awards by the Association and to make recommendations to the President, was appointed as follows:

T. D. Mulhern, Chairman, California
 R. L. Armstrong, Massachusetts
 Glen Collett, Utah
 R. E. Dorer, Virginia
 Archie D. Hess, Colorado
 A. W. Lindquist, Kansas
 William E. Reeves, California
 Lester W. Smith, New Jersey
 Fred Stutz, Florida

If the committee determines that it is advisable to continue a program of memorials and awards, and so recommends to the President, a committee will be appointed to select recipients of future awards at that time.

President Mulrennan advised the Board

that he planned to prepare an appropriate letter to Don Collins' superior as an expression of appreciation for Don's many services to the Association during the year.

The Executive Secretary was instructed to prepare an appropriate letter of sympathy to Mrs. Roy Holmes, wife of Trustee Roy Holmes, expressing the Association's appreciation for his many years of service prior to his death.

President Mulrennan reported that arrangements have been made for the 1965 meeting of the American Mosquito Control Association at the Floridan Motor Hotel, Tampa, Florida, on March 14-17, 1965, and requested approval of these arrangements. A motion to approve this request was made by Joe Shemanchuk, seconded by J. G. Foyle, and carried. On motion of A. W. A. Brown, seconded by Joe Shemanchuk, the Board recommended to a subsequent Board that Savannah, Georgia, be considered for the 1966 meeting. On motion of Lester W. Smith, seconded by Al Buzicky, the Board endorsed a recommendation to a subsequent Board that the 1967 meeting of the Association be held in California.

The Executive Secretary was instructed to prepare a letter of appreciation to Dr. Ernestine Thurman for her service to the Association as Recording Secretary for the past several years.

There being no further business, the meeting was adjourned.

Respectfully submitted,
 T. W. MILLER, JR.
 Recording Secretary

COMMITTEE APPOINTMENTS FOR 1964

Editorial Staff, Mosquito News

Donald L. Collins, Editor, New York
 State Education Building, Albany 1,
 New York

Helen Sollers-Riedel, Associate Editor,
 P. O. Box 19009, Washington, D. C.

William McDuffie, Associate Editor,
 Entomology Research Branch, Plant

Industry Station, Beltsville, Maryland
 Helen Louise Durkee, Associate Editor,
 113 Sonora Avenue, Danville, Cali-
 fornia

Austin W. Morrill, Jr., Associate Editor,
 P.O. Box 54, San Bruno, California

George T. Carmichael, 1321 Interme-
 diate Road, Savannah, Georgia

Publication (Mosquito News)

- K. L. Knight, Chairman, Department of Zoology & Entomology, Iowa State University of Science & Technology, Ames, Iowa
- Harry D. Pratt, USPHS, Communicable Disease Center, Atlanta 22, Georgia
- E. A. Philen, Florida State Board of Health, Bureau of Entomology, P. O. Box 210, Jacksonville, Florida
- Gordon A. Smith, Division of Health & Safety, TVA, Wilson Dam, Alabama
- A. Ralph Barr, Department of Public Health, 5545 E. Shields Avenue, Fresno, California

Advertising

- Francis P. Creadon, Chairman, Advertising Manager, Mosquito News, 8130 Ogden Avenue, Lyons, Illinois
- Glen C. Collett, Manager, Salt Lake City Mosquito Abatement District, 463 N. Redwood Road, Salt Lake City, Utah
- E. John Beidler, Indian River Mosquito Control District, P. O. Box 696, Vero Beach, Florida
- D. M. Jobbins, New Jersey Agricultural Expt. Station, Rutgers University, Nichol Avenue, New Brunswick, New Jersey

Miscellaneous Publications

- Robert A. Hedeon, Chairman, Manager, South Cook County Mosquito Abatement District, P. O. Box 30, Harvey, Illinois
- A. W. Buzicky, Director, Metropolitan Mosquito Control District, 797 Raymond Avenue, St. Paul, Minnesota
- Oscar V. Lopp, Merced County Mosquito Abatement District, 3478 N. Airport Road, Merced, California
- Capt. John Hirst, U. S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland
- Col. S. J. Carpenter, 830 Oak Lane, Sonoma, California

- K. D. Quarterman, USPHS, Communicable Disease Center, 319 E. 60th Street, Savannah, Georgia
- L. Colin Curtis, Agricultural Research Officer, Canada Department of Agriculture, Box 210, Kamloops, B. C.
- Capt. George S. Stains, U. S. Navy Disease Vector Control Center, U. S. Naval Air Station, Alameda, California
- C. T. Williamson, 16 Orowoc Drive, Islip, New York
- J. C. McNeill, Director, Brazoria County Mosquito Control District, Angleton, Texas

Legislation

- Andrew J. Rogers, Chairman, Florida State Board of Health, Entomological Research Center, P. O. Box 308, Vero Beach, Florida
- Osmond P. Breland, University of Texas, Austin, Texas
- George T. Carmichael, 1321 Intermediate Road, Savannah, Georgia
- William F. Rapp, Jr., 430 Ivy Avenue, Crete, Nebraska
- A. F. Geib, Kern Mosquito Abatement District, P. O. Box 907, Bakersfield, California

Research & Development

- Maurice W. Provost, Chairman, Florida State Board of Health, Entomological Research Center, P. O. Box 308, Vero Beach, Florida
- Carroll M. Smith, USDA, Entomology Research Branch, 1600 S.W. 23rd Drive, Gainesville, Florida.
- Leslie D. Beadle, USPHS, Communicable Disease Center, Atlanta 22, Georgia
- James B. Kitzmiller, Department of Zoology, University of Illinois, Urbana, Illinois
- Richard F. Peters, Department of Public Health, 2151 Berkeley Way, Berkeley, California
- A. D. Hess, USPHS, P. O. Box 1097, Greeley, Colorado

Mir S. Mulla, University of California
Citrus Experiment Station, Department
of Entomology, Riverside, California

Abatement District, 9510 S. Garfield
Avenue, South Gate, California

Finance & Policy Council

Charles F. Scheel, Chairman, 733 So.
Waiola Avenue, LaGrange, Illinois

T. G. Raley, Consolidated Mosquito
Abatement District, P. O. Box 278,
Selma, California

Lester W. Smith, Middlesex County
Mosquito Extermination Commission,
P. O. Box 346, Metuchen, New Jersey

Don W. Micks, Professor & Acting
Chairman, Department of Preventive
Medicine & Public Health, University
of Texas Medical Branch, Galveston,
Texas

John A. Mulrennan, Florida State Board
of Health, P. O. Box 210, Jacksonville,
Florida

Rowland E. Dorer, State Department of
Public Health, 5709 Sellger Drive,
Norfolk, Virginia

T. W. Miller, Jr., Lee County Mosquito
Control District, P. O. Box 1711, Fort
Myers, Florida

R. F. Peters, Department of Public
Health, 2151 Berkeley Way, Berkeley,
California

A. W. A. Brown, Department of Zool-
ogy, University of Western Ontario,
London, Ontario, Canada

Public Relations

W. D. Murray, Chairman, Delta Mos-
quito Abatement District, 1737 W.
Houston, Visalia, California

E. S. Hathaway, Louisiana Mosquito
Control Association, City Hall, Room
7 W 07 New Orleans 12, Louisiana

James A. Nelson, Pest Control Maga-
zine, 1900 Euclid Avenue, Cleveland,
Ohio

Brian Hocking, University of Alberta,
Edmonton, Alberta, Canada

R. F. Darsie, Jr., U. S. Agency for In-
ternational Development/Nepal, c/o
State Department, Washington 25,
D. C.

Otto Hecht, Apdo. Postal 19186, Mexico
D. F., Mexico

D. Bruce Francy, 2419 Ashby Avenue,
Berkeley, California

Hugo Jamnback, N. Y. State Science
Service, State Education Building, Al-
bany 1, New York

Vernon Conant, Bergen County Mos-
quito Extermination Commission,
P. O. Box 236, Paramus, New Jersey

Membership

T. Wayne Miller, Jr., Chairman, Lee
County Mosquito Control District,
P. O. Box 1711, Fort Myers, Florida

James D. Long, Biology Department,
Sam Houston State Teachers College,
Huntsville, Texas

Al S. Watanabe, P. O. Box 1216, Wai-
pahu, Hawaii

Milton Buehler, 5725 North East 61st
Street, Seattle 15, Washington

John H. Brawley, 1540 Manchester
Road, Chico, California

J. J. McLintock, Entomology Research
Institute, K. W. Neatby Bldg., Cen-
tral Experimental Farm, Ottawa, On-
tario, Canada

Robert L. Armstrong, Carlisle Road,
Westford, Massachusetts

Luis Vargas, Apartado Postal 19205,

Bylaws

E. Chester Robinson, Chairman, Ala-
meda County Mosquito Abatement
District, 3024 East 7th Street, Oakland
1, California

Franklin C. Wray, DesPlaines Valley
Mosquito Abatement District, 8130
Ogden Avenue, Lyons, Illinois

C. T. Williamson, 16 Orowoc Drive,
Islip, New York

George F. Knowlton, Utah State Uni-
versity, Logan, Utah

P. Bruce Brockway, Jr., 4143 Merry-
weather Road, Toledo 13, Ohio

Gardner McFarland, Southeast Mosquito

- Mexico D. F.
 B. B. Pepper, New Jersey Agricultural
 Experiment Station, New Brunswick,
 New Jersey

Good Neighbor Club

- E. D. Davis, Chairman, Fresno Mosquito Abatement District, P. O. Box 2, Fresno, California
 Roy F. Fritz, WHO Malaria Eradication Division, Palais des Nations, Geneva, Switzerland
 G. Edwin Washburn, USAID/Djakarta, APO 156, San Francisco, California
 Al S. Watanabe, P. O. Box 1216, Wai-pahu, Hawaii
 Donald R. Johnson, 2724 Bradley Circle, Annandale, Virginia
 Brian Hocking, University of Alberta, Edmonton, Alberta, Canada
 John O. Stivers, USOM, American Consulate General, Guayaquil, Ecuador
 D. M. Jobbins, New Jersey Agricultural Extension Station, Rutgers University, New Brunswick, New Jersey

Nominating

- Don W. Micks, Chairman, Department of Preventive Medicine & Public Health, University of Texas Medical Branch, Galveston, Texas
 O. P. Breland, Department of Zoology, University of Texas, Austin, Texas
 A. S. West, Department of Biology, Queen's University, Kingston, Ontario, Canada

- C. Donald Grant, 955 Cambridge Road, Redwood City, California
 Luis Vargas, Apartado Postal 19205, Mexico D. F.
 Robert C. Wallis, P. O. Box 1106, New Haven 4, Connecticut
 Don Rees, University of Utah, Salt Lake City, Utah
 J. Melton Williams, Sarasota County Mosquito Control, P. O. Box B-716, Bee Ridge Station, Sarasota, Florida
 William E. Bickley, Department of Entomology, University of Maryland, College Park, Maryland
 C. M. Gjullin, P. O. Box 332, Corvallis, Oregon
 A. W. Buzicky, Director, Metropolitan Mosquito Control District, 797 Raymond Avenue, St. Paul 14, Minnesota

Program

- J. A. Mulrennan, Chairman, Florida State Board of Health, P. O. Box 210, Jacksonville, Florida
 New Vice President, Jay Graham
 Regional Directors

Resolutions

- R. E. Dorer, Chairman, State Department of Public Health, 7509 Sellger Drive, Norfolk, Virginia
 James B. Gahan, 3845 S.W. 3rd Avenue, Gainesville, Florida
 Paul J. Hunt, P. O. Box 1855, Daytona Beach, Florida
 George T. Carmichael, 1321 Intermediate Road, Savannah, Georgia