

INSECT MIGRATION STUDIES

Volume 11, 1974



TABLE OF CONTENTS

Message from Professor and Mrs. Urquhart	1
Ecological Investigations are Long Term Studies	2
Mexico and Central America	2
Associates Needed in Mexico and Central America	3
Recapture Records for Monarch Butterflies	4
Transfer Experiments Involving Tagged Monarch Butterflies	4
Reminder re Tagging Reports	5
Disease and Parasites of the Monarch Butterfly	6
Biography of Monarch Butterfly - Tag Number P9-908	6
Observations from Associates	6
Spring Migration	7
Tagging of Species other than the Monarch Butterfly	7
Notice re Tagging Reports	7
Annual Donation to Insect Migration Research Fund	8
Special Donors to Insect Migration Research Fund	8
Newspaper Publicity Dealing with the Monarch Butterfly Migration	8
Science Fair Award and Special Exhibition	11
Simplified Recording of Tags	11
Net for Collecting Insects	12
To Collect Monarch Butterflies from High Roosting Sites	12
Requests for Tags	12
Leftover Tags	12
Renewal of Membership	12
Lloyd Beamer — In Memoriam	13
Boughton Cobb — In Memoriam	13
Membership Renewal Form	14
Research Associates	15
Order Form for Lecture Slides	20
Order Form for Scientific Papers	21
Order Form for Book: "The Monarch Butterfly"	22

1

THIS NEWSLETTER HAS BEEN PRODUCED IN ORDER TO INFORM OUR ASSOCIATES OF WHAT HAS BEEN DONE AND MUST NOT BE USED FOR SCIENTIFIC PUBLICATIONS. ANYONE WISHING SCIENTIFIC DATA SHOULD CONTACT PROFESSOR F.A. URQUHART AT THE UNIVERSITY OF TORONTO, SCARBOROUGH CAMPUS, WEST HILL, ONTARIO, CANADA M1C 1A4.

TO OUR ASSOCIATES
FROM
PROFESSOR AND MRS. URQUHART

In 1972 we were convinced, as a result of statistical data, that the monarch butterfly population in North America would be greatly reduced, following a cycle of 7 - 11 years. However, as we are all so well aware, the monarchs were more abundant in 1972 than they were in 1971 and reached a peak of abundance this past summer - 1973. So much for statistics.

Over the past 31 years that we have been studying the monarch butterfly, and more particularly since 1950 when we first introduced our "research associate" system, monarch populations have demonstrated marked fluctuations in numbers, from extreme scarcity to extreme abundance. Therefore, one can expect a marked drop in numbers in future years, but the difficulty is in attempting to predict a particular year when this will happen. We do know that once the population reaches a point of extreme abundance, a rapid decline usually follows and this past summer was certainly one of extreme abundance over most of the North American continent.

This coming summer and fall you should try to record as accurately as possible the population trend, that is, whether there are more monarchs this summer as compared with last summer or the reverse. Your data will be more accurate and more significant if your estimates are made during late August and throughout September and October when migration takes place and numbers are more significant. You should also note whether or not the larvae that you collect appear to suffer from a disease that makes the larvae turn black and eventually become filled with an inky, ill-smelling fluid. This is caused by a polyhedrosis virus and appears to be the disease responsible for the die-off, although there is some evidence indicating bacteria as a possible pathogen.

This past year we have found it necessary to reduce the number of our associates. This has been accomplished by not enlisting new members, except those located in strategic areas (Florida, Gulf Coast, Mexico, and California). Over 800 persons have volunteered their assistance during this past year and we have kept a special file for these prospective associates so that we may call upon them in future years when time and finances will permit.

Our reasons for reducing the number of our associates are: We now have a tremendous amount of unpublished data on the monarch migration but, owing to the amount of time spent on correspondence and, as mentioned elsewhere in this Newsletter, lack of financial assistance and thus having to do our own typing and clerking, we have found it impossible to prepare data for publication. We have three very important contributions that should be attended to immediately, namely: The Florida populations for which we have six years of tagging and observations; the Australian populations which should show any alteration in migration pattern as a result of being introduced into the southern hemisphere; and the California populations for which we have a great deal of new information resulting from the fine and energetic work of Paul Cherubini and Bill Coleman.

We have requested leave of absence from the University from January 1975 to September 1975 which time will be utilized almost entirely in preparing the science papers which, upon publication, will be made available to you.

As in past years, this year has been a most fruitful and exciting one as you will glean from the articles in this Newsletter. We are looking forward to a year of analyzing data and preparing the publications to which we have referred above, as well as continuing our field research in southern Mexico.

ECOLOGICAL INVESTIGATIONS ARE LONG TERM STUDIES

One might ask, "Why does it take so long to obtain data on the migrations of the monarch butterfly?" The answer becomes obvious when we compare this type of investigation with that of the physiologist or the molecular biologist working in a laboratory. In the case of the movements and habits of an insect, such as the monarch butterfly, only one experiment is offered each year because the flights are annual. Thus, at the end of twenty years we would be able to accumulate data on twenty experimental years. The laboratory scientist, on the other hand, might complete twenty tests in the course of one week. Each year passes and we must wait for the next year to rear, tag and study the habits of a migrating insect. To this should be added that in rearing an insect time is an important factor; we must wait for the complete cycle from egg to adult and we are most fortunate if we can accomplish more than three generations in one summer period.

Thus, field ecological investigations are by their very nature long term investigations.

MEXICO AND CENTRAL AMERICA

One of our most enthusiastic research associates, Mr. Ken Brugger of Mexico City, has been investigating the presence of the monarch butterfly in various parts of southern Mexico with special reference to the area west of Mexico City in the mountains. As a result of his investigations we are assured that somewhere in this general area the monarchs from the eastern United States and Canada spend the winter months. Mr. Brugger also noted the presence of species of milkweed and what appear to be resident, non-migrating populations. Mr. Brugger has sent us many samples of milkweed and also specimens of monarch butterflies as well as many excellent photographs of the area.

Mr. Lawrence Magner of Salem, Massachusetts, spent one month in this general area, travelling over very rough terrain and making copious notes and taking photographs of various species of milkweed as well as noting the occurrence of monarch butterflies.

As a result of the efforts of these two associates, we are now hoping to obtain sufficient financial assistance to make a thorough investigation of this area and, if what we suspect is true, the answer will mark the end of a very long period of investigation which started with the question, "Where do the monarch butterflies go in the winter time?"

We are pleased to report that Mr. Brugger is continuing his studies in Mexico and we are looking forward to some interesting reports from him during the next winter.

As a result of popular articles published in various magazines and papers in Mexico, we are gradually building up a team of associates who will carry out tagging programs in the same manner as we have done with so much success in Canada and the United States. As a result of such efforts we feel certain that in the near future we will be able to plot the exact migratory movement of the monarch butterfly over the North American continent.

In addition to the main migratory routes, there are, what may be termed "drift routes" which carry the monarchs into other areas, such as parts of Central America, as a result of drifting across the Caribbean into Yucatan or a spill-over into eastern Mexico.

RECAPTURE RECORDS FOR MONARCH BUTTERFLIES IN 1973

We wish very much that we could publish the complete list of those tagged monarch butterflies which were recaptured and returned to us, as was requested recently by one of our research associates.

However, it is quite impossible to give anything but a small sample of the flights that were documented during this past season; time does not permit us to prepare such a list and finances do not permit us to publish it.

We are very grateful to all of our associates who have tagged butterflies and reported their activities to us. The associates whose tagged butterflies were returned to us have all been notified; this means that if you have not heard from us about a recaptured butterfly then none of yours have been returned to our office.

In the list that follows we have selected those records which show the great area that this research covers; this means that many hundreds of records must go unlisted. However, all data is of importance to us and will be useful in the preparation of scientific papers.

For other recapture records see headings: "Transfer Experiments in California" and "Recapture Records for Species Other Than Monarch Butterflies".

Number of tag	Tagged by	Tagged at	Recaptured at
s9-123	Mrs. Jessie Glynn	Limehouse, Ontario	Smith Mill, Pennsylvania
h3-896	Mrs. F. Hupp	Hinton, Virginia	Gainesville, Texas
n6-610	Tom DeKoster	Le Mars, Iowa	Quitman, Arkansas
pe-934	Woody Keeney	Hudson, New Hampshire	Ocean Springs, Mississippi
e4-396	Mrs. Richard Klein	Geneva, Ohio	Lexington, Kentucky
s5-829	E.R. MacDonald	Port Hope, Ontario	Mt. Gilead, North Carolina
b8-867	James Malick	Steven's Point, Wisconsin	Minerva, Ohio
r6-456	Ruth Anne McKee	Stockton, California	Fort Tejon, California
45-354	David Miner	Barre, Massachusetts	Greenville, South Carolina
Me5-832	Joseph Moss	Roanoke, Louisiana	Austin, Texas
nz-201	Mrs. Ray Reuter	Bradenton, Florida	Englewood, Florida
3-43	Mrs. B. Ridgeway	North Tarrytown, N.Y.	Mexico 20, D.F., Mexico
3-532	Mrs. Frank Throm	Overland Park, Kansas	Seminole, Oklahoma
s9-198	Paula Waggy	Marlinton, West Virginia	Houston, Texas
nu-613	Audrey Wilson	Cobourg, Ontario	Smackover, Arkansas

TRANSFER EXPERIMENTS INVOLVING TAGGED MONARCH BUTTERFLIES

The number of people involved in the transfer experiments this past season was sharply reduced owing to a series of unfortunate circumstances: *Mrs. Hellen Ochs of Columbus, Indiana*, was ill; *Jim Steamer of Medfield, Massachusetts*, reported that his area was sprayed to prevent the spread of equine encephalitis thus making monarch butterflies scarce in the area; *Mrs. Paula Waggy of Marlinton, West Virginia*, found that she lived too far from an airport to make transfers of live butterflies practicable.

However, we were fortunate in again having *Franz Pogge of Westover, West Virginia*, transfer to *James McQueen of Mercedes, Texas*, and *Paul Cherubini of Castro Valley, California*, transfer to *Mrs. Faye Sutherland of Boise, Idaho*, and *Mrs. Lyle Jorgenson of Towner, North Dakota*. *Mrs. Beatrice Ridgeway of North Tarrytown, New York*, also transferred to *Mtra. M. Foncerrada de Molina, Mexico, D.F., Mexico*.

The following are the recapture records of monarch butterflies transferred by Paul Cherubini:

Number	Captured at	Transferred to	Recaptured at
r7-168	Muir Beach, California	Towner, North Dakota	Pratt, Kansas
t2-369	Muir Beach, California	Towner, North Dakota	Omaha, Nebraska
t2-942	Muir Beach, California	Boise, Idaho	Nampa, Idaho
t2-487	Hayward, California	Boise, Idaho	Morro Bay, California
t2-347	Muir Beach, California	Towner, North Dakota	Dwight, Kansas

The record of a monarch butterfly captured in an overwintering colony at Hayward, California, and returning after transfer to another overwintering colony at Morro Bay, California, is unique. We have never before recorded the flight of a specimen which was captured in a given area and, after being transferred a long distance, in this case approximately 530 miles, returned, to the same general location. It is interesting to note that the captor in Morro Bay commented that "the butterfly was very strong, but its wings were battered . . . I removed the tag and released it".

The above transfers and recaptures give us some of the most definitive data that we have had for the past few years. We had suspected that populations in mountain valley regions moved, via various valleys, to the west coast and finally to California. The butterfly transferred from Hayward, California, to Boise, Idaho, and later recaptured at Morro Bay, California, confirms this suspected mountain populations movement. The transfers from Muir Beach, California, to Towner, North Dakota, to be recaptured in Dwight, Kansas; Pratt, Kansas; and Omaha, Nebraska, confirm our belief that the plains region populations move southward along with the eastern populations, eventually to enter Texas and hence to Mexico. Such data also confirm our suspicions that there does exist a gene flow between the mountain populations and the eastern populations thus negating the idea that there are two separate, non-interbreeding populations of the monarch butterfly on the North American continent.

Special note: This is the first time one of our research associates has attempted to send live butterflies by air mail to Mexico. Mrs. Beatrice Ridgeway sent monarch butterflies to her contact in Mexico on October 23, 1973; they were received and released in Mexico on November 1, 1973. Mrs. Ridgeway's optimism was rewarded: all but one specimen survived its transfer.

REMINDER: RE TAGGING REPORTS

We would like to thank all of you who submitted your reports promptly. May we remind you that we would like you to send in your reports *as soon as you have completed your tagging for the season* as we need to have the reports available when we are compiling data about recaptured specimens. We regret that we were unable to complete some of the data which we would have liked to publish in this Newsletter as some of the reports were not sent in and others were not complete.

PLEASE SEND IN YOUR REPORTS AS SOON AS THEY ARE COMPLETED. If you have already sent in your reports, will you check them to see if you have sent in *all of the information about your tagging*, otherwise we shall not be able to use the data from your tagging when we compile information for a scientific paper.

DISEASE AND PARASITES OF THE MONARCH BUTTERFLY

The larvae of the monarch butterfly are prone to attacks by certain parasitic insects. The most common are flies that resemble the common housefly but are somewhat larger and covered with long, spine-like bristles. These flies belong to the Family Tachinidae of the Order Diptera. As far as we know, there are four such species known to attack the larvae of the monarch butterfly. For further information on these parasitic flies see the book, "The Monarch Butterfly". Another parasitic insect which attacks the monarch larvae is a very small wasp that belongs to the Family Braconidae of the Order Hymenoptera. We have only two such records concerning this parasite and so we have concluded that the monarch larva is not its regular host.

Although such parasites may be partly responsible for controlling the population of the monarch butterfly, by far the most important control factors are virus and bacteria which, in epidemic proportions, can reduce the population very rapidly, almost to extinction, in a relatively short period of time. A larva infected with the virus will turn black in colour and on death the body becomes filled with an inky, ill-smelling fluid. The bacteria, on the other hand, causes the larva to shrivel up and, for the most part, attacks the larva in the first three stages of its development. *Mrs. Calvin Emery of Nevada, Missouri*, reports such a bacterial infection: "Most of the eggs hatched, but about the time of the second molt a major part of the brood stopped feeding and just sort of clung to the stems until they shrivelled up and died. I think I had about 10 to 12 per cent reach maturity." In other words, Mrs. Emery had a die-off of about 90 per cent. This is a most interesting note since, in past years, we have noted that the die-off appears to start in the mid-western States. Mrs. Emery's observation may be the first indication of the decrease in population.

BIOGRAPHY OF MONARCH BUTTERFLY — TAG NUMBER P9-908

It is not often that we are able to document the history of a tagged butterfly for its complete life span as an adult, but such is the case of p9-908, a male monarch butterfly. This butterfly was tagged by Paul Cherubini of Castro Valley, California, in an overwintering colony at Pacific Grove, California, on November 25, 1972. With his usual thoroughness, Paul checked the members of the colony again on January 21, 1973, when he again observed p9-908. This butterfly was found again in Pacific Grove by a resident during the first week of April 1973 at which time it was in a feeble state and obviously in the process of dying. Observations such as these provide excellent data showing the stability of the composition of the overwintering colony.

OBSERVATIONS FROM ASSOCIATES

Woody Keeney of Hudson, New Hampshire, reported that because the last of his reared monarch butterflies emerged too late to migrate in October 1973, he arranged with a friend who is an airline pilot to release the butterfly in Atlanta, Georgia.

Kenneth Brooks of Colora, Maryland, reported that he tagged monarch butterflies while he was in Jamaica during the summer of 1973. He also sent observations of monarch butterflies from Washington, D.C., and Salem, New Jersey.

Jon Swanson of Dublin, New Hampshire, reported an unusually large migration of monarch butterflies in that state. During our many years devoted to this research this is the first time monarch butterflies have been reported as occurring in numbers in New Hampshire.

Franz Pogge of Westover, West Virginia, reported that he found monarch butterflies and tiger swallowtails in numbers on the following plants (the plants are listed in order of frequency): swamp milkweed, red clover, Queen Anne's lace, wild aster, joe-pye weed, and ironweed. If these plants occur in your area, you should keep them in mind when looking for butterflies to tag.

SPRING MIGRATION

As mentioned in the Newsletter last year, we are most anxious to obtain more information on the spring migrations. The migrants enter Texas from Mexico during March and April, their progeny appearing in April and May and, to a lesser extent in June in Texas and Louisiana. Those of our associates living in the southwestern States (Texas, Oklahoma, Louisiana and Arkansas) might make an extra effort to capture migrant females, obtain the eggs and rear the first generation. In this manner more specimens will be tagged and released rather than tagging the occasional migrant that may be caught. Since the migrant females do not feed to any great extent during the spring movement, it is necessary to look in fields where seedling milkweeds are growing.

Mrs. Dorothy Yeager of Pearsall, Texas, has collected numerous eggs deposited on a species of milkweed that lies prostrate in the grass and hence might escape your notice unless you recognize it as a member of the Asclepidaceae. However, by watching the ovipositing females you will be led to the milkweed plants.

If gravid females are available, Mrs. Yeager will be pleased to send them to you — the cost involved being left to Mrs. Yeager to ascertain.

Please address your inquiry to:

Mrs. Dorothy Yeager
Yeager Butterfly Farm
570 William Drive E.
Pearsall
Texas 78061.

TAGGING OF SPECIES OTHER THAN THE MONARCH BUTTERFLY

Number of tag	Species	Tagged by	Tagged at	Recaptured at	Distance Flown
k8-253	Viceroy	Patricia Duerr	Lidgerwood, N.D.	Lidgerwood, N.D.	2 miles
r6-794	Swallowtail	Paul Hale	Norristown, Pa.	Plymouth Meeting, Pa.	.6 miles
m7-608	Pipevine Swallowtail	Franz Pogge	Morgantown, W. Va.	Morgantown, W. Va.	.5 miles
p6-874	Queen	Mrs. R. Reuter	Bradenton, Fla.	Bradenton, Fla.	.6 miles
j4-275	Tiger Swallowtail	Leslie Smith	Citrus Heights, Ca.	Citrus Heights, Ca.	1 ¼ miles

Although the distances of the flights recorded for the above species seem short in comparison with the monarch butterfly, it is important to note that we consider the above records to be valuable data since it is our purpose to document the flights of as many species of insects as possible; hopefully, we shall accumulate enough data on a variety of species in order to indicate whether or not there are other insects, in addition to those that are already known, that will prove to be migrants. For these reasons we would like to urge you to tag as many species of insects as you possibly can; it is only in this way that we can continue to make a significant contribution to insect migration studies as a whole.

IMPORTANT NOTICE: RE TAGGING REPORTS

Please be sure to include *both* the identifying letters and numbers when reporting the tags you have used. Unless we have *both* the letters and numbers, we have difficulty in preparing data from your reports. In some cases where the numbers only are given and the serial letters omitted, the report is useless.

Also we would like you to keep a carbon copy of the report which you send to us, since occasionally material is lost in the mail and valuable data is destroyed. If you keep a copy of your tagging we can refer back to your data if necessary.

ANNUAL DONATION TO INSECT MIGRATION RESEARCH FUND

This year we again ask you to make a donation to our research fund in order to help us cope with the costs of tags, postage, clerical supplies and assistance in connection with our program.

In order to spread the costs more evenly we have established two kinds of membership:

- Individual membership — donation requested: \$7.50 per year
- Group membership — donation requested: \$10.00 per year
— including schools, nature clubs, societies for conservation, etc.

The donations from our associates cover only a small portion of the cost of this research; most of the cost is covered by Scarborough College, University of Toronto, and by granting agencies.

SPECIAL DONORS TO INSECT MIGRATION RESEARCH FUND 1973-74

The following associates have contributed generously to our research fund. We are immensely grateful for their assistance.

Mrs. Jessie, Glynn, Limehouse, Ontario
 Mr. Steve Lewis, Bradenton, Florida
 Mrs. Lester Luxenberg, Tonopah, Arizona
 Elisabeth Lytle, Detroit, Michigan
 Mr. and Mrs. Laurence Magner, Salem, Massachusetts
 Mr. Roland Matson, Minneapolis, Minnesota
 Mrs. Ruth Anne McKee, Stockton, California
 Mr. Franz Pogge, Westover, West Virginia
 Mr. Randy Reese, Newark Valley, New York
 Mr. Dale Reichert, Hanover, Pennsylvania
 Mrs. Robert Ridgeway, North Tarrytown, New York
 Dorothy Schwimmer, Clarinda, Iowa
 Mr. Leslie Smith, Citrus Heights, California
 Mr. Prentice K. Stout, Bedminster, New Jersey
 Mr. Joseph Struthers, Boulder, Colorado
 Mrs. Arthur Welden, New Orleans, Louisiana
 Ro Woodard, Falconer, New York

NEWSPAPER PUBLICITY DEALING WITH THE MONARCH BUTTERFLY MIGRATION

Since the success of our research on the migration of the monarch butterfly depends very heavily on the cooperation of a network of interested people who live in many widely separated areas, we are always grateful for publicity concerning our research which appears in the news media. Through the news media many people, who would otherwise be ignorant of our research, are made aware of our activities resulting in their appreciation of the significance of the amazing capacities of the monarch butterfly and of the need for conservation of wild tracts of land needed by the monarch butterfly for reproduction, feeding during migration, and for overnight and overwintering roosts.

We are very grateful to those research associates who have sent us clippings from a variety of newspapers from many parts of the continent emphasizing the high degree of interest in our work and in the geographical scope of this research, as illustrated by the following list of clippings.

Mrs. Gladys Black of Pleasantville, Iowa, sent an illustrated article from the "Des Moines Sunday Register", September 16, 1973, about Tom DeKoster of Le Mars, Iowa, and his students who are taking part in the migration study.

Ray Bracher of South Bend, Indiana, sent a picture of an overnight roost of monarch butterflies published in the "South Bend Tribune", September 12, 1973.

Mrs. Roy Busby of Dilley, Texas, sent us a picture of a monarch butterfly published in the "San Antonio Light", San Antonio, Texas.

An illustrated article appeared in the "Santa Paula Daily Chronicle", November 20, 1973, about *Bill Coleman of Ventura, California*, and his devotion to the monarch butterfly migration research.

Jim Drobka of Manitowoc, Wisconsin, because of his interest in the monarch butterfly migration was the subject of an article which appeared in the fall issue of the Mirror Aluminum Company publication, "The Mixing Bowl".

The recapture of one of the monarch butterflies tagged by *Mrs. Calvin Emery of Nevada, Missouri*, was the subject of an illustrated article which appeared in "The Nevada Herald", August 5, 1973. Mrs. Emery also sent us a picture of an overwintering roost of monarch butterflies which appeared in "The Joplin Globe".

An article dealing with the monarch butterfly migration published in "The Pensacola News Journal", October 21, 1973, was sent to us by *Mrs. Charles Hartley of Pensacola, Florida*.

The monarch butterfly migration was the subject of a syndicated article in the "Washington Star-News", Washington, D.C., October 2, 1973, which was sent to us from Alexandria, Virginia.

Mrs. Lorraine Houck of Decorah, Iowa, sent us an article from a local paper published in the fall of 1973. The article described Mrs. Houck's and her students' involvement in the migration study.

Woody Keeney of Hudson, New Hampshire, sent us an article from the "Concord Monitor", September 15, 1973, which described a trip to Star Island, N.H., for the purpose of tagging monarch butterflies. The all-day trip had been organized by *Edwina Czajkowski of the New Hampshire Audubon Society*.

"Tracks", the bulletin issued by *The Cleveland Museum of Natural History*, announced the participation of the Museum staff in the monarch butterfly migration project and also the fact that *Mrs. Richard Klein of Geneva, Ohio*, has been an active participant in the project for several years.

An illustrated article in the "Detroit News" described the activities of *Mrs. Valeria Laking of Mount Clemens, Michigan*, in the monarch butterfly research project. Mrs. Laking also sent us a picture of an overnight cluster of monarch butterflies from the "Macomb Daily" of Mount Clemens, Michigan.

Mrs. Van Luxenberg of Tonopah, Arizona, sent us a clipping from the "Arizona Republic", November 1973, concerning monarch butterflies migrating down the coast of California; she also sent an article from "The Arkansas Gazette" about the cycles in populations of monarch butterflies which have been analysed for many years in our research.

An article for school children by *Margaret T. McFarland of Potomac, Maryland*, appeared in the May 1973 edition of "Science and Children" published by the National Science Teachers Association. Mrs. McFarland also sent us the published announcement of her class sending monarch butterflies to Miami, Florida, by airmail because they had emerged when it was too cold for them to migrate safely.

Dr. Harold Mahan, Director of the Cleveland Museum of Natural History, Cleveland, Ohio, wrote an article which appeared in "The Cleveland Press", September 8, 1973, describing the method of tagging monarch butterflies in order to study migration patterns.

Mrs. Charles Mallery of Vestal, New York, sent pictures of students and "butterfly trees", composed of chrysalids which appeared in the "Press", Binghamton, New York, October 1, 1973.

Mrs. Marjorie Mathes of Pontiac, Michigan, sent us an illustrated article from "The Sunday News", Detroit, about her activities in connection with the migration research. Mrs. Mathes also sent us quotations concerning the migration from newspapers in the following places: Lansing, Michigan; New Lenox, Illinois; Oxford, Ohio; Washington, D.C.; and Santa Cruz, California.

Mrs. Molly Monica of Berkeley Heights, New Jersey, sent us an article about monarch butterfly migration from the "Plainfield Courier News", September 13, 1973.

Steve Powers of Philadelphia, Pennsylvania, sent us an article about monarch butterfly research from "The Philadelphia Bulletin", October 1973.

Mrs. Ray Reuter of Bradenton, Florida, sent an article about an artificial diet prepared for the purpose of rearing monarch butterflies in the absence of milkweed; this item appeared in the "Sarasota-Herald Tribune", Sarasota, Florida.

An article in the "Boston Sunday Globe", September 16, 1973, which described over-night roosts of monarch butterflies at Gloucester, Massachusetts, also referred to the participation in our program of *Ivy Lemon, of Gloucester*. The article was sent to us by *T. Richards of the Audubon Society of New Hampshire*.

The story of *Mrs. Beatrice Ridgeway of North Tarrytown, N.Y.*, who mailed live monarch butterflies to Mexico City where they were released was carried in the following N.Y. State newspapers: "The Daily News", January 4, 1974, Tarrytown; "The Daily Argus", Mount Vernon; "The Herald Statesman", Yonkers; "The Daily Item", Port Chester; "The Daily Times", Mamaroneck; and "The Reporter Dispatch", White Plains. Mrs. Ridgeway also sent a clipping from "The New York Times", September 19, 1973, referring to a mass migration of monarch butterflies along the coast of Connecticut.

Mary Sawyer of Rockland, Maine, sent an illustrated article from the "Maine Sunday Telegram", October 7, 1973, about the way she became involved in monarch butterfly migration research and thus introduced the study to her students.

Scott Spack of Salem, Ohio, sent us a clipping from a Philadelphia, Pennsylvania, newspaper about monarch butterflies which had been sent to Fort Lauderdale, Florida, to avoid the cold temperatures which would have been fatal to them.

Jim Steamer of Medfield, Massachusetts, sent an article from "The New York Times", October 2, 1973, which set forth some of the perplexing problems still unsolved in the study of migration of the monarch butterfly. Jim also sent a clipping from the "Boston Sunday Globe", September 16, 1973, describing migrating flocks of monarch butterflies in Massachusetts.

The transfer of live monarch butterflies by mail from California to Idaho where they were released by students in Boise was described in "The Idaho Statesman", September 26, 1973. The article was sent in by *Mrs. Faye Sutherland*, the teacher responsible for the release. These butterflies were originally captured by *Paul Cherubini of Castro Valley, California*. The recapture of one of the transferred butterflies in Morro Bay, California, was the subject of an article in "The Idaho Statesman" of February 28, 1974. This and an AP release about the recapture which was copied by the "Honolulu (Hawaii) Star-Bulletin" were sent to us by *Mrs. Sutherland of Boise, Idaho*.

Mrs. Lanell Teed of Wichita, Kansas, sent in an article from the "Beacon", October 2, 1973, which described the mass migration of monarch butterflies to the southern part of the continent.

William Waters of the Public Relations Department of the Chesapeake and Potomac Telephone Company sent us a clipping from the "Washington Star-News", October 2, 1973, re monarch butterfly migration and our research on this subject.

Audrey Wilson of Cobourg, Ontario, sent in a clipping from the "Englewood (Florida) Herald", December 2, 1973, describing the capture of a tagged monarch butterfly which was subsequently released. Audrey also sent an illustrated article from the Newsletter (Winter 1974) of the Ontario Association for the Mentally Retarded relating the participation of mentally retarded children in our program.

Mrs. E.K. Wilson of Los Gatos, California, sent a clipping from the "San Jose Mercury", November 20, 1973, which stated that the number of monarch butterflies overwintering at the famous site of Pacific Grove, California, is diminishing possibly due to the destruction of trees which the monarchs have used as roosts in the past.

Ro Woodward of Falconer, N.Y., sent an illustrated article from "The Post Journal", September 15, 1973, describing her activities as a research associate in the migration research program.

Mrs. Maxene Wright of Mountain Brook, Alabama, sent us an article from "The News", about her work as a research associate in the monarch butterfly research project.

The flight of a tagged monarch butterfly from Wausau, Wisconsin, to Roxana, Illinois, was the subject of an article in "The Telegraph", Roxana.

The report of a telephone conversation between Walter Sullivan of the New York Times News Service and *Mrs. Urquhart* about the monarch butterfly migration was carried by the "Chicago Tribune", October 4, 1973.

Mrs. Dorothy Yeager of Pearsall, Texas, made her annual trip to Corpus Christi, Texas, for observing and tagging monarch butterflies; this was reported in the "Corpus Christi Caller", September 22, 1973. Mrs. Yeager sent us a clipping from "The Dallas Times Herald", about the recapture of a tagged monarch butterfly and one from the "Dallas Morning News", October 22, 1973, about a mass migration of monarch butterflies through north Texas.

"The Providence (R.I.) Journal Bulletin", September 26, 1973, carried a picture of tagged monarch butterflies and a description of the purpose of the tags.

A description of the migration program and a picture of the captor holding a tagged monarch butterfly was published in the "Bloomington-Normal Illinois Sunday Pantagraph", July 29, 1973.

"El Heraldo", a daily newspaper located in Irapuato, Guanajuato, Mexico, carried an article about the monarch butterfly migration and an appeal for help in the project by people who live in Mexico.

An article drawing attention to the fact that monarch butterflies are protected by law in Monterey, California, and that research on the migration of these butterflies is being carried on appeared in "The Christian Science Monitor", September 29, 1973.

The finding of a tagged monarch butterfly in Mt. Gilead, North Carolina, was the subject of an article which appeared in "The Montgomery Herald", Montgomery, Alabama, October 1973.

An illustrated article which appeared in "The Buffalo Evening News", October 6, 1973, described the metamorphosis of the monarch butterfly and outlined some of the problems still unsolved in the research on the migration of monarch butterflies.

SCIENCE FAIR AWARD AND SPECIAL EXHIBITION

Scott Spack of Salem, Ohio, won Superior First and a trophy for his entry on the monarch butterfly at the Salem Senior High School Science Fair. His entry, entitled "World of the Butterfly", also won an excellent rating at the District Science Fair.

Kathleen McGee of Falls Village, Connecticut, exhibited monarch butterfly tagging technique during the Sharon Audubon Festival Program, July 28, 1973, at Sharon, Connecticut.

SIMPLIFIED RECORDING OF TAGS

Mrs. Helen Raub of Chatham, N.J., suggests using one sheet of tags for female monarchs and another sheet of tags for males. In this way she cuts down on recording the sex of the butterfly: e.g.

monarchs

a1 - a50 females

a51 - a100 males

NET FOR COLLECTING INSECTS

From time to time our associates write to ask directions about the making of an insect net. The following instructions are to help you make an insect net from materials which should be readily available.

The first necessity is insect netting. This may be simply a piece of mosquito netting, or nylon netting, draped around a round metal frame, the latter firmly fixed to a small pole. An iron hoop or a stout piece of iron wire, such as a coat-hanger, which has been bent to the proper shape and approximately fourteen inches in diameter will prove very satisfactory. The iron hoop may be cut through with a hacksaw and the free ends bent so that they may be placed along the side of the wooden pole and then tied into place with a piece of stout cord. If you wish to dismantle the net, the free ends of the iron hoop, or bent wire, can be made so that they fit into the grooves, one on each side of the pole. A metal sleeve can then be thrust over the free ends thus holding them in place.

Although mosquito netting is used by many amateur collectors for making their insect nets it is not the best material. Wet mosquito netting tends to fray and form large holes which permit the specimens to escape. Nylon netting, on the other hand, is a fabric which will not fray when wet. An old white curtain will prove far superior to mosquito netting for the insect net.

In making the bag of the insect net, be sure that it is at least twice as long as the diameter of the supporting frame and that it *does not taper* to a point at the bottom. If it is not long enough you will be unable to imprison the specimen when caught. A flick of the wrist should cause the net to overlap the mouth and still leave enough room for the captured specimen. If the net is tapered to a point, butterflies and moths will work their way into the folds and thus become damaged.

TO COLLECT MONARCH BUTTERFLIES FROM HIGH ROOSTING SITES

Mr. William Coleman of Santa Cruz, California, suggests taping the handle of your insect net to a long thin dead tree limb at a location where monarchs are roosting high in the trees. This eliminates carrying a long pole for collecting monarchs from roosting sites.

REQUESTS FOR TAGS

If you are asking for a supply of tags, please mark on the *outside* of the envelope "*Urgent Tags*" if your request is made during the tagging season in your part of the country. We shall send them as quickly as we can. Otherwise, please request tags (any number you believe you will be able to use) when you send in your renewal fee and renewal sheet (found in the Newsletter).

LEFTOVER TAGS

If you have tags left over from last season, please keep them for use in 1974, and report the numbers which you have kept on the renewal sheet in this Newsletter.

The adhesive on the tags will keep for several years if the tags are kept *tightly wrapped* in order to preserve the moisture.

RENEWAL OF MEMBERSHIP

If you wish to renew your membership as a research associate, please note that the term of your membership extends from the date on which you joined our group as a research associate until the date of the publication of the Newsletter following that date.

Therefore you should renew your membership upon receipt of the Newsletter by sending in the renewal form and your donation.

MR. LLOYD BEAMER: IN MEMORIAM

It is with a degree of sadness that we report on the death of one of our research associates, Mr. Lloyd Beamer, of Meaford, Ontario. Mr. Beamer was among the first of our research associates, joining our small group of monarchs. Many of Mr. Beamer's tagged monarchs travelled to the southwest United States, as far as Texas, thus giving us some of the first definitive data on the direction of flight. Thousands of specimens were tagged by Mr. Beamer and his club of young boys in whom he took a considerable interest introducing them to the wonders of the natural world.

Mr. Beamer was a high school biology teacher and in this role influenced many young people to follow professions in which biology was involved. Thus, as a great teacher and a most enthusiastic lover of nature, we have lost a very dear friend and most enthusiastic associate.

BOUGHTON COBB: IN MEMORIAM

We regret to report the death of one of our very active and interested research associates, Mr. Boughton Cobb, of Falls Village, Connecticut. Mr. Cobb was associated with us for a long period of time and we came to appreciate his friendly letters not only because of their contribution to our studies but because of his heart-warming philosophy of life.

RESEARCH ASSOCIATES 1973-74

You will notice that the number of research associates is reduced from that of previous years. This is due entirely to our decision to accept new members only from areas where we are in need of additional data. This will permit us to use more time to analyse the enormous body of data which has already accumulated thanks to the efforts of our associates. Because of this policy, we regretfully sent letters of postponement of membership to 800 people who had applied to join our group. We hope that in the future, after we have published scientific papers using the data that is extant, we shall again be able to enlarge our membership.

A.

Miss Barbara Adams, Fanwood, New Jersey
Mr. Carl Albrecht, Columbus, Ohio
Mr. Robert L. Allen, San Juan Capistrano, California
Mrs. Carolyn Andersen, Layton, Utah
Mrs. Fred Armstrong, Little Silver, New Jersey
Tary Augst, Naperville, Illinois

B.

Mr. James Baird, Pine Bush, New York
Mr. Albert Bari, Loves Park, Illinois
Mrs. Carolyn Barney, Dallas, Texas
Mr. Don Beimborn, St. Paul, Minnesota
Mrs. G. Black, Pleasantville, Iowa
Mr. Ray W. Bracher, Granger, Indiana
Mr. Kenneth Brooks, Colora, Maryland
Mrs. Lynette Brouchoud, Manitowoc, Wisconsin
Mr. Kenneth C. Brugger, México 8, D.F., México
Mr. Eric Brunnemann, San Antonio, Texas
Mrs. Lillian Bussma, Ruso, North Dakota
Mr. John R. Butler, APDO. 6424 R. Panama

C.

Mr. Fairbank Carpenter, Far Hills, New Jersey
Mr. Paul Cherubini, Castro Valley, California
Master Michael Clements, Atlantic City, New Jersey
Mr. Boughton Cobb, New York, New York
Mr. Wm. J. Coleman, Ventura, California
Brian Coombs, Quincy, Massachusetts
Henryanne Copps, Dilley, Texas
Mr. William Stacey Cowles, Spokane, Washington
Mr. Jerry Cunningham, San Antonio, Texas
Mr. E.A. Currie, Toronto, Ontario
Ms. Edwina Czajkowski, Concord, New Hampshire

D.

Mr. Patrick Daley, Amsterdam, New York
Dr. Arthur Dammann, Virgin Islands
Mrs. Donald Davidson, Waterloo, Iowa
Mr. Ezra R. Day, Hunter, Utah
Lindsey Deal, Stanford, Illinois
Mr. T. DeKoster, Le Mars, Iowa
Mrs. Cecilia De Sato, Buenos Aires, Argentina
Mr. Philip J. Del Vecchio, Paterson, New Jersey
Mr. David Drexler, Marcellus, New York
Mr. Bill Dufour, El Cerrito, California
Mrs. Ruth Duncan, Brampton, Ontario

E.

Mr. Dick Eason, Cedar Falls, Indiana
 Mr. Richard H. Ebright, Reading, Pennsylvania
 Mrs. Paul A. Elliott, Muskegon, Michigan
 Mrs. Calvin Emery, Nevada, Montana

F.

Mr. David Fagle, Marshalltown, Iowa
 Mrs. Ruby Fender, Hamburg, Indiana
 Dr. W.D. Field, Washington, D.C.
 Mr. Michael Fitzgibbon, Burlington, Iowa
 Miss Margaret L. Fuzek, Johnson City, Tennessee

G.

Mrs. Ann Gaspari, Eagle Pass, Texas
 Mr. Jim Geppert, Aptos, California
 Mr. Ian Gerber, Glenview, Illinois
 Mr. Jim Gilbert, Waconia, Minnesota
 Girl Scout Council of St. Croix Valley, St. Paul, Minnesota
 Mr. Gregory Glovas, Bethlehem, Pennsylvania
 Mrs. Jessie Glynn, Limehouse, Ontario
 Gerardo, Gonzales, Molina, Mérida, México
 Mr. Geoffrey Goodman, Williamsport, Pennsylvania
 Katherine Graham, Sharon, Pennsylvania
 Cheryl Grenier, Baton Rouge, Louisiana

H.

Gloria Haban, Manitowoc, Wisconsin
 Mr. Paul Hale, Norristown, Pennsylvania
 Mrs. D.E. Hamilton, Covina, California
 Mrs. R.E. Hansen, Staten Island, New York
 Susan and Tommy Hart, Deerfield, Illinois
 Mrs. Chas. Hartley, Pensacola, Florida
 Miss Lynne Heasley, Sharpsville, Pennsylvania
 B.R. Victor J. Hellebuyck, San Salvador, El Salvador
 Mrs. B. Hervey, Webster, Iowa
 Mrs. Erick Hill, Jenks, Oklahoma
 Mr. Roger Hintz, Waldo, Wisconsin
 Mr. Abraham Holtz, Philadelphia, Pennsylvania
 Mrs. Alice L. Hopf, New York, New York
 Mrs. Alta Horr, Gretna, Nebraska
 Kernan Hosea, Hammond, Louisiana
 Mrs. D. Hoskins, Weston, Massachusetts
 Mrs. Harvey Houck, Decorah, Iowa
 D.A. Houson, Staten Island, New York
 Miss Heidi Hughes, Chatham, New Jersey
 Mr. Larry Hummer, San Mateo, California
 Mrs. F. Hupp, Hinton, Virginia

J.

José, Javier, A.T. León, Guanajuato, México
 Mrs. G.R. Johnson, Warwick, Rhode Island
 Mrs. G. Jordan, Abita Springs, Louisiana
 Mrs. Lyle Jorgenson, Towner, North Dakota

K.

Nancy Kaiser, Dows, Iowa
 Mr. Norwood H. Keeney Jr., Hudson, New Hampshire
 Mr. Daniel Kelliher, Nantucket, Massachusetts
 Mrs. Evelyn Kendrick, Sault Ste. Marie, Ontario
 Mrs. Laura Kennedy, Islington, Ontario
 Mrs. Janet Kern, Short Hills, New Jersey
 Mrs. Richard P. Klein, Geneva, Ohio
 Mr. John Klipstein, Wausau, Wisconsin
 Mr. E.V. Komarek, Tallahassee, Florida
 Mr. Jeff Korte, Cloud, Minnesota

L.

Mrs. Valeria Laking, Mt. Clemens, Michigan
 Miss Ivy Lemon, Gloucester, Massachusetts
 Mr. Daniel Levey, Fremont, California
 Mr. Steve Lewis, Bradenton, Florida
 Mr. Matthew Limburg, Salt Lake City, Utah
 Mr. Charles Lipscomb, San Antonio, Texas
 Francisco, López Nuñez, San Luis Potosí, México
 Dr. and Mrs. Lester Luxenburg, Tonopah, Arizona
 Mr. Billy Lynch, Poughkeepsie, New York
 Elisabeth Lytle, Detroit, Michigan

M.

Mr. Bill MacDonald, London, Ontario
 Mr. Mauricio MacGregor, México, México
 Mr. and Mrs. Laurence Magner, Salem, Massachusetts
 Dr. Harold Mahan, Cleveland, Ohio
 Mr. James Malick, Stevens Point, Wisconsin
 Mrs. Charles Mallery, Vestal, New York
 Mrs. G. Eldred Mathes, Pontiac, Michigan
 Mr. Roland R. Matson, Minneapolis, Minnesota
 Mr. Curtis C. Matzke, Janesville, Wisconsin
 J.W.H. Maxwell, Montreal, Quebec
 Mr. Phillip McArdle, Williamsville, New York
 Mr. O.M. McClure, Salem, Oregon
 Miss Debbie McCoy, Cedar Rapids, Iowa
 Miss Kathleen McGee, Falls Village, Connecticut
 Mr. Peter McGuinness, Hamilton, Ontario
 Mrs. Ruth Anne McKee, Stockton, California
 The McLaughlin Family, Decatur, Georgia
 Mr. Carlton McQueen, Donna, Texas
 A.M. Mendoza, San Miguel Tenochtitlán, México
 Mrs. Joseph Miale, Trenton, New Jersey
 Mrs. Ruth Milani, Meaford, Ontario
 Mr. and Mrs. A.P. Miller, Jocótepec, Jalisco, México
 Mrs. Donna Miller, Ottawa, Ontario
 Mr. Glen Miller, Kensal, North Dakota
 Mr. Wendell Mohling, Overland Park, Kansas
 Molly Monica, Berkeley, New Jersey
 Prof. Pedro Morales López, Toluca, México
 Dr. Eugene Morton, Edgewater, Maryland
 Mr. Joseph Moss, Roanoke, Louisiana
 Miss Julie Movall, Storm Lake, Iowa
 James and Noemy Muggli, Roscoe, Minnesota
 Alberto Muyschondt, San Salvador, El Salvador

N.

Mrs. John Naas, Feasterville, Pennsylvania
Mr. Joe Nash, México City, México

O.

Mrs. Hellen Ochs, Columbus, Indiana
J.T. Olivas, Cuatrociéngas, Coahuila, México
Mrs. C.R. Orr, East Alton, Illinois

P.

The Wm. Palmore Family, Gainesville, Florida
Mr. Brian Patty, St. Paul, Minnesota
Mr. Franz L. Pogge, Westover, West Virginia
Mr. Steve Powers, Philadelphia, Pennsylvania

R.

Mrs. Helen V. Raub, Chatham, New Jersey
Mr. Tim Reece, Kanata, Ontario
Mr. Randy Reese, Newark Valley, New York
Mr. Dale Lynn Reichert, Abbottstown, Pennsylvania
Mrs. Suzanne Reuter, Bradenton, Florida
Brenda Reynolds, Erin, Tennessee
Mrs. Robert F. Ridgeway, North Tarrytown, New York
Mrs. D. Rippel, La Porte City, Iowa
Mrs. Fay Roberts, Sellersville, Pennsylvania
Mr. Thomas Ronan, Fishkill, New York

S.

Miss Mary Sawyer, Rockland, Maine
Mr. Nicholas Schaefer, Walnut Creek, California
Dorothy Schwimmer, Clarinda, Iowa
Mrs. George Scott, Casper, Wyoming
Misses Mary and Donna Seelhorst, Athens, Ohio
Mrs. L.G. Senghas, Mount Clemens, Michigan
Mrs. W. Severson, Middleton, Wisconsin
Mr. Mark Sibole, Alliance, Ohio
Mr. Wm. E. Sieker, Madison, Wisconsin
Mrs. Floyd Silliman, South Wales, New York
Mr. Calvin Sippola, Loomis, California
Mr. Leslie Smith, Citrus Heights, California
Mrs. Trudy Smith, Noank, Connecticut
Andrew and H.I. Sobel, Sierra Cotopaxi, México
Mrs. S.W. Spack, Salem, Ohio
Mr. Scott Spack, Salem, Ohio
Mr. Simon Spack, Salem, Ohio
Mr. Jim Steamer, Medfield, Massachusetts
Gayle Steed, Peterborough, New Hampshire
Mr. Peter Stevenson, Barto, Pennsylvania
Mr. Prentice K. Stout, Far Hills, New Jersey
Mr. Joseph Struthers, Boulder, Colorado
Mrs. Jean H. Stull, Waterford, Pennsylvania
Mrs. Faye Sutherland, Boise, Idaho
Mr. Jon Swanson, Dublin, New Hampshire
Mrs. Severin Swanson, Omro, Wisconsin

T.

Madeleine Tappé, México City, México
 Mrs. Laneil B. Teed, Wichita, Kansas
 Mrs. Frank Throm, Overland Park, Kansas
 De Ette, Becki and Hugh Tomlinson, Poynette, Wisconsin
 Mr. Brian Tuttle, Tulsa, Oklahoma

V.

Nancy Votova, Westchester, Illinois

W.

Mrs. Paula Waggy, Marlinton, West Virginia
 Mrs. Anna Walbridge, Quincy, Massachusetts
 Mrs. A. Welden, New Orleans, Louisiana
 Mrs. Maryanne West, Gibsons, British Columbia
 Miss A. Wilson, Cobourg, Ontario
 Mrs. Ellen K. Wilson, San Jose, California
 Mrs. John Wilson, Cobourg, Ontario
 R.R. Wilson, Suffern, New York
 Ro Woodard, Falconer, New York
 Mrs. Marie Wren, Fillmore, California
 Mrs. Maxene Wright, Mountain Brook, Alabama
 Mr. George Wurlitzer, Chico, California

Y.

Mrs. K. Yeager, Pearsall, Texas

Z.

Mr. Robert Zechel, Nashua, New Hampshire

PLEASE NOTE — The names of some research associates will not appear on the above list as these people joined our group after the Newsletter was sent to the printer.

...the following slides are available for purchase. The slides are

- a) the history of the monarch and adult
- b) tagging methods
- c) overwintering clusters of monarch butterflies and method of these clusters
- d) overwintering clusters of monarch butterflies
- e) monarch butterflies shown in various faunal zones of North America showing migration lines.

The slides are accompanied by a description of the subject matter suitable for classroom discussion or lectures.

The complete set of the slides is \$3.50 plus \$1.50 postage. If you wish to purchase the slides for \$1.00 each or \$30.00 for the complete set, please fill in the following information:

Name _____
Address _____
City _____
State _____
Zip _____

SCIENTIFIC PAPERS FREE TO RESEARCH ASSOCIATES

The following scientific papers are now available. If you wish to have copies in order to learn what we have found out about various aspects of the ecology of the monarch butterfly, check the appropriate spaces and fill in your name and address:

- ☐ 1. A discussion of the use of the word "migration" as it relates to a proposed classification of animal movements.
- ☐ 2. Laboratory techniques for maintaining cultures of the monarch butterfly.
- ☐ 3. A study of a continuously breeding population of *Danaus p. plexippus* (in California).
- ☐ 4. Fluctuations in the numbers of the monarch butterfly in North America.
- ☐ 5. Mechanism of cremaster withdrawal and attachment in pendant rholoceros pupae (Lepidoptera).
- ☐ 6. Microcauterization to maxillectomize lepidopterous larvae by fulguration.
- ☐ 7. The effect of cauterizing the PPM of the pupa of the monarch butterfly.
- ☐ 8. The effect of cauterizing the MNPPM of the pupa of the monarch butterfly.
- ☐ 9. The effect of microcauterizing the ALPPM of the pupa of the monarch butterfly.
- ☐ 10. Epidermal cells of the PPM of the pupa of the monarch butterfly.
- ☐ 11. Functions of the prismatic pigmented maculae of the pupa of *Danaus p. plexippus*.

Name _____

Address _____

Date papers were requested _____