

Annual Report to Research Associates

Insect Migration Association
1995

UNIVERSITY OF TORONTO SCARBOROUGH CAMPUS

Scarborough Ontario Canada M1C 1A4

R E P O R T

Although relatively few tagged monarchs were recaptured and reported to us they did, however, supply significant data. They indicated a north east to south west orientation - as has been demonstrated for the rest of the continent. The report of a flight from south to south-east is not unusual when migrants are released during the early morning hours, since they orient towards the sun.

As a result of our research over the past forty years we can conclude that fall migrating monarchs are guided to their final destinations by three main forces: SOLAR, MAGNETIC, AND OCULAR.

SOLAR: As moths fly to a light source, so likewise migrating monarchs fly towards the brightest light on the horizon during the morning hours turning to the west and south-west during the afternoon.

MAGNETIC LINES OF FORCE (MLF): The earth's magnetic lines play a most important role in directing migrant monarchs to their final destinations, moving from NE to SW. During overcast conditions migrant monarchs rely entirely on MLF. The substance magnetite has been found in the bodies of monarchs and this substance may act as a compass.

OCULAR: We have recorded numerous observations of migrant monarchs avoiding flights over large bodies of water. If forced to do so by strong off-shore winds they will orient their flights towards land. Under such conditions they are often attracted to large floating objects such as ocean ships and barges. When forced over large bodies of water beyond their sight of land they then follow the MLF arriving in such remote areas as the Yucatan Peninsula and the islands of the Antilles where thousands of migrant monarchs have been recorded roosting on trees and bushes having flown to land from the ocean.

THUS, WE MAY CONCLUDE THAT MIGRANT MONARCHS BEHAVE IN A MANNER SIMILAR TO MIGRATING BIRDS.

SIGHTING OF SPRING MIGRANTS

We all eagerly await the arrival of the first monarch butterfly during the spring migration and experience a sense of relief and joy to learn that these fascinating insects have indeed survived the hazardous journey to Mexico, endured the harsh winter there and are returning to the breeding grounds to begin the cycle of reproduction once again.

The following have sent us reports:

Ruth Addington,	Abilene, Tx.	Mar.23/94
Blanche Emerson	Dauphin Island,Al.	Apr.4/94
Alice Davis	Charlottesville, Va.	May 5/94
Jean Sinclair	Earlsville, Va.	May 9/94
Marilyn Gillaspie	Charlottesville, Va.	June 6/94
James Little	Wilmington,De.	June 11/94

Jean Sinclair reported that the May 9/94 sighting was very early for this part of Virginia.

Dorothy Yeager of Pearsall,Texas after 32 years of observation told us that she saw no spring migrants whatsoever, although normally she would have observed them in early March.

Dorothy Hoskins, West Dennis,Mass. reported "It was an amazing year for monarchs. In the 19-20 years I have been doing it (tagging) I have never seen so many!"

FIRST EGGS OF MONARCHS OBSERVED

Blanche Emerson	Dauphin Island,Al.	Mar.30/94
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FIRST LARVA OF MONARCH OBSERVED

Blanche Emerson	Dauphin Island,Al.	Apr.7/94
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FIRST PUPA OF MONARCH OBSERVED

Blanche Emerson	Dauphin Island,Al.	May 2/94
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LAST MONARCHS OF THE SEASON SIGHTED

James Little	Wilmington,De.	Oct.19/94
Jean Breen	Brookfield,Ct.	Nov.4/94
Alice Davis	Charlottesville, Va.	Nov.15/94
Marilyn Gillaspie	" "	" "

RECAPTURE RECORDS FOR 1994

Tagged By	At	Recaptured At
** Susan Carpenter	Marshfield, Vt.	Hampton Bays, Long Island, N.Y.
Blanche Emerson	Dauphin Island, Al.	Gulf Shores, Al.
James Kupcho	Island Beach State Park, N.J.	Long Beach Island, N.J.
Lee Zieke Lee	Winneshiek County, Ia.	El Rosario, Mich, Mexico
Barbara McGhee	Erie, Pa.	" " " "
*Jane Ruffin	Cape May Point, N.J.	Gulf Shores, Al.
Frances Welden	New Orleans, La.	New Orleans, La.
Cyril Zewe	North Huntingdon, Pa.	Finleyville, Pa.
** " "	" " "	Blacksburg, Va.

*correction of listing in 1994 Insect Migration Studies.

**These flights do not follow the usual flight pattern of the fall migration to the southwest. Flights such as these usually occur during periods of strong westerly winds which deflect the monarchs from their usual direction.

SPECIAL ACTIVITIES OF ASSOCIATES

It is always a pleasure to report the special activities of associates in connection with their interest in conserving the monarch butterfly:

Ruth Addington of Abilene, Texas is continuing to establish butterfly gardens and giving programs about butterfly gardening. She displayed monarch butterflies in all stages on Wildflower Day, May 1, 1994

Jim Kupcho of Woodbridge, N.J. assisted by Linda Peterson gave a successful lecture at Great Swamp Outdoor Education Center.

Marsha Hancock of Monroe, N.C. writes, "We had guests who had driven nearly 300 miles round trip to get milkweed because they feared their 7 caterpillars were running out. They took a whole flat of 48 plants.!"

Marsha also writes that she does craft classes at a local nursing home "but the butterfly releasing proved to be the most rewarding thing that I've ever done with these precious people."

Norwood Keeney of Georges Mills, N.H. gave a lecture on the migration of the monarch butterfly at the Science Center for N.H. series "Earth Systems"

James Little of Wilmington, De. writes, "The public monarch tagging programs we held were very popular".

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special activities cont'd

Michael Riska, Hockessin, De. "We also have a full day on the monarch for 30 teachers taking a Natural History Graduate Course that we offer through the University of Delaware".

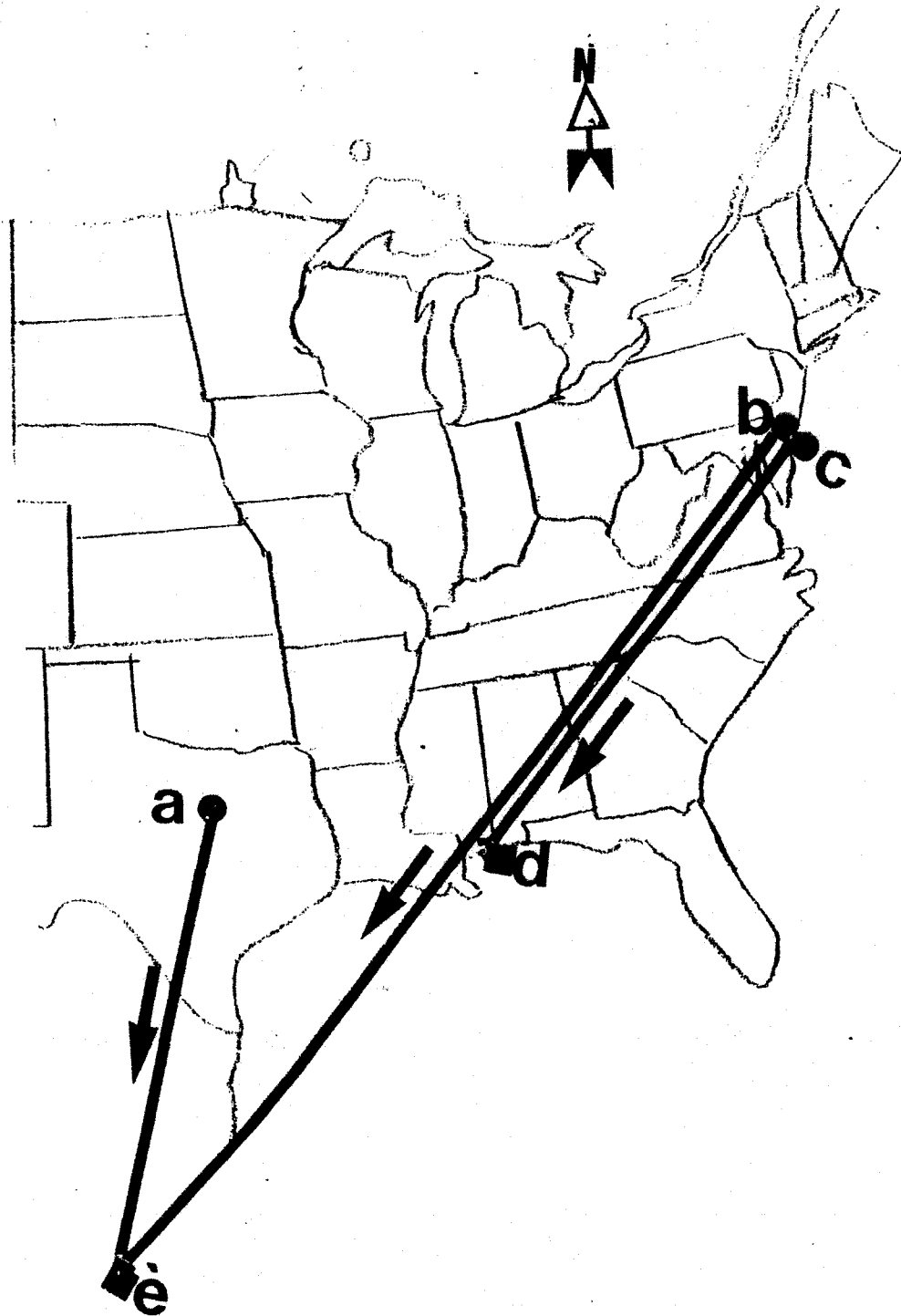
Michael also writes, "we are managing the area (Burrows Run Preserve in Delaware) for the best production of milkweed for monarchs".

Jean Sinclair of Earlsyville, Va. writes, "I gave my version of the Monarch Butterfly story again to a garden club here on May 9/94. By an odd coincidence I saw the first monarch of the year just two hours before the talk".

Audrey Wilson of Cobourg, Ontario did a slide presentation for the Durham Field Naturalists in Oshawa, Ont. Audrey said the talk aroused much interest in the monarchs and in her trip to the overwintering site in Mexico.

WINTER MONARCHS

Blanche Emerson of Dauphin Island Al. writes, "All winter here I have seen occasional pale monarchs flitting about on sunny days. I plan to watch closely for the first eggs laid".



ATLANTIC COAST FALL MIGRATION RETURNS

Houston Tx (a) to Carmona Mx (e)
 N. Tarrington NY (b) to Carmona Mx, (e)
 Cape May Point NJ (c) to Gulf Shores, Ala (d)

PUBLICITY

We are very fortunate, as a group of research associates, that the insect we are studying generates so much interest on the part of the public. This fascination with the monarch butterfly has been basic to our success in our research since we have been totally dependent on the interest of casual observers to send us information about the butterfly's movements; information which is vital to our work. The recapture of a tagged butterfly released in the wild cannot be controlled or anticipated in any way- this is why our research is painstakingly slow in adding a very small amount of data for each year of study.

Because of this situation the amount of publicity generated by the monarch butterfly helps us indirectly in our research by keeping the public aware of its unusual behaviour. compared with other insects.

We would like to thank the following for sending us very interesting newspaper and magazine clippings, many with very attractive pictures not only of the butterfly but of its captors; we also received one comic strip based on the life history of the monarch!

Marsha Hancock, Beth Karrow, Norwood Keeney, Dorothy Hoskins, Mary Lyons, Joan Senghas, Jean Sinclair, Audrey Wilson, Cyril Zewe.

Excerpts were received from the following publications:

The Enquirer Journal, (Monroe, N.C.), Cape Cod Times, The Sciences, The Standard Times, The Globe, The Providence Sunday Journal, University of Waterloo Gazette, The Detroit News, Santa Barbara News Press, The Toronto Star, Daily News, Adirondack Park Brochure, "Ask Shagg", The Butterfly Place brochure, Leland Enterprise.

We would be pleased to send you a copy of these excerpts if you are interested.

REPORTS OF TAGGING

We would like to thank the following for sending us reports of their tagging of monarch butterflies during 1994:

Ruth Addington, Arlene Benham, Marcia and Arnold Briggs, Alice Davis, Blanche Emerson, Marilyn Gillaspie, Marsha Hancock, Steve Haydock, Wendy Kopley, James Kupcho, Wendy Nolin, Pat Reese, Marion Smith, Cyril Zewe.

These reports are the basic data from which we are able to trace the movements of the monarch butterfly during the migration. A total of 2,269 monarch butterflies were tagged in 1994.

We would like you to send in your reports as soon as you have completed your tagging so that we may have the necessary information with which to work out the flights of tagged individuals.

Please put the total number of tags used on the first sheet of your report.

PEACH COLORED PUPA

Marsha Hancock sent us a photo of a peach colored pupa, This is unique in our experience. Have you ever had a peach colored pupa or seen one? Let us know.

PLEASE KEEP YOUR LEFTOVER TAGS

We would like you to keep any tags that you have left over at the end of the season for use next year.

The reason for this is that the tag numbers that are sent to you are kept on permanent record here at our office and will not be reissued to anyone else.

Since the adhesive on the tags is permanent and will remain sticky for many years, there should be no problem with its drying out. However, if you live in a dry climate, we recommend that you keep the tags wrapped in plastic film.

When you renew your membership with our group, please list the numbers of your tags that are left over so that we may verify the numbers on the tags of recaptured butterflies that are reported to us.

DEFECTIVE TAGS

Although most of the tags that we issue are clearly printed, occasionally some are sent out that do not have clearly printed numbers. This may happen especially if a large number of tags are sent to one associate.

In any case, please examine your tags carefully before using them in order to be sure that all of the numbers are easy to read.

If you have been sent tags that are defective in any way, that is the printing is not clear or the backing is not sticky, please return them to us and we shall replace them.

CREASE THE TAG BEFORE REMOVING FROM BACKING

If you bend the alar tag in half before removing it from the backing you will find that it is much easier to place the tag over the edge of the wing. Mary Lyons brought this method to our attention to inform the associates. This is the method that we have used with considerable success. Another method is to place half the tag on the underside of the wing and then bend it over. This, however, often leaves too much of the tag protruding from the margin of the wing. Whatever method you use, always be sure that all scales have been removed from the wing membrane in the area to which the tag will be applied.

If you need to contact us about ordering alar tags or for information about our research, please telephone one of the following numbers:

1-416-282-1678 Our home phone and leave a message on our answering tape.

RESEARCH ASSOCIATES

Addington, Ruth, Dallas Tx.
Benham, Arlene, Grand Manan Island, N.B.
Brault, Kathy, Westborough, Ma.
Breen, Jean, Brookfield, Ct.
Carsten, Sue, Hartford, Ct.
Clough, Harry, Hamburg, N.Y.
Craighton, LuAnn, Pine Mountain, Ga.
Davis, Alice, Charlottesville, Va.
Dewind, Joan, Sherman, Ct.
Dimattia, Janet, Trumbull, Ct.
Dunn, Mike, Raleigh, N.C.
Emerson, Blanche, Dauphin Island, Al.
Gillaspie, Marilyn, Charlottesville, Va.
Hancock, Marsha, Monroe, N.C.
Hayden, Thomas, Winchester, Ma.
Haydock, Steve, Byfield, Ma.
Jackson, Franne, Dallas, Tx.
Keeney, Norwood, Georges Mills, N.H.
Kopley, Wendy, Skaneateles, N.Y.
Kupcho, James, Woodbridge, N.J.
Little, James, Wilmington, De.
Nolin, Wendy, Sunapee, N.H.
Post, Earle, West Milford, N.J.
Reese, Pat, West Hartford, Ct.
Serrill, Linda, Matagorda Tx.
Smith Marion, Lyndonville, N.Y.
Yeager, Dorothy Yeager, Pearsall, Tx.
Zewe, Cyril, North Huntingdon, Pa.
Briggs, Marcia and Arnold, Marshfield Hills, Ma.
Hoskins, Dorothy, West Dennis Mass.