



# NEWSLETTER of the Wisconsin Entomological Society

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Les Ferge, Editor

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## THE XERCES SOCIETY'S FOURTH OF JULY BUTTERFLY COUNT, 1992

The 18th annual Xerces Society Fourth of July Butterfly Count will be held this summer. Participants select a count area with a 15-mile diameter and conduct a one-day census of all butterflies sighted within that circle. The counts are usually held in the few weeks before or after July 4.

In 1991, 145 Fourth of July Butterfly Counts were held in North America (up from 119 in 1990), including 39 first year counts. These counts occurred in both the United States and Canada in 34 states and 3 provinces. Four of the counts (1 in California, 2 in Colorado, and 1 on the Louisiana/Mississippi border) have been held each of the last 17 years. The number of people participating in each count adds up to 1,116 counters (although some people are tallied more than once, since they participated in two or more counts). The 1991 counts reflect the unusually high number of Painted Ladies, also known as Cosmopolitans (Vanessa cardui), throughout the country. Monarchs (Danaus plexipus) also occurred in much higher numbers than average east of the Rocky Mountains.

Continent-wide, the Ramsey Canyon, Arizona count had the highest number of species, with 97 different kinds found. This count also expended the most effort, for the amount of time each of eight separate groups spent in the field added up to 61.5 hours! The Klamath Falls, Oregon count had the most individual butterflies observed, with a whopping 8,010 reported. The Upland Hills Farm, Michigan count fielded the most people, a remarkable 175 (167 youth campers directed by eight leaders). The Medford, Wisconsin count censused butterflies at the fastest rate, with 725.6 individuals per hour of counting effort. In the Midwest, the Outagamie County, Wisconsin count had the highest number of species, at 48. The Greater Muskegon, Michigan count expended the most effort as measured by the amount of time each of its separate groups of counters spent in the field, a total of 22 hours. The Medford, Wisconsin count had the most individual butterflies, an amazing 5,805.

The annually published results of the butterfly count provide important information about the geographical distribution and population size of the species counted. Comparisons of the results over the years enable monitoring of the changes in butterfly populations and the study of the effects of weather  
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The Newsletter of the Wisconsin Entomological Society is published three times a year, at irregular intervals. It is provided to encourage and facilitate the exchange of information by the membership, and to keep the members informed of the activities of the organization. Members are strongly encouraged to contribute items for inclusion in the Newsletter. Please send all news items, notes, new or interesting insect records, season summaries, research requests etc. to the editor: Les Ferge, 7119 Hubbard Avenue, Middleton, WI 53562.

and habitat change on the different species throughout the continent. In some years the butterfly count shows dramatic changes in butterfly populations, while other years indicate little fluctuation in butterfly numbers. Either way, butterfly counters are always curious about what next year's results will be!

No matter how much or how little butterfly watching you've done, the results of butterfly counting can be surprising and fascinating. If you know how to identify the butterflies in your area, you may start your own count. Otherwise, inspire a nature center or butterfly club to start one for you! In 1991, the Midwest Region had 39 counts (up from 26 in 1990), the most of any region! There were 5 counts in Illinois, 3 each in Indiana and Iowa, 8 in Michigan, 2 in Minnesota, 6 in Ohio and 12 in Wisconsin. For more information on how to conduct a count, contact a national count co-editor:

Dr. Paul A. Opler  
5100 Greenview Court  
Fort Collins, CO 80525

or

Mrs. Ann B. Swengel  
909 Birch Street  
Baraboo, WI 53913  
(608) 356-9543

#### REGAL FRITILLARY BUTTERFLIES

Bob Borth

Recent attention given to this insect has prompted me to share some of my experiences with one of my favorite species. As a youngster, I was struck by the size and beauty of the Regal Fritillary (Speyeria idalia). After seeing the butterfly in my nature guide, I went to the Milwaukee Public Museum and tried to photograph specimens in a prairie diorama through the glass. I watched dozens of other Fritillaries and was obsessed with the idea of finding the huge Fritillary with velvety black hindwings highlighted with cream-colored spots.

After years of fruitless searching, I travelled to Bill Sieker's cottage in Iowa County determined to find a Regal. It was 1974 and my attempt the year before met in failure. After traveling over cow pastures and swampy areas I came across my first Regal perched on a thistle. I will never forget collecting that first specimen on June 30. I returned on July 31 and found another, as this species has a long flight period. On 10 July 1976 I first saw the butterfly in numbers, nectaring on tall thistles at Governor Dodge Park. The temperature was 100 degrees F. which seems to suit this species just fine.

My first experience with the Regal on a native prairie habitat was on 16 July 1978 when I came upon the species at Muralt Bluff Prairie. At Muralt and a nearby prairie remnant about 1½ miles southeast, I found the species relatively plentiful. Males would traverse the prairies, rarely landing, looking for females, which I rarely encountered myself. This was the same year I encountered the species at Spring Green in a similar open prairie habitat.

By this time I was traveling outside of Wisconsin and ran into the species as early as 19 June at the Bicentennial Prairie in western Minnesota, and as late as 11 July near Poverty Hollow, West Virginia. My latest observation in Wisconsin was on 26 August 1979.

After several unremarkable years the species came back strong in July of 1984 at Muralt. Les Ferge and I stood in awe as we experienced what it must have been like before the prairies were plowed under. Dozens of butterflies were crossing the prairie, generally frustrating our attempts to photograph them. Regals were also common that day at the nearby Oliver Prairie.

On the Fourth of July 1987 I was just beginning to do research on the prairie underwing moths (Catocala) at Muralt. I had enlisted the help of Tom

Barina and his young sons Mike and Andy. We were treated to the largest abundance of Regals that I had ever witnessed. The Regals were especially attracted to butterfly weed and some photography became possible. Mike later drew me a picture of a Regal that reminded me of my earlier attempts to draw the many wedges on the underside of the hindwing. Several individuals were also seen at Spring Green that year.

In 1987 and 1988 Wisconsin experienced drought and the population crashed. Since then, I have found the species only sparingly at Spring Green and Muralt. In 1989 the Regal Fritillary was listed as threatened in Wisconsin by the DNR's Bureau of Endangered Resources. Due to the ensuing collecting restrictions, I have curtailed my search for the species which had provided such a great impetus for my study of Lepidoptera.

Ann Swengel has recommended increasing the amount of prairie acreage around the protected Muralt Bluff and Oliver Prairies. I too have hoped that we could expand the habitat of some of our choice dry prairie Lepidoptera and would further include the extensive area to the southeast. Careful management with only limited burning is critical to the Regal's survival here. For us to truly understand this species in Wisconsin we should become more familiar with its life history. Females lay their eggs in fall and newly-hatched larvae hibernate before feeding on violets the next spring. After 18 years of experience with the Regal, I know that I have only scratched the surface.

#### NEW DRAGONFLY SOCIETY FORMED

The Dragonfly Society of America (DSA) was formed in 1989 to serve the interests of professional and amateur Odonatologists in all countries. The society's purposes are to encourage scientific research, habitat preservation and aesthetic enjoyment of Odonata. Publications furnished with membership are ARGIA, a quarterly news journal, devoted to news about society affairs, informal articles on collecting, and news and views on Odonatology in general; and an ANNUAL SEASON SUMMARY, devoted to collecting records submitted by persons doing field work anywhere in North, Central or South America. As demand develops, other serial and separate publications are planned.

Membership in DSA is open to any person interested in the objectives of the society. Dues and membership are for the calendar year, without regard for the month you join, dues are initially payable with enrollment application. All members will receive current calendar year issues of publications. Dues are \$10.00 for Regular Membership, \$15.00 for Sustaining or Institutional Membership. Send application and check or money order made payable to:

The Dragonfly Society of America, 469 Crailhope Road, Center, KY 42214

#### ODONATA PRESERVATION TECHNIQUE

Susan Borkin

The following technique is currently the most widely accepted practice among Odonatologists for killing and preserving dragonflies and damselflies. It prevents rotting and helps to retain body colors, but requires precautions.

Place live specimens into individual glassine or paper envelopes for several hours or overnight until they have expelled gut contents. Data should be marked on envelopes in pencil rather than ink. Kill specimens by dipping them in acetone for a few seconds. Then adjust by folding wings over the back, straightening legs and abdomen, and return specimens to their envelopes. Snip off bottom corners and place entire envelopes into a wide-mouth jar of acetone

for about 24 hours. Drain, and allow specimens to dry for another 24 hours before transferring to storage. The acetone draws out water and dissolves some of the body fats. It should be replaced by fresh fluid after it begins to yellow. Pinning is not recommended for Odonates because heads and abdomens tend to break off easily and become disassociated.

**WARNING!** Acetone must be handled with the proper precautions. It is highly flammable, a powerful solvent, and breathing fumes or contact with skin should be avoided.

## RESEARCH REQUESTS

If you are traveling through Iowa after the Lepidopterists' Society meeting this summer I invite you to stop and survey the Lepidoptera wonders of Iowa's prairies, woodlands and wetlands. Late June and early July is the flight period of wetland and prairie butterflies including Hesperia, Poanes, Polites and Oarisma. Interesting sites are easily accessible from Interstate 80. Other sites can be visited in a half or full day trip off the Interstate. We know something about the butterflies at a number of sites but very little about moths anywhere in the state.

Sites easily accessible from I-80 range from woodland to wetland to prairie and are distributed across the southern portion of the state. Trips off the Interstate of as little as two hours should be rewarding. Our largest prairies are in the northern portion of the state. The Dickinson-Emmet County area in the northwest has several 100+ acre prairies in good condition. For those interested in staying over, accommodations are available near Spirit Lake at Lakeside Lab Field Station. Room and board is about \$30 per day, reservations are necessary. I will be at Lakeside for part of that week working on a study of skippers on prairie sites and would welcome company.

Several of the sites available are state preserves. We allow collection for identification purposes, but permission must be obtained from the State Preserves Board. We have several species of butterflies on the state threatened and endangered lists. Collection of these requires a collector's permit. I will obtain blanket permits for the state preserves and protected species, but I must know by late May who will be here and what sites are likely to be visited.

This invitation is specifically for the period after the Lep. Society meeting, but I want to invite anyone interested in Lepidoptera to stop in Iowa at any time. We have a broad range of unexplored habitats. People surveying butterflies are likely to find county records. Those looking for moths may well find state records. If you want to be immortalized in our record book, come on out. Don't despair if you see this after the end of May. If you want to come out, give me a call. We can work something out. Please contact: John Fleckenstein, Dept. of Natural Resources, Wallace State Office Bldg., Des Moines, IA 50319. Phone (515) 281-8967.

I am interested in learning about any Wisconsin localities where the Great Copper Butterfly Lycaena (Gaeides) xanthoides dione has been observed, for an ongoing study of this species. I am also looking for roosting sites used by Monarch butterflies during the Autumn migration. Old records and natural history observations for either species would be greatly appreciated.

Susan Borkin, Invertebrate Zoology Section, Milwaukee Public Museum, 800 W. Wells Street, Milwaukee, WI 53233. Phone (414) 278-2758.

The Midwest Region of the Fourth of July Butterfly Count reaches from Ohio to Iowa and Michigan to Minnesota. In this area of seven states, a total of 407 counters (with 175 on one Michigan count!) found 31,515 individual butterflies and skippers (15,569 in 1990) in the 39 midwestern counts held in 1991, with 25 of the 26 counts held in 1990 repeated in 1991. Collectively we found more species (108 on all 1991 counts compared to 95 in 1990 and 91 in 1989) and more individuals/party-hour (96.2 in 1991, 81.68 in 1990 and 78.43 in 1989) than ever before, and more species/count (27.4 in 1991, 25.1 in 1990, and 26.9 in 1989) than previous years except 1987 (28.6). Party-hours are totaled for a count by adding up how many hours each group or party of counters spent in the field.

Several species found in 1991 have never been reported from counts in this region previously, including Hermeuptychia hermes, Achalarus lycaeides, Staphylus hayhurstii, Hesperia ottoe, Nastra lherminier, and Poanes zabulon. Also, some resident species normally in flight during the count period have been rediscovered on counts after several years' absence, including Colias interior, Lycaeides melissa samuelis (last reported in 1988), Calephelis muticum and Speyeria idalia (last reported in 1987).

The species with the highest numbers seen on a single count were Colias philodice (3517, Medford, WI), Pieris rapae (2034, Medford, WI), and Cercyonis pegala (605, Emmet and Cheboygan Counties, MI). No species was found on all midwestern counts, but Danaus plexippus was found on all but one (97%). Other frequently found species were Pieris rapae, (36/39 counts, 92%), Colias philodice, (35/39 counts, 90%), Limenitis arthemis (artemis and astyanax, 33/39 counts, 85%), and Colias eurytheme (32/39 counts, 82%). All of these species have usually been found widely in the region's counts. Last year's most frequent butterfly, Vanessa atalanta (25/26 1990 counts, 96%, with a maximum of 200 on a single count), returned to its more normal occurrence in 1991 (25/39 counts, 64%, with a maximum of 22 on a single count).

The situation with immigrant species was much improved over recent years. Of those species that are immigrants throughout the region except southern Illinois (and therefore, the Shawnee Hills, IL count is excluded), 11 were reported in 1991, the most since 1986. Individual immigrants in 1991 (0.76/party-hour) was less than 1986 (1.18/party-hour) and 1987 (0.87/party-hour), but is at least double the rates of the intervening years.

Monarchs had their best year ever recorded in midwestern counts, with a remarkable one-count high of 413 (Emmet and Cheboygan Counties, MI), which far exceeded the previous regional high of 140 (Montgomery, IA, 1989). Although Monarchs have frequently been reported from all or nearly all midwestern counts, the 1991 average rate of 5.1 individuals/party-hour is about five times the region's usual rate.

General weather conditions in the region were variable, with some areas, such as western Minnesota and Iowa quite wet, even flooded in some areas, while other areas, such as northern Illinois, experienced drought. Much of the region had an early hot spring, which advanced the sequence of butterfly flight periods by as much as several weeks in some areas.

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