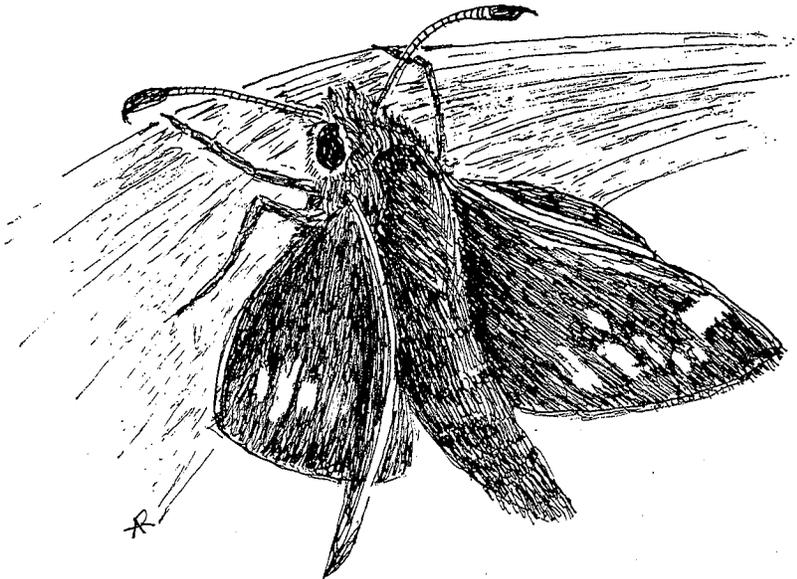


MASSACHUSETTS

BUTTERFLIES

August 1998

No. 11



"MASSACHUSETTS BUTTERFLIES" is the semi-annual publication of the Massachusetts Butterfly Club, a chapter of the North American Butterfly Association. Membership in NABA-MBC brings you "American Butterflies," "Massachusetts Butterflies," "Butterfly Garden News," and all of the benefits of the association and club, including field trips and meetings. Regular annual dues are \$25.00. Those joining NABA-MBC for the first time should make their checks payable to NABA and send it to our treasurer, Lyn Lovell, at the address listed below. Membership renewals are handled through the national office: NABA, 4 Delaware Road, Morristown, NJ 07960; telephone 973-285-0907.

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1998 Fourth of July Butterfly Counts

A = Northern Berkshire County (M Fairbrother)
 B = Central Berkshire County (T Tynning)
 C = Southern Berkshire County (R Laubach)
 D = Central Franklin County (M Fairbrother)
 E = Lower Pioneer County (R Pease)
 F = Northern Worcester County (G Howe)
 G = Concord (R Walton)
 H = Ipswich (B Speare)
 I = Foxboro (B Cassie)
 J = Bristol County (M Mello)
 K = Outer Cape Cod (J Sones)

Common Name	A	B	C	D	E	F	G	H	I	J	K
Black Swallowtail	6	5	9	6	1	7	2	7	5		
Eastern Tiger Swallowtail			11	6	4	59	10	19	6		4
Canadian Tiger Swallowtail											
Spicebush Swallowtail			1	13		17	2	4	1	12	17
Mustard White		1									
Cabbage White	35	31	69	41	3	57	17	36	83		224
Clouded Sulphur	149	97	238	253	5	216	27	31	57		10
Orange Sulphur	19	7	36	18	7	13	7	21	17	3	7
American Copper		4	1	39		600	28	69	424		263
Bog Copper				33		5	12				
Coral Hairstreak	3	6	2	3	1	4	5		10		4
Acadian Hairstreak	1	2				7			3		
Edwards' Hairstreak						2	2		7		
Banded Hairstreak	2	2		1		10	1	1	7		1
Hickory Hairstreak	1		1								
Striped Hairstreak	3	6	1	2		4	1	1	1		4
Gray Hairstreak				1		10	4		3	1	7
Eastern Tailed-Blue	1		3	9	3	17	3	2	38	1	17
Summer Azure	6	4	6	1		35	16	6	19		5
Great Spangled Fritillary	34	12	16	45	4	47	12	20	23	4	
Aphrodite Fritillary	41	2	2	18		17		3	1		
Atlantis Fritillary	64	11		1							
Silver-bordered Fritillary			9	4		11	4		4	1	
Meadow Fritillary	2		2	39		2					
Pearl Crescent	10	3	72	5	9	27	15	28		11	
Baltimore Checkerspot	2			51		2			295		
Question Mark	2	4	5	2		2	1	2			1
Eastern Comma	7	1	2	3				3			
Compton Tortoiseshell	4										
Mourning Cloak	7	1	1	3		4		4		1	
Red Admiral	6	4	3	4		3	1	5	1		1
American Lady	2		2	4		13	4	7	9	2	8
Red-spotted Purple	13	5	4	1					1		
White Admiral					1						
Viceroy		1	4	4	1	6		5		8	
Hackberry Emperor			2								
Northern Pearl-eye	10	11	1	2		3	3				
Eyed Brown	4		18	6			9	1	1		
Appalachian Brown	1			2		1	10	1		2	8
Little Wood-Satyr				4	1	10	22	11	11	1	31
Common Ringlet				3		2				2	

Common Name	A	B	C	D	E	F	G	H	I	J	K
Common Wood-Nymph	51	108	483	10	10	12	36	39	29	1	91
Monarch	12	11	61	9	2	26	11	17	12	2	17
Silver-spotted Skipper	17	6	9	62	3	136	13	28	21	2	71
Hoary Edge						2			3		
Southern Cloudywing				6		1					
Northern Cloudywing				1							
Wild Indigo Duskywing				2	33	6				3	1
Common Sootywing			2	4	1		3		1		
Least Skipper	8	3		12		1		1	3		3
European Skipper	50	123	4	18		321	1	2	260	1	41
Peck's Skipper	22	15	9			2				2	
Tawny-edged Skipper	4	3		3	1	2					
Crossline Skipper	2	1		5		9	1		4		15
Long Dash		4		4		1			1		1
Northern Broken-Dash	15	4	16	13	2	34	6	21	6	1	5
Little Glassywing		6	2	7	1	24	11	11	9		10
Delaware Skipper	7		4	13		16	6	2	12		1
Mulberry Wing			15		3	3	20		1		
Hobomok Skipper		2		4					2		
Broad-winged Skipper					1			7		2	
Dion Skipper	2										
Black Dash	2		7	3		9	9		4		
Dun Skipper	25	17	44	25	3	37	10	15	1	4	83
Total # of Individuals	664	533	1177	834	110	1856	345	430	1396	67	951
Total # of Species	40	35	39	51	23	50	37	33	40	22	29
Total # of Participants	6	7	11	11	1	25	18	12	14	4	
Total # of Party Hours	34.3	22.8	35.5	39	6.2		18	34	26.5	4	
Count Date	7/15	7/11	7/18	7/5	7/18	7/12	7/11	7/19	7/5	7/22	7/12

Compiler Tom Dodd

Butterfly Checklist Available

MBC's "Checklist of the Butterflies of Massachusetts," compiled and edited by Tom Dodd, is something every butterflyer should have along on field excursions. Over 19,000 recent Massachusetts butterfly records are the basis of this checklist. An extraordinary amount of information is packed into this listing, the first of its kind ever available for the state. The checklist includes all species, their flight dates, their relative abundance, and highest population densities. A map pinpoints major and minor data collection areas in the state. Copies are available at \$1.00 each from the club. Please send a stamped envelope with your order, and a check payable to Massachusetts Butterfly Club, to Tom Dodd, 33 Mechanic Street, Upton, MA 01568. You will be glad you did!

Island Blues: 1998 Azure Flights on Martha's Vineyard

Matthew L. Pelikan

One of the most welcome sights to Massachusetts butterfly watchers is the first azure of spring: a flake of summer sky, fluttering over a woodland path just as winter loses its grip. Spring Azures are among the first butterflies to emerge in the spring, preceded mainly by Mourning Cloaks and Compton Tortoiseshells which cheat by overwintering in adult form! But although azures are pretty, their taxonomy is enough to make a field observer cringe.

For many years I believed what I had once been told: The Spring Azure was a single species exhibiting several flights (or one continuous flight) from early spring until late summer. But some recent research indicates the possibility that several species are involved in the *Celastrina* complex, and at least three occur in eastern Massachusetts: the Spring Azure, a single-brooded butterfly of early spring; the Cherry-gall Azure, also single-brooded, flying just after the Spring Azure; and the Summer Azure, displaying several full or partial broods through the summer and somewhat muted in its markings, relative to its sibling species.

Further complicating the picture is the fact that azures come in three pigmentational variants: the form "lucia," characterized by a large, dark spot in the middle of the hindwing, and a dark hindwing margin; the form "marginata," lacking the dark spot in the center of the wing but sharing the dark margin of form "lucia"; and the form "violacea," which has a pattern of tiny spots on its underwing but lacks heavy dark markings altogether. These forms are said to interbreed freely, representing color morphs, not taxonomically distinct populations. The relative abundance of these forms varies with species and location.

This arrangement is still problematic: Reliable separation of these species in the field by any criteria other than flight date may not be possible, and the basis of ecological and reproductive isolation within this complex does not yet seem to be fully understood. But the idea of multiple azures seemed like a reason to

pay special attention to these pretty blue butterflies during my first spring on Martha's Vineyard; and although distractions, bad weather, and occasional laziness in keeping records limited the quality of the data I collected, my observations during 1998 suggest that the three species mentioned above are all part of the Island's fauna.

I found my first Spring Azure in Chilmark on April 11 — an exquisite sunny day. Azures in mid-April occurred in a variety of habitats: dry oak forest, such as that found in the State Forest; mesic deciduous forest, such as that found in Chilmark at Waskosim's Rock; Bearberry on the margin between Pitch Pine forest and Little Bluestem grassland, at Trade Winds Preserve in Oak Bluffs; and damp, mixed forest/shrub swamp, such as that found at the Farm Pond preserve in Oak Bluffs. I encountered azures in all of the Vineyard towns except Aquinnah (formerly Gay Head), which I did not visit during this period.

From April 11 until April 21, I noted the form of all azures I got an adequate look at. During this period I observed ten individuals of the form "lucia" and eight of the form "marginata"; four individuals of unknown form were also observed, but I saw none that I could identify as form "violacea." In the early part of this period I was finding azures one at a time but on April 21, I recorded a total of seventeen at seven locations. On April 22, which may have represented the peak of the early azure flight, I visited three locations and found a total of twenty-three azures, with the highest single-location count being twelve in the West Tisbury portion of the Manuel F. Corellus State Forest. At this point in the season, I was paying more attention to other species, and I didn't work very hard determining or recording the forms of azures I observed on this date. But I had noticed the evident absence of "violacea" azures, and had determined to keep alert for my first sighting of this lightly-pigmented form. None of the individuals well seen on April 22 was "violacea."

I was out of town from April 24 until May 3, and upon my return work and wet weather conspired to curtail my time in the field. However, I found five azures on May 5 at Farm Pond (again not noting the forms except to observe that none were form "violacea"). It was not until May 12, when azures had been flying for a full month, that I first encountered a "violacea" azure: a

single individual at Farm Pond. On this date, I noted that azures generally were "fairly common." On the 14th, I found a second "violacea," this time at Trade Winds in Oak Bluffs; again, on this day I otherwise noted only that azures were "fairly common" and present at several locations.

But on May 16 the relative abundance of the form "violacea" underwent a meteoric rise. At Waskosim's Rock in Chilmark, I noted about 30 azures, while at Menemsha Hills, also in Chilmark, I counted "50+" (this latter location features a mix of mesic deciduous forest, dry oak forest, and a limited amount of shrub swamp). On this date my field notes indicate that all the Spring Azures I got a good look at were form "violacea," and all of them seemed fresh. This second flight (apparently consisting exclusively of the form "violacea") continued widespread into June; as late as May 29, I recorded a single-location count as high as nine individuals in West Tisbury along Old Courthouse Way. On June 6, I found seven faded and worn azures in Chilmark in the mesic forest of Fulling Mill Brook, and three (also worn) at Waskosim's Rock. After that I found a single battered azure in Edgartown on June 19, and then did not record any azures at all on the Island until July 30, when Vern Laux and I found two near the Christiantown Memorial in West Tisbury.

Though my observations produced no direct evidence that more than one species was involved, the patterns I noted fit neatly with a description of azure species presented by David M. Wright in an article in *American Butterflies*. (Wright 1995). Following Wright (1995), I believe that the azures flying during April and early May were Eastern Spring Azures, a widespread and variable subspecies associated with a range of host plants including Black Cherry, which is abundant on Martha's Vineyard (MVSRP 1997). My observations suggest that the darker pigmentational forms are prevalent in this species on Martha's Vineyard (much further work obviously is required to determine exactly how prevalent). Wright (1995) suggests that, while the darker forms "lucia" and "marginata" dominate at higher latitudes and elevations (neither term characterizes the Vineyard), they also occur on New Jersey's southern coastal plain, a region with which the Vineyard has some ecological affinity. Spring Azures in this region are apparently unusual in using blueberry as their host plant, and it would be

interesting to know if some Vineyard Spring Azures use this abundant food source, as well.

Azures flying from mid-May into early June were probably Cherry-gall Azures, a newly-defined species of which nearly all individuals are of the form "violacea." The range map for this species that appears in Wright (1995) suggests that Cherry-gall Azures do not occur in extreme eastern Massachusetts, but the map does indicate the presence of this butterfly on Long Island, the southern New England coastal plain, and in disjunct populations as far away as Nova Scotia. So, considering the imperfect state of knowledge of both the *Celastrina* complex and the butterflies of Martha's Vineyard, it is not hard to believe that the Vineyard harbors a population of Cherry-gall Azures. (Indeed, in 1998 the second form to fly — whatever it was! — appeared to be by far the most numerous azure on the Island.) Cherry-gall Azures apparently rely on leaf galls on Black Cherry as their larval food source; in some parts of its range this butterfly uses Inkberry, a holly species that is considered occasional in mesic forest and shrub swamp on Martha's Vineyard (MVSRP 1997). Perhaps in 1999 I will be able to determine if our azures during the second half of May and early June use one or both of these host plants. The worn condition of the individual I observed on June 19 implies the rear guard of the Cherry-gall flight rather than the onset of the Summer Azure flight; Cherry-galls began to fly, I suspect, around May 12, when I found my first "violacea" azures.

Finally, mid- or late-summer azure sightings on the Island must surely be referable to the Summer Azure. As far as I know, as of the writing of this article there had been only three reports of Summer Azures on Martha's Vineyard in 1998. One, mentioned above, was of two individuals found in a damp, brushy area adjacent to the parking lot at the Christiantown Chapel in West Tisbury on July 30. The second, from Vern Laux, was of two individuals at Fulling Mill Brook in Chilmark three days later. On September 12, I found an individual in swampy edge habitat at Wampeskett in Tisbury. Martha's Vineyard Land Bank records from 1997 list no azure sightings later than June 16, a date provocatively close to the one on which my 1998 observations fix the end of the putative Cherry-gall Azure flight (Malpass, unpubl. data). It seems reasonable to conclude that the Summer Azure is

uncommon on the Vineyard, though it is possible that field work in years to come will change that impression.

Three species of azures may well be the rule throughout eastern Massachusetts, so it is no surprise to find that this pattern prevails on Martha's Vineyard. But the complexities of this species group point to many interesting questions about the niches of azures in the unique ecosystem of Martha's Vineyard, and the ways in which Vineyard populations resemble (or don't resemble) their mainland counterparts.

References

Malpass, W. "Butterfly Sightings on MVLBC Properties, 1997."
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Martha's Vineyard Sandplain Restoration Project. 1997. *The Flora of Martha's Vineyard*. Vineyard Haven, MA: MVSRP.

Wright, D.M. 1995. "The American Azures: Our Blue Heaven."
American Butterflies 3(1): 20-28, 30.

Submission of Articles and Illustrations

We encourage all members to contribute to "Massachusetts Butterflies." Articles, sightings, out-of-state sightings, adventures, book reviews are welcome. Please send articles and illustrations to Alison Robb by December 1 for the winter issue and by July 31 for the summer issue. Send 4th of July counts and 1998 Records to Tom Dodd by the same deadlines.

1998 Season Sightings and Records

Please send 1998 sightings and records to Tom Dodd by December 1. He will turn all our records into a summary and inclusive tabulated record as has been done in the past.

Butterflies Across Massachusetts

On the Metacomet-Monadnock Trail

Carl Kamp

Tuesday, August 19, 1997 to Friday, August 29, 1997

When I was a student at the University of Massachusetts, Amherst, a mere 30 years ago, I would gaze from my ninth floor dorm window at the ridges of the Holyoke Range. I imagined that I would someday hike them. My dream came true last August when I completed a solo backpacking trip on the Metacomet-Monadnock (M&M) Trail from Rising Hills, CT, to Richmond, NH — just over 100 miles in eleven days.

I carried the "Metacomet-Monadnock Trail Guide," which is divided into 19 sections for the 100 miles it takes to cross the state. From the guide's introduction, "... it is a scenic trail using pathways... along the ridgetops, game trails, forest service roads, and wood roads in the backcountry inaccessible directly by vehicle. It follows in the cool shade beside dancing sylvan steams, climbs on the sunlit ridges high against the sky, and runs generally for miles through the serene forest solitude of central Massachusetts."

Despite my trail guide and a collection of topo maps, I managed to get lost three times while driving to Rising Hills, CT. A more encouraging sign was the Spicebush Swallowtail that was hovering around the start of the trail, occasionally taking fluids from the puddles.

Leaving the road across an open field, I found dark yellow goldenrod and raspberry sorbet-colored Joe-Pye Weed in full bloom in the morning sun. Butterflies included Monarchs, Common Wood Nymphs, Clouded and Orange Sulphurs, Pearl Crescents and Common Ringlets. I was off to a good start, although at this slow pace it would be winter by the time I reached the New Hampshire border!

Passing through an edge of trees, the trail quickly entered a swampy area with a series of wood plank bridges. Bright red Cardinal Flowers and Common Arrowhead, with white petals, yellow center and arrow-shaped leaves, were in full bloom. The first of the day's three Mourning Cloaks crossed my path as I entered a wooded trail section.

The Westfield River was too high to ford, forcing a 3-mile detour

along a busy and narrow Route 187. It became more enjoyable as I stopped for a long look at an Eastern Comma. The last rays of the afternoon sun acted like a spotlight on the orange to dark brown, black-spotted, upper wings. It took off with the slipstream wind of each passing car and returned to the same place many times, confounding my photo efforts.

On the second day, the sun was fairly high by the time its rays woke me in the dark woodland. After a late start, approaching the Mass. Pike, the crescendo of traffic grew and I looked forward to the decrescendo. Along the open areas approaching the highway, blooms of goldenrod, Black-eyed Susan, Queen Anne's Lace, New England Aster and Common Fleabane splashed yellow, orange, white and purple colors to brighten the surroundings. A Pearl Crescent flew among the flowers. I wondered why we couldn't have more wild roadsides, instead of so many mowed miles of green grass.

Passing along the north-south ridge of the East Mountains, a Summer Azure and an American Painted Lady were the highlights of the day. Due to a nor'easter, the butterflies were under cover on day three and I spent the day in the tent.

Butterflies were scarce along the four mile summit ridge of Mt. Tom, but eye level sightings of a Peregrine Falcon and several Turkey Vultures made up for the scarcity. That evening, I was lucky to catch a boat ride across the Connecticut River to Hadley and the western edge of the Holyoke Range.

On the morning stroll, I reached a huge powerline field that was covered with the blossoms of White Champion. Clouded and Orange Sulphurs were in abundance, taking advantage of the last drops of nectar from these night blooming flowers. When I left several hours later, the white petals of most of the flowers had already closed. Monarchs, two Eastern Commas, a Least Skipper, a Little Glassywing, and one fast comma-sized unidentified species rounded out the morning sightings.

There were several acres of tasseled corn as well. A large section was completely overrun with Hedge Bindweed — a type of morning glory — leaving strange, silhouetted rows of vine-covered stalks.

About a mile from the river, the trail began climbing the western side of Mt. Holyoke, in Joseph Skinner State Park. As the trail crossed a powerline, a fairly large butterfly flew up so fast I couldn't follow its flight path. I paused, and before long it returned, landing on the side of large oak tree. My hands were shaking from excitement as I tried to focus the camera. I wasn't sure what it was, but I knew I'd never seen one before. It flew off again at cyberspace speed but, like the

comma on Route 187, it returned to the same spot several times.

This time it paused long enough for some photos, even displaying the underside of creamy-ringed black eyespots on a grayish background. I suspected that it was one of the emperor butterflies. The photos confirmed that it was a Hackberry Emperor. Later, a call from Brian Cassie informed me that since the 70's there had been few, if any, sightings north of Springfield.

(The Massachusetts Butterfly Club's walk this year yielded Hackberry trees and an egg cluster and caterpillars of the Tawny Emperor, but no signs of the Hackberry Emperor. Once again hundreds of sulphurs were in the fields as well as Great Spangled Fritillaries, Red Admirals, Question Marks, Eastern Commas, a Monarch and 9 Least Skippers.)

"Descends abruptly" and "climbs steeply" were common descriptions from the trailguide as I crossed the summits of Mt. Holyoke, the Seven Sisters, Mt. Hitchcock, Bare Mountain, Mt. Norwottuck, and Long Mountain. Late in the day, after climbing up through the hemlocks and cascades of Holland Glen, I saw a Black Swallowtail cross the trail in front of me. Taking this to be a natural sign, I decided to stop and set up for the night.

At sunset the next day, five or six bumblebees were chilling out for the night on a flowery head of Joe-Pye weed. The katydid that had serenaded most of the night was relaxing on the tent flap in the morning. A Common Ringlet was up early and proved to be the harbinger of a good day for a budding amateur lepidopterist.

Climbing the gentle western flank of Brushy Mountain in Leverett brought me to the open meadows of a crossroads. With a flap and a glide, a Pearl Crescent started the show. Just beyond, Great Spangled Fritillaries were nectaring on the tall, tiny white-flowered boneset, often two at a time on the same flower head.

The map showed that a left turn would take me up the powerline parallel to the trail. Monarchs and Clouded and Orange Sulphurs led the way, while under the powerline Pearl Crescents and Common Ringlets were flying with almost every step. A slightly smaller size and a more direct territorial flight pattern distinguished a Viceroy from the Monarchs.

Warming on a rock in the overgrown powerline road, a small orange, white-spotted butterfly lived up to its family name and skipped or seemingly disappeared before I could focus. Eventually it stopped long enough for me to recognize a late summer Leonard's Skipper. A new species for my eyes, it proved to be skittish in front of the lens. Later in the day I saw four together on a clump of Joe-Pye weed.

Near the top of the mountain a Pickerel Frog leaped across the road into a moist field of ferns. A Red Admiral flew up and drew my attention to another fritillary perched on a nearby frond. With similar markings to the Great Spangled, it was the smaller Silver-bordered Fritillary. It was a stunning species and this one was also photo friendly.

Rejoining the cooler woodland road that led to North Leverett, I watched a woman and her Rotweiler coming toward me. Oddly, a butterfly seemed to be following them and as we nodded and passed, I kept my eyes on the insect. To my amazement, the weak flyer landed on my hand. It paused, flew off, returned to my thigh and then again to my arm. With rows of white-centered black circles on both wings, this Northern Pearly Eye was probably picking up salt from my sweaty limbs.

It was cloudy, windy, and 6:30 p.m. when I reached the exposed south end of Crag Mountain, and looked for some sign that this was the place to stop for the night. Despite the high winds and clouds, the sign this time was a determined Monarch, continually being buffeted as it flew up and over the rocky perch.

After a mostly sleepless night whipped by wind and rain, I crossed the mile-long summit ridge and started up the powerline over the Bald Mountains. There were more male and female Leonard's Skippers, Pearl Crescents and again, near the top, a Red Admiral. Off to the northeast there was a great view of Mt. Monadnock, the northern terminus of the trail.

At the end of day eleven I had reached Falls Brook where the trail continued north and where I turned south toward home in Royalston. At Royalston Falls, the cascading water plummeting down the vertical rock face provided a beautiful sight at the end of a great hike. In several places I had heard owls along the trail, but on this evening it seemed like nature's encore when the Barred Owl called one more time.

Editor's note:

Spelling of species names follows that in the Checklist & English Names of North American Butterflies, published by the North American Butterfly Association (NABA) 1995.

Capitalization within an article:

1. One species, upper case: American Lady, Painted Lady, Painted Ladies
2. Single species referred to above: American Copper > Coppers
3. Several species: ladies, coppers, elfins

Personal Observations on Two Decades of Progress on the Massachusetts Butterfly Frontier

Brian Cassie

My oldest son, George, was born in the summer of 1979. I took my share of outdoor walks with George on my shoulder and we discovered a lot of butterflies that summer — along woodland roads and among meadow wildflowers. That summer saw my first real efforts at identifying Massachusetts butterflies. George outgrew his interest in butterflies at a very young age but puts up with his Dad's continued fascination with "bugs," though he never accompanies me in the field these days.

Back in 1979, twenty summers ago, when one wanted to find or share some information on butterflies observed on mid-summer walks, there were few options available. The Massachusetts Butterfly Atlas Project was seven years from inception. There were no organized walks for butterfly watchers, no "Massachusetts Butterflies," no internet links, no Massachusetts Butterfly Club, few butterfly gardens. To be fair, there were Commonwealth members of the Lepidopterists' Society and one could get invited to meetings of the Entomological Club in Cambridge, but what was out there for the average Joe, such as myself? Not much.

The Massachusetts Audubon Society published Paul Miliotis' "An Annotated Checklist of the Butterflies of Massachusetts" sometime around twenty years ago and I got hold of a copy. I carried those few pages folded up in my back pocket every time I went into the field. I remember that each time I found a species marked "uncommon" or "rare" I got a great thrill. For me, this list was the final word about Massachusetts butterflies, their occurrence, food plants, and flight periods. There was simply nothing else available for up-to-date reference.

I plodded along with my checklist and the Klots field guide for a number of years. I found quite a number of so-called rare species in southeastern Massachusetts and in 1985 was asked by Mass. Audubon to organize a statewide atlas project. In fairly short order Richard Walton and Christopher Leahy became co-organizers, but at the beginning I set out by myself to find some help for the project. I wrote or called or visited all of the local members of the Lepidopterists' Society. With a single exception, they were not interested in the project, its purpose or its achievement. Several well-known lepidopterists, both amateur and professional, assured me that everything to be learned about Massachusetts butterflies had already

been learned. To a person they suggested we concentrate on moths. Since I didn't know any better, I pressed on with the butterfly project.

The Massachusetts Butterfly Atlas Project is history now, carried out primarily with the help of birders who volunteered to look for butterflies in the summer doldrums between migration seasons. The project was a great success, if I say so myself, and, believe it or not, we did manage to collect some new data on Massachusetts butterflies. In fact, I think we added one or two tidbits on every regularly occurring Massachusetts species. For example, the following species were among those listed as rare by Miliotis (prior to the MBAP): West Virginia White, Hoary Edge, Wild Indigo Duskywing, Horace's Duskywing, Broad-winged Skipper, Mulberry Wing, Delaware Skipper, Black Dash, Dusted Skipper, Northern Pearly Eye, Compton Tortoiseshell, Acadian Hairstreak, Hoary Elfin, and Henry's Elfin. With the exception of the Broad-winged Skipper, whose population has blossomed in recent years, all of these species are, and have been, locally to regionally common. More field work, such as that done during the MBAP, was needed to clarify the status of these and many other species.

In the last two decades, we have lost one species, the Regal Fritillary, and likely one or two others — Silvery Checkerspot, Mottled Duskywing. On the plus side of the ledger, the Early Hairstreak was rediscovered in northwestern Massachusetts; Fiery, Ocola, and Common Checkered-Skippers, Checkered White, and American Snout were found after many years' absence; and a number of species found their way to Massachusetts for the first time: Silvery Blue, White M Hairstreak, Common Ringlet, Long-tailed Skipper, European Skipper, and Sachem. The Bog Elfin and Dion Skipper were also added to the state list, though they had likely been here all along and had been overlooked because of the micro-environments that are their homes. Appalachian Brown and Summer Azure (plus whichever other azures become recognized as full species) are species that have been split off from Eyed Brown and Spring Azure, respectively.

Butterfly watching has not exactly taken off in this country, but today in Massachusetts there is a core of dedicated observers who make it a point to share their findings with their colleagues. This is a major new development and one that is both long overdue and much welcomed. There are now excellent butterfly people in all corners of the state who lead butterfly walks, conduct censuses, take notes on behavior and distribution and population sizes, and for the most part leave each and every butterfly alive when they are through enjoying it. Great!

Although the future for Massachusetts butterflies is clouded with the reality of ongoing development of open lands — destruction of butterfly habitat — more and more citizens are becoming interested in butterflies and their plight. Perhaps we will see butterfly sanctuaries in the near future — not artificial butterfly houses but real sanctuaries with flowers, grasses, shrubs, and trees set aside as refuges for our native butterflies. Our butterflies deserve as much.

Conservation

Alison Robb

There are many issues about conservation and management. Mowing, burning, scarifying, seeding and letting nature alone are all methods of management. What species are we to manage for — birds, deer, butterflies, plants?

Management used to be for the wildlife that we wanted to hunt. Now we have added the goals of preservation, habitat conservation, diversity, return to historical conditions, water quality and others. I think that we have to select a few species to favor and let our management be inappropriate for others.

I was recently with a botanist who had divided a grassland into plots. The plots had been either burned, scarified, burned & scarified (& seeded), mowed, or left alone (control plots). The results will be studied over several years.

Another management scheme is to mow or burn one-third of a grassland each year to keep succession at bay, so that each third may have two years to provide habitat for a diversity of beings — insects, plants, mammals, birds, etc. Should that third be mowed once or twice in the year, and in what season?

Massachusetts Butterflies welcomes your comments for a future article on conservation. Please send in your ideas, experience, and commitments to particular management strategies.

Elfins In The Fog, Pamet Valley, Truro

Chris Phillips

Despite rain, cold, and a stiff ocean breeze, we had an extraordinary butterfly outing at Pamet on May 7, 1998. Jackie Sones had hoped to find four species of elfins, Mourning Cloaks, Red Admirals, American Ladies, Sleepy, Dreamy and Wild Indigo Duskywings that day. But she had cancelled the program due to poor conditions that morning, after I had already left home.

So when Alison Robb and I showed up at Wellfleet Bay Wildlife Sanctuary, Jackie and a volunteer, Lisa Platanitis, took pity and offered to at least show us the Pamet locale. I think she felt badly for me that I had driven four hours, and she knew that the Hoary Elfin was a target species for my lifelist.

The Bearberry/Pitch Pine/Scrub Oak heathland looked lovely and atmospheric in the fog and drizzle, and offered what we thought would be a wretched prospect for finding butterflies. But maybe the sun would break through...or at least we would know the site for planning future expeditions.

Fairly early on, the American Coppers started appearing and we ended up with a count of 26. Lots of dorsal basking, showing off their fresh, bright orange and gray! Reddish-tan inchworm moths (we think 2 sizes) were also abundant. The sun threatened to shine through a bit at the sandy area of the road where Jackie normally finds the best array of elfins. Several Coppers and one very elderly Brown Elfin obliged us with flight. The Elfin was almost entirely washed out; only the last few mm. of the hindwing median band looked familiar.

We traversed the rest of the trails with few butterflies. We joked around a bit about perhaps finding them resting beneath the Bearberry or finding larvae. And we thought of the need for a companion volume on butterflies to Alexander Skutch's Birds Asleep.¹ We needed to know about butterfly resting spots. At one point we were down on our knees lifting and peering, but the sheer extent of the Bearberry was too daunting. We spent a good deal of the time sweeping and poking the tops of the Bearberry, and we zeroed in on many a Highbush Blueberry in bloom.

As we approached the hilltop from the leeward side, the only other elfin in flight was an Eastern Pine Elfin. Alison had a

¹ Alexander F. Skutch. Birds Asleep. University of Texas. 1993.

good study of this, it being her first. We hoped for some hilltopping at the peak of the hill, but a stiff, moist wind from the ocean was keeping everything down.

Then Jackie made a breakthrough at a small juniper. There was a Brown Elfin tucked deep in the needles, about 3 to 4 feet off the ground, oriented completely flat and parallel to the ground or, maybe more to the point, in line with the direction of the wind. There were no other junipers, but plenty of Pitch Pine in a loose ring around the slopes. Every few trees we would find 3 or so Brown Elfins, all flat, all tucked in as deep as they could go, clasping the twigs or bud sprouts, with their forewings more or less covered by their hindwings, reducing the surface area from which they would lose heat in the breeze. On one tree Lisa and Jackie found 7, I believe. Two of the 20 Brown Elfins we found flew short distances and disappeared into the Bearberry. The rest stayed stock-still for VERY close observation. Just before we left Bearberry Hill, Alison found 2 Brown and 2 Hoary Elfins on one twig! My first Hoary! One couldn't ask for a better first meeting (except maybe for a little more forewing). Jackie said that 1:10 is about the normal ratio of Hoaries:Browns when they're flying here.

We were pleased with the results of our search, and full of questions. Were the elfins oriented horizontally toward the diffuse sunlight? Or were they oriented away from the breeze? What other perches might they be using, if any? And how many others were resting around that hilltop? Where were the Eastern Pine Elfins resting? Higher in the Pitch Pines? And did other butterflyers already know how to find elfins in the rain, or should we begin writing: Where Do Elfins Rest, And Other Rainy Day Speculations?

The Titmouse and the Cocoon

Richard W. Hildreth

March 1, 1997. Very mild (for early March), calm, cloudy. Rice City Pond and environs, Uxbridge, Massachusetts.

I parked in the State Park lot and headed north on the trail toward King Phillip's Rock. It was a very still day with few small land birds moving. I stopped for a while and looked out over the flood plain of the Blackstone River. A few gulls and ducks flew over.

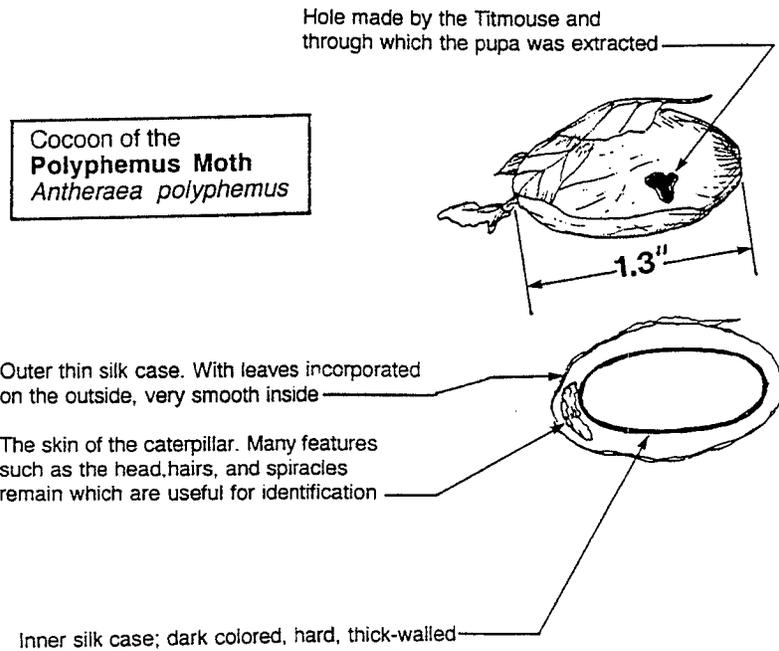
A bit ahead along the trail I saw a grey bird fly up from the forest floor. At first I assumed that it must be a Dark-eyed Junco, but I quickly saw that it was a Tufted Titmouse and that it was carrying something. It had a leafy mass in its bill; possibly some nesting material.

The bird was above me in a tree, about 20 feet above the ground. I could see that it was very busy pecking and pulling at the leafy mass. It had already dislodged some of the leaves. As I studied the scene through my 10X binoculars I realized that the bird had some sort of cocoon. It pecked and pulled, trying to penetrate the silk case. It then dropped the cocoon and quickly flew down and picked it up. It returned to the tree top and continued its work on the cocoon. Another Titmouse flew in and flitted around in a nearby tree. The bird with the cocoon moved a short way to another tree. It seemed to be eating; it periodically withdrew its bill and swallowed, then probed again, withdrew, etc. Eventually it dropped the cocoon. The second Titmouse quickly flew down and seized it. It flew up to the tree top and probed the cocoon. It finally dropped it and flew off. I kept my eyes on the spot where the cocoon fell and blundered toward it through the briars. When I reached the spot, it took me considerable time to find the cocoon.

When I returned home I examined the cocoon and carefully dissected it. It was about 1.3 inches long with a thin silk outer shell with leaves incorporated. Inside was a dark, thick-walled, quite hard silk case. The Titmouse had penetrated both silk layers and removed

the pupa. All that remained was a little fluid. Between the outer and inner silk shells I found the skin of the caterpillar. Some useful diagnostic features remained of the caterpillar skin. Oblong-shaped yellow-orange spiracles helped me identify the cocoon as that of the **Polyphemus Moth**, *Antheraea polyphemus*.

This is only the second Polyphemus Moth cocoon I have ever found. The first was many years ago when I was a small boy. I found it on the forest floor in the oak woods in Holliston. From it hatched a spectacular moth; in my view the most beautiful moth in North America.



Raising American Ladies and Black and Spicebush Swallowtails

Sharon Stichter

What is a good thing to do during a cloudy, rainy June when the butterflies just aren't flying? Raise caterpillars!! This is what I did this year with American Ladies, Black Swallowtails and Spicebush Swallowtails. Not only does rearing them indoors increase the survival rate — given that reportedly only 2 - 8% of butterfly eggs in the wild ever reach adulthood — but also it is wonderfully reassuring since the butterflies are “there” for you on a daily basis.

The key is to plant or locate patches of the appropriate food plant and then to watch very carefully in April and May during the first spring flights, looking for the females ovipositing.

The female Black Swallowtails oviposited on young 3 - 4” seedlings of Queen Anne’s Lace, parsley, dill and fennel. I grow perennial fennel in the garden because it’s a convenient way to have the larval plant available. But I found even more eggs on new seedlings of biennial Queen Anne’s Lace, which had popped up on sunny garden soil that had been dug up the previous fall. Eggs were not found on second-year plants which already had a deep taproot and rosette.

To find eggs, examine each plant carefully for tiny greenish-yellow spheres on the tops of the leaves. Where there is one egg there are usually others nearby. When I find one, I carefully dig and pot up the whole plant, using a 5” deep pot. In this way, the plant can grow right along with the caterpillar in the rearing cage. Use care. My experience is that if the plant wilts, it cannot easily be revived, and the egg will die as well. Larvae at later stages can be more easily transferred from plant to plant, and thus can be grown on individual leaves put in a covered container of water.

For the American Ladies I have planted a lot of pussytoes in the garden. I use a large-leaved, vigorous prairie strain of *Antennaria plantaginifolia*.¹ This is a tough plant which does well year after year in any sunny, well-drained site. I find it easiest to locate the Ladies’ larvae when each has built its first web nest around one or two leaves. I pick these and another leaf or two and poke the stems through a hole punched in the lid of a plastic film canister filled with water. When the nest gets fouled or the leaves all eaten, pick two or three more leaves and transfer the larva to them where it will spin a new nest.

¹ available from Prairie Moon Nursery, Rte.3, Box 163, Winona, MN 55987. Tel. 507-452-1362.

The film canister with a hole in the lid is a neat system for keeping leaves fresh while protecting the caterpillar from falling into the water. I learned it from Madeline Champagne, our past MBC president. Another good idea is that of MBC member Claudia Tibbits, who uses green plastic vials from a florist shop. For larger stalks, such as Sassafras or milkweed, a jar covered with plastic wrap secured with a rubber band works fine.

As for cages, an excellent low-cost homemade version has been designed by Madeline Champagne, using a 8.5 x 11 x 16" computer paper box with a separable lid, and fine mesh screening. It is portable and dry and provides an excellent surface for attaching the chrysalis. Complete details and much rearing advice are available from Madeline. Also, a nice metal cage is sold by BioQuip Products, for the outrageous price of \$70.

To watch the incredible transformation from egg to larva to pupa to butterfly, all you have to do is provide a good supply of fresh, clean (washed) leaves, and keep the cage clean. As with any pets, caterpillars have needs so be sure you have the time and resources necessary to care for them. My timetables for these three species this year are given below. This first brood was all released by the third week in July.

<u>Black Swallowtails</u>	<u>American Ladies</u>	<u>Spicebush Sw.</u>
Egg laying	5/23	4/27-5/15
Eggs collected	5/25	5/23 nests on plants
Hatched	5/31-6/03	6/10-11
Chrysalises	6/20-26	6/14-22
Butterflies	7/02-10	6/28-7/08
		7/07-09
		7/20

One problem one may encounter with an American Ladies is a type of wasp parasitism. This is not apparent until the day a carefully nurtured chrysalis hatches a wasp instead of a butterfly! Of eleven chrysalises I grew this Spring, five produced wasps and only six produced Ladies. But it was still worth it. Next year I will collect earlier, at the egg stage, to attempt to avoid this problem. In my garden, predation of caterpillars by birds, spiders, wasps and earwigs appears to be very heavy. For example, of 15 small Spicebush Swallowtail larvae on my young Sassafras tree in July, only seven large ones now remain (August). I may have to rescue some of them soon, although it probably means overwintering them.

As can be seen, this hobby has a tendency to escalate. I am not recommending that we butterfly enthusiasts should become butterfly farmers. Still, those of us who enjoy raising and releasing a few locally-bred butterflies each season can perhaps tip the balance of Nature just a bit in favor of these beautiful creatures.

The President's Page

Richard W. Hildreth

The Summer is just about over; most of the "Summer butterflies" remain only as tattered stragglers. The "Fall butterflies" have already appeared. Tom and Cathy Dodd and I have already found Leonard's Skipper, nectaring on Joe-Pye Weed. On 30 August, I found a Painted Lady at the Rte. 169 powerline site in Charlton. On 1 September, I found another at Petit Manan NWR on the Maine coast. Possibly we will have a good flight of Painted Ladies this Fall. Don't hang up your binoculars too soon; get out and search for those "Fall butterflies" and for southern strays. Be sure to let us know what you find.

Last Fall, at the Massachusetts Butterfly Club meeting in Gloucester, the Massachusetts Audubon Society *Butterfly Atlas Project* was discussed. Many club members, who had worked on the atlas project, expressed their frustration and anger that after all this time, no publication had yet appeared. The club voted to send a letter of protest to Massachusetts Audubon. As I am now sitting writing this and remembering the atlas project, I have a kinder feeling (I don't, however, excuse the lack of progress on a publication). As I see it, Massachusetts Audubon is primarily an educational institution (whatever pretensions otherwise they sometimes make). One of their primary purposes is to inform and educate the public of Massachusetts about nature, under the premise that people who have knowledge, experience and appreciation of nature will be inclined to be good stewards of the earth.

What the butterfly atlas project did, (whatever its lofty technical goals were) was to get a lot of observers out into the countryside for five years looking for, learning to identify and generally becoming enthralled by Massachusetts butterflies. When the project officially ended, the participants didn't want to stop. What a tremendous educational success. These enthusiastic observers formed the cadre from which the Massachusetts Butterfly Club originated.

The Massachusetts Butterfly Club, in spite of this cadre of butterfly enthusiasts, didn't just happen; it was brought to life by one person, Brian Cassie. Brian with his great talent and energy, got things started and kept them going with a tremendous amount of hard work. Thanks, Brian. One of Brian's best efforts was to encourage all the butterfly enthusiasts to send in their records. Each year, these were

presented in an interesting and highly useful fashion in *Massachusetts Butterflies*.

This accumulation of records made possible one of the most significant accomplishments of the Massachusetts Butterfly Club, the publication of A Checklist of the Butterflies of Massachusetts by Tom Dodd, with the help of Brian Cassie in the East and Mark Fairbrother in the West. The club members should be using this fine checklist. Get your copies from Tom.

Please don't forget to send your 1998 Massachusetts butterfly records to Tom (by 1 December). If you have been out this year observing and enjoying butterflies in Massachusetts and haven't been collecting any data, shame on you. You will be hearing more about field note taking from me in the future.

As president, I have one plea; please contact me and let me know what you want the club to be doing (and not doing). I want to keep the club focused on things that the membership is interested in.

Finding Harvester Larvae

Tom Dodd

September seems to be a good time to look for Harvester larvae since I think the Woolly Aphids are most numerous at this time of year. First locate alders, then look for the Aphids. This is usually a fluffy, scraggly, pure white mass of Aphids that encircles a few branches (up to 1" diameter or so) in linear lengths of 3-20".

They can be at various heights from the ground and sometimes just on the underneath sides of the branches. They may be on just one of the trees of many in the area. Some of the Aphids I saw today have wings. Once the Aphids (the Harvester larval food source - yeah neat, it's not a plant!) are found, then look for areas of the mass that have bits of frass (larva excrement) hanging from silken threads, and a dirtier appearance. Look among the Aphids (watch out for ants attending the Aphids for their honeydew production, and watch out for bees and bees' nests, too!), and you may find the larvae. They usually look grayish to me, and are sort of slug shaped with raised lateral ridges on their backs. I think the Harvester larvae are easier to find than the adults. But, it's just timing. Sometimes gently shaking the alders will produce an adult that is basking on a leaf in the sun or maybe it is "nectaring" on the honeydew produced by the Aphids.

If anyone has anything else to add, please write in. Good luck!

Notes

BOOK NOTES

Alison Robb

National Audubon Society: Field Guide to New England, published this year by Alfred A. Knopf, NY. Brian Cassie, Richard Forster and Peter Alden are among its authors. It has had good reviews and is selling well. It covers flora, fauna (terrestrial and marine), habitats, geology, weather, the night sky. An amazing diversity in a little book to be carried into the field by the amateur naturalist. Photos are of high quality. Note those insects! \$19.95

Butterflies Through Binoculars (Oxford University Press, NY) by Jeffrey Glassberg is in its second printing and is again available in bookstores. I have found it to be the best book available as a field guide to butterflies where I am, and that is usually Cape Cod. I have learned all I needed to know about butterflies (so far) to enjoy them, to identify them, and to introduce them to beginners in my field trips. After buying up five of the last remaining in stores last Spring, I am delighted to hear they are back in a new flight. \$19.95

The Butterfly Alphabet Book (Charlesbridge) by Brian Cassie and Jerry Pallotta is still in print and going strong. A dandy little book for children of all ages, it is factual and fantastic with the colorfully-chosen words of Brian and the whimsical artistry of Mark Astrella. \$7.00

***Lyn Lovell is working on a collection of slides that can be borrowed by members. She invites you to send in copies of your slides that you are willing to share. She will organize them and make them available.

***If you can write an article for MB, please do, on any subject that you fancy. We are also looking for a series of articles on favorite sites for butterflying. Send them in anytime. Write them before the season is over, while you are still in the mood!

My thanks to all the contributors to this issue. They sent great articles of much interest, and have made my first issue memorable and challenging. Special thanks to Tom Dodd for compiling the July 4 butterfly counts, and getting them to me on time !; to Brian Cassie for editorial assistance; and to Madeline Champagne for her patience and thoughtful support and who made this transition period easy by answering a million questions.

AR

How To Tell A Real Lady *Richard W. Hildreth*

Two species of somewhat similar looking "ladies" occur in Massachusetts: The American Lady, formerly known as the American Painted Lady or Hunter's Butterfly; and the Painted Lady, a species with world-wide distribution also known as the Cosmopolite. It is easy to identify these species if you get a good look at either the upper or lower hind wing. The diagram below shows the key field marks to look for.

