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Butterflies to Log in and near Northern Wisconsin's Bogs

By Ann Swengel

Why are bogs so special?

Bogs (also known as peatlands) in northern Wisconsin host a variety of interesting butterfly species and also take you on a trip back in time. Not only do you get to visit a habitat less affected by modern civilization, but you are also treated to the amazing story of plants and animals left behind as the glaciation of the last Ice Age retreated northward. Some species living in bogs were left behind high and dry, or as I prefer to say, "sunk and dunked" in the peatland ecosystem, even as their primary range is much farther north.

Please refer back to "The Fascinating Butterflies of Northwestern Wisconsin Bogs" (2009) for the basics of classifying bogs and pointers for finding and tracking – and coping with the flightiness of – bog butterflies. Here I'd like to specify some bogs to visit in other parts of northern Wisconsin, and add what I've learned about these species in the intervening years, with updated timing information.

How do you pick with subregion to visit?

One factor to consider is proximity. Northern Wisconsin is bigger than you might realize. It takes longer than you might anticipate to get from Amnicon Lake or Drummond or Herbster in Northwest Wisconsin to Three Lakes or Townsend in Northeast Wisconsin.

Another consideration is your target species. For Purplish Fritillary, the only lead is Northwest Wisconsin. That's an excellent subregion for Bog Fritillary and Bog Copper too.

Northeast Wisconsin also has a great site for Bog Fritillary and Bog Copper, and that bog is one of the easiest to get to and traverse (relative to what any bog can be like). Northeast Wisconsin also has an excellent Red-disked Alpine bog that's relatively easy to access from a trail on an old railroad grade.

Yet another issue is seasonal timing. Please see my original bog butterfly article for how you can take advantage of differences in seasonal progression between inland bogs of Northwest Wisconsin and the coastal peatlands along the south shore of Lake Superior. I include more comments on that here.

North Central Wisconsin is the best place I know of in Wisconsin to find the spring bog specialists while you're standing on a dirt road. This includes such marquee species as Freija Fritillary, Red-disked Alpine, and Frigga Fritillary. Getting onto a bog can be quite a challenge, given the "moat" (channel of water) often found on its perimeter. Then there's the challenge of moving around that many bogs present to us humans. Believe me, it's much easier when you can view these butterflies from a road rather than in a bog. However, your chances of succeeding from the road are much greater if you're in both excellent timing for the target species and excellent weather for butterfly-finding. This can be a relatively rare combination in spring. If you're not in luck finding the butterflies along the roads, you've still got some excellent bogs to try for these bog butterflies.

Do you have other butterfly goals? An added bonus in Northeast Wisconsin is Chryxus Arctic, at the southern edge of its range in northern Wisconsin. This subregion contains my favorite places to find this denizen of dry barrens. An added bonus in North Central Wisconsin is my favorite place to find Common Branded Skipper. All of northern Wisconsin has lots of wild land that's accessible to the public, with a variety of habitat types, especially forests. I'm only focusing on a few specific habitat types here. But you may find other aspects of this landscape even more compelling than the parts I'm focusing on.

General comments

This butterfly guide derives from the research my husband Scott Swengel and I have conducted here from 2002 to date. Our surveys, analyses, and papers have especially focused on the specialist butterflies. But in our research, and our informal visits from 1987 on, we count all butterflies seen. So the butterfly abundances and flight periods I discuss are not idealized, but very much reflect what it's like when you can't be here every day and can't pick your weather in this state of wild climatic variation.

Looking for butterflies in Wisconsin is particularly dicey in spring, but challenging season-long. It's a rare year when my co-researcher Scott

Swengel and I have a comfortable time getting all our field work in at the right timing at all the sites we want to check for their special butterflies. Many a time a perfect weather forecast from just the night before (or even that morning!) completely misportrays the dismal weather that actually happens. It helps to have some backup plans. If the weather is poor in one spot, somewhere else with tenable weather may be within reach that day. On the other hand, perfectly fine butterfly weather sometimes occurs on days with dismal forecasts—all just to keep us gambling about what might happen next! We appreciate your understanding that on our field days, we are very busy completing formal butterfly monitoring surveys. If you see us, we greatly appreciate your understanding that we need to continue our surveys uninterrupted, as we never have enough time when the weather and timing are right!

A huge aid is this website:

<http://www.wisconsinbutterflies.org>. This is a great place to find both up-to-date reporting on what's being seen and detailed information on range and flight period.

About the author

A butterfly enthusiast since childhood, I became serious about them in the mid-1980s, with the encouragement of ornithologist Scott Swengel, whom I met then and married. Field partners in bird and butterfly surveys ever since, we've studied prairie butterflies in seven states, as well as Wisconsin's barrens and bog butterflies. We've published a number of peer-reviewed scientific papers on butterfly detection, habitat associations, phenology (seasonal timing) and fluctuations, and responses to site management, as well as non-technical articles. A past vice president of the North American Butterfly Association (NABA) and past co-editor of the annual 4th of July Butterfly Count report, I was also honored to serve a term on the editorial board of the *Journal of Insect Conservation*.

Acknowledgments

I am very grateful to the NABA SWBA Chapter for their interest. We also greatly appreciate the agency and private funders of portions of our research surveys: Lois Almon Small Grants Research Program, Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, Jed

Bromfield and Henya Rachmiel, Mrs. Sandra McKibben, and Drs. William and Elsa Boyce. Most of all, I thank Scott Swengel for his enthusiasm, encouragement, and partnership. Between us, I really can't tell where one person's ideas and insights end and the other's begin.

Cautions

Be prepared for poison ivy, as well as other toxic plants such as wild parsnip and giant hogweed (a relative newcomer here). They are a possibility anywhere in the state you might also choose to visit.

While mosquitoes and biting flies are a possibility about anywhere, some places and some years are particularly problematic. In spring, the mosquito season may start gradually or it may come on suddenly with full force.

Beware ticks! They come in two versions; small (wood ticks) and smaller (deer ticks). The latter have high infection rates of Lyme disease. Both kinds offer other tick-borne illnesses too. The size and color of a skin mole, ticks gradually (and utterly painlessly) bite into your skin to suck blood, especially by lurking in parts of your body you don't even know you have. If you do not arrive well apprised on how to cope with ticks, be sure to consult the website of the Wisconsin Department of Health Services for more information on ticks and tick-borne infections.

Here in Wisconsin, bright sunny heat in mid-May can resemble a desert summer day, or it may frost in late June. Dangerous thunderstorms, including tornadoes, are a distinct possibility throughout the growing season. Remember that a vehicle furnishes shelter from lightning but danger during a tornado. For the latter, seek a basement or interior of a reinforced building. We always keep an eye on the forecast and an eye on the sky, year-round.

In northern Wisconsin wildlands, it's easy to get lost. You can get out of sight of the road and your vehicle faster than you think. Little traveled roads may produce no traffic noise to remind you what direction your vehicle is. If it's cloudy, you may have no shadows to remind you of compass directions. Please be very certain of your bearings and your return route before you venture out of sight of the road. For example, I'm in the habit of turning around shortly after I enter a bog and taking a landmark bearing (e.g., a highpoint, a distinctive tall tree) for my return out. I would not rely only on a digital device to get me out. I've occasionally

found someone else's device in my ramblings. What if it disappears down a muck hole or its battery dies?

If you are looking for butterflies along a road, even a seemingly seldom traveled unpaved forest road, be alert for traffic, including logging trucks and all-terrain vehicles.

You also need to be prepared to find a favorite spot from a previous visit noticeably different in both its appearance and its butterflies on your next visit.

The most frequent impact we've seen in a bog is logging. This activity rarely occurs out in a bog, but is possible, especially in the winter when the frozen surface is more amenable to access by heavy machinery. Even if logging isn't occurring in the bog itself, it may occur immediately adjacent, or the bog may be used for access to an area to log.

Management at Dunbar Barrens is with tree- and brush-cutting and burning. Roadsides and powerline rights-of-way may get mowed or bulldozed. Forest land (national, state, county, township) may get logged. Burning occurs primarily in spring and fall, so if you visit after the plants have regrown, it may not appear to be a dramatic change. The grass may be greener and taller. While wide-ranging and immigrant butterflies like the Monarch may not show much effect, or in fact may be drawn in by the flowers, the more localized butterfly species usually recolonize more slowly (or in some cases, may not successfully recolonize).

Since this article is restricted to the timings and locations of our visits, it does not reflect some species' overall abundances, or even all the noteworthy species present, in this region. There's a lot of room for more learning. Even the locations we've visited a lot have gaps in our seasonal coverage, plus many other sites have gotten way less attention than these, or none at all.

The flight period information provided here is necessarily incomplete. But it's all collected by the same method by one research team (us) and accounts for the abundances we've observed, so I hope it gives some idea of what's possible for one group to find.

Good spots – North Central Wisconsin bogs plus a grassland

National Forest bogs east of Fifield: From Highway 13 in Fifield, drive east on Highway 70

about 13 miles to the junction on the south side of the road with Forest Road (FR) 137. Interesting bogs front FR 137 at the 1.2, 1.4, 1.9, and 2.3 mile marks. Alternatively, continue another 2.5 miles or so on Highway 70 to the junction on the south side of the road with FR 505. Interesting bogs front FR 505 at the 1.6-1.7 and 5.4 mile marks south of Highway 70.

If you follow either Forest Road (FR) 137 or FR 505 farther south, you will junction with FR 136. About 0.5 miles west of FR 505 on FR 136, the Riley Lake State Natural Area lies south of the road (although bog also occurs on the north side of the road). Access to this natural area is particularly challenging: dense wet forest (or extensive shrubby wetland) fronts the road. We go south through the dense wet forest, across the road from bog fronting FR 136 on the north. Next we encounter a very wet shrubby bog with dwarf birch. You have to keep going to reach the splendid huge open peatland farther south. We continue south-southeast, staying in the openest unforested areas of this wetland. We see tamarack forest to our left (east) and a slightly upland pine ridge to our south-southwest (right). We aim between those two landmarks. Stereotypical bog (peat hummocks with some trees) will come into view. Continue through that savanna. Eventually you reach wide open hummocky peatland with lots of cottongrass. ***Don't get lost here!*** This should only take about 0.25 to 0.4 miles of walking. But you'll think it was a marathon. And as soon as you walk away from the forest road, you're out of sight of it, and soon enough, out of earshot too, although no one may drive by the entire time you're there anyway.

Directions and maps are easily found with an online search for Riley Lake State Natural Area. The Wisconsin Department of Natural Resource's website provides detailed maps and information.

National Forest bogs near Clam Lake: From Highway 77 in the hamlet of Clam Lake, go south on County Highway GG about 8.5 miles. Then turn east (left) on Forest Road (FR) 164. Good bog areas front the north side of the road 0.5 and 0.8 miles east of Highway GG. This is in the Black Creek Bog State Natural Area. Directions and maps are easily found with an online search for this state natural area. The Wisconsin Department of Natural Resource's website provides detailed maps and information.

From Highway 77 in Clam Lake, drive east just past the south junction with Highway GG, then

watch for Forest Road (FR) 195 to the north. Go north about 3 miles, then turn east (right) on FR 182, also known as *East Twin Lake Road*. In a short drive down the hill, less than 0.5 miles, you'll start fronting a bog on the south side of the road. Water levels have been very high in recent years, so you may feel like you're actually in the bog. If there is water over the road, stop! The road is narrow and the ditches on both sides are deep. You won't be able to see where the road ends and the ditch begins. I advise finding a way to park safely in an upland spot with safe visibility and not blocking the road, since all-terrain vehicles often use this road.

From Highway 77 in Clam Lake, turn north-northwest onto County Highway M, then shortly after that turn north on County Highway GG. After about 2.5 miles, Forest Road (FR) 193 (*Wilderness Road*) turns sharply back to the west (left). Follow this about 2.2 miles west to see a wide open, rather wet bog to the south. The roadside here can also be fun.

Grassland site north of Clam Lake: If you continue west on Wilderness Road about another 1.5 miles, you will encounter a T intersection with Forest Road (FR) 194 (Snake Trail Road) going to the north. If you miss it, you'll reach a stop sign in about another mile at the junction with FR 191 (Old Grade Road). On FR 194, proceed north and in about 3 miles, you'll encounter FR 196 (*Namekagon Road*) to the east (right). Turn east on FR 196, cross the one-lane bridge, and in about 0.5 miles, you'll encounter a small grassy field to the north (left). That's the butterfly site. Park safely out of the way of through traffic. Once you're done here, if you continue east on FR 196 about 4 miles, you'll reach County Highway GG well north of Clam Lake.

For a more direct route from Clam Lake, turn north-northwest from Highway 77 onto County Highway M and continue on M past County Highway GG. After about another mile, M turns from northwest to west. Forest Road (FR) 191 (Old Grade Road) projects northwest at that turn, as if it were a projection of the northwest direction County M had been on. Turn off M onto Old Grade Road. In about 2 miles, you'll come to the junction with FR 193 (Wilderness Road) going to the east (right). Go on FR 193 for about a mile to the junction with FR 194 (Snake Trail Road). Proceed north on FR 194 as explained in prior paragraph.

Caroline Lake: From Highway 13 south of Mellen, drive east for 3 miles on West Lake Road, then at the stop sign turn right to continue 3 more miles east on Lake Drive, then turn right (east) for another 3 miles on Caroline Lake Road. Be particularly watchful on Caroline Lake Road for areas of washout with deep ruts and corduroy (logs) emergent from these washouts. While on Caroline Lake Road, watch for a fork in the road. You want to take the left at this fork. If you take the right, you will get to see Caroline Lake, and the boat ramp access to this lake. But that's not where we access the bog. After this fork, watch for a house on the right. This is a cue that you are near the 3 mile mark. Before the road goes down into a dip (low point) with wetland on either side, we park. Our preferred bog area is to the right (south). You have to walk straight away from the road downhill south into the bog. But there is bog on both sides of the road. You can also check out roadsides east of here that front wetland. Alternatively, from Highway 13 and 77 in Mellen, go east on 77 about 4.1 miles, then south on Lake Drive 2.3 miles, then east on Caroline Lake Road about 3 miles. Caution: The part of this bog that we like to visit is not the typical access for Caroline Lake State Natural Area.

Good spots – Northeastern Wisconsin bogs and barrens

Glocke Lake bog: From the junction of Highway 32 and County Highway T in Townsend, go east about 0.1 miles on Village View Drive (which is collinear with Highway T). Then go north on Pickerel Lake Road for about 0.9 miles. Then go east on North Gluckie Lake Trail for about 0.6 miles. Then turn south (right) on Gluckie Lake Trail (which may be an unmarked road). Watch closely on the right (west) side of the road. In about 0.25 miles, you'll see an old logging road leading uphill to the west. Park safely here. You'll need to hike uphill on this logging trail. Once you've gotten to the top, watch closely for a fork in the logging road. You want the track to the left that goes southwest down the hill. At the bottom of the hill is the entrance to the bog. This is under a half mile walk from the road where you parked. You'll have to negotiate a muddy entrance to the bog ("moat") before you arrive on the floating bog rimming the lake. I recommend testing your footing before placing your weight on a step forward. Every so often there is a thin spot or hole in the peat mat that won't hold your weight.

Directions and maps are easily found with an online search for *Glocke Lake State Natural Area*. The Wisconsin Department of Natural Resource's website provides detailed maps and information.

National Forest bogs near Three Lakes:

From the junction of Highway 45 and Highway 32 on the east side of the town of Three Lakes, turn east (left) onto Highway 32. Go about 3 miles, as this highway wends around various lakes. Watch for Chicken in the Woods Road on the north (left) side of the road. Besides an entertaining road name, this is your cue that Military Road (Forest Road or FR 2178) is coming up in about another block on the left (north). Be careful when turning north onto Military Road as it is close to a blind turn. In about 1.5 miles, turn right (east) onto Forest Road (FR) 2182. On *FR 2182 at about the 0.5 mile mark* from Military Road, you come to a bog on the north side of the road.

About 2 miles from Military Road on FR 2182, you'll see a small paved parking area on the north (left) side of the road. Heading northeast from this parking area is a gated trail over an old grade. Walk out that easy trail for about 0.7 miles and you'll see a mowed snowmobile trail heading out to the right over a bog. You will find an extensive hummocky peatland here on the *north side of Wolf Lake*.

If you continue east on FR 2182, you will actually see Wolf Lake on the north side of the road. From here you can walk out to the floating bog rimming the *west side of Wolf Lake*. Or you can proceed up the hill until you see an old logging road heading north on the *east side of Wolf Lake*. This gives you a different access to this huge bog complex from the east side of Wolf Lake.

Farther east on Forest Road (FR) 2182, you'll come to a junction with FR 2176 on the left (north) while FR 2182 continues eastward. You may go north here, and on *FR 2176 at about the 0.25 mile mark*, there is a pullout on the left (west) overlooking a small bog.

If you continue east on Forest (FR) 2182, it's about 3 miles to the junction with FR 2414, where FR 2414 proceeds approximately southward while FR 2182 continues eastward. On *FR 2182 about 1.5 mile between FR 2176 and FR 2414* is a bog on the south side of the road that we like to visit. At the *junction of FR 2182 and FR 2414 on the northwest side* is another favorite bog area.

Dunbar Barrens State Natural Area:

From the junction of Highway 8 and County Highway U just west of Dunbar, travel west on Highway 8 about 2 miles. On the north side of the road is an access road marked as Fire Number 12902. Go north on this road but beware – it's a rocky, sandy road. It can have big puddles after a rain. We've never gotten stuck but be very careful of clearance. You've missed this road if you see Pike River Road on the south side of Highway 8. Back to the access road (12902), follow it north 1.3 miles, then west 0.4 miles to arrive at the southeast corner of the primary barrens patch in the state natural area. You can continue west on this road then north through this large open barrens area. However, before you get to this main area of the barrens, you will pass through county forest. About 0.4 miles north of Highway 8, on the west (left) side of the access road, is an open basin that is barrens habitat. It's relatively small, compared to the barrens in the natural area. But this little basin has the merit of windbreak (from being sunk down) and therefore being able to collect heat. This can make all the difference when you're looking for butterflies in May in northern Wisconsin!

Directions and maps are easily found with an online search for *Dunbar Barrens State Natural Area*. The Wisconsin Department of Natural Resource's website provides detailed maps and information.

Parkway barrens: From the junction of Highway 8 and Parkway Road (just east of Goodman, which is the next town west of Dunbar on Highway 8), travel south on Parkway Road (County Highway I on old maps) about 6.5 miles as it winds along. Be careful: this is a gravel road and many all-terrain vehicles may be on it or crossing over it. When Parkway Road straightens out in a southerly direction, a broad open powerline right-of-way begins paralleling the road on the east side. Forest Road 603 projects northward collinear with Parkway Road as Parkway proceeds southward parallel to the powerline. If you follow Forest Road 603, soon you'll reach the junction with Mirror Lake Road (Forest Road 602). For the mile south and north of Mirror Lake Road, the powerline right-of-way that we call *Parkway barrens* traverses county forest land. This stretch is excellent barrens habitat. Caution: An all-terrain vehicle (ATV) trail runs through part of the powerline right-of-way. There is plenty of room for you to roam in this right-of-way that is not on that ATV trail. If you

end up on Parkway Road as far south as Goodman Park or McClintock Park, you've gone too far for the barrens we visit.

Figuring out flight periods

In analysis after analysis (including but not limited to bog butterflies), we've found that flight period timing is usually a function of both phenology (this year's seasonal timing) and the species' abundance. As for phenology, if there's one thing butterfly fans learn fast in Wisconsin, it's that seasonal timing varies tremendously among years. In our survey experience, the earliest observed flight periods (in warm years) may precede most or all of the latest observed flight periods (in the coldest years). The key is temperature – the warmer it is, the earlier the flight periods.

As an independent factor, abundance of the butterfly may also affect how long the flight period is observable that year. In high abundance years, the flight period is longer. If abundance is low, the flight period is shorter, usually contracting to the middle (when numbers are highest). Note how that can be confusing – you might be expecting the flight period to start earlier than that (based on phenology). Also, given when the flight period finally starts, you might expect it to last longer than it does.

Butterfly abundance relates to climate, among other things. But this relationship is complex and species-specific. That is, what's a good climate pattern for one species may be adverse for another in the same habitat. It's a combination of both current year and cumulative past years' climate. If last year's climate was adverse, there's only so much a favorable climatic pattern can do to alleviate that this year. If both last year's and this year's climate happened to be favorable, then that's very good news for that butterfly's abundance this year. However, the opposite scenario is very bad news.

There is no typical year climatically. Climatic averages that are apparent in lots of data from lots of years may not occur in a given year. There can be extreme variation and sharp gradients in any given season. For example, in the very hot and droughty year of 2012, some places experienced flash floods and spring cold snaps after the growing season started.

Climate may also have cumulative effects over longer time periods. In our long-term

population monitoring analyses, it has appeared that on the scale of 5 to 10 years, there can be multi-year higher or lower periods of abundance for a species.

Different sites may be relatively near each other and subject to the same weather. However, depending on the sites' characteristics, the butterflies may experience the consequences of that weather very differently. For example, one site might be well buffered against drought but prone to flooding, or vice versa. Some sites might have some buffering against both, by having more exposed locations that dry out faster and other more sheltered areas that retain their moisture.

There's also the possibility of "density-dependent" functions. This occurs when the population's abundance exceeds the carrying capacity of its habitat and so the population crashes, then hopefully rebuilds its numbers again.

On the other hand, if the vegetation changes or deteriorates in a way adverse for the butterfly, or the land use and management are adverse, it doesn't matter how favorable the climate has been. Do not expect favorable climate to counteract adverse habitat circumstances. Conversely, there's a lot that can be done in how sites are managed to improve buffers against climate, at least relative to specific species. As I'm fond of saying, some sites "overperform" their vegetation and others "underperform".

As you can see, many factors affect a butterfly's abundance, and not all of them are figured out for our Wisconsin butterflies. Furthermore, novel scenarios (such as unprecedented climate) and novel combinations of factors (e.g., climate and habitat configurations in the modern landscape) lead to uncharted territory. That's why past data on flight periods are imperfect at predicting what to expect next.

Here's another wrinkle: for early spring species, phenology alone can change flight period length. In an early warm spring, we've found that many species not only have earlier start dates to their flight periods (expected) but their flight periods are noticeably longer (not expected by me). The latest starts to the flight period also have the shortest flight periods. This can mean the difference between just a week or two (latest flight periods) to well over a month (earliest flight periods).

We published an analysis in 2014 that sequenced the seasonal appearance of the bog butterflies by first observed date in northern

Wisconsin. As of then, based on the average first observed date, these species typically appear in this order: Brown Elfin (May 10), Freija Fritillary (May 11), Red-disked Alpine (May 14), Frigga Fritillary (May 23), Jutta Arctic (May 24), Bog Fritillary (June 10), Common Ringlet (June 18), Dorcas Copper (June 30), Bog Copper (July 2), and Purplish Fritillary (July 28). The species stay in the same order when looking at both the earliest ever and latest ever first observed date, although there are a few ties (Brown Elfin and Freija Fritillary; Frigga Fritillary and Jutta Arctic).

Finding bog butterflies

Please see “The Fascinating Butterflies of Northwestern Wisconsin Bogs” (2009) for an introduction to the bog butterfly species. This includes comments on flight behavior and “jizz” to help you notice these specialties in the first place. Since then, we’ve continued our field work and analyses.

The most surprising thing I’ve learned since that initial article was that most bog butterflies “behave” like dry steppe grassland species in their abundance fluctuations related to climatic variation. That is, these species prefer warmer and drier periods (up to a point). Brown Elfin, Freija Fritillary, Red-disked Alpine, Jutta Arctic, and Common Ringlet fall in this camp. Think of them as hanging out above the wet muck in the drier parts of the bog and higher up in the peaty hummocks.

Meanwhile, other bog butterflies are definitely wetland lovers. This especially applies to Bog Fritillary and Bog Copper. Purplish Fritillary also appeared to fall in this wetland camp, up to a point. Some flood years may have been too much of a good thing. Other wetland species of interest but not limited to bogs include Silver-bordered Fritillary and Harris’ Checkerspot. It wasn’t as clear how to classify Frigga Fritillary and Dorcas Copper.

This is relevant not only because it helps you cue into which features and parts of a bog are most relevant to a particular species. It also helps explain the logic of which climatic conditions relate to higher or lower numbers of that species.

Brown Elfin

Location, location, location: This butterfly is widely distributed in bogs as well as upland heaths. In most years, Brown Elfin is abundant in

bogs. Especially visit the hummocky ones with a lot of heathy shrubs. However, in some years Brown Elfin can be very scarce in bogs. You might chalk this up to annual fluctuations in relation to climate, and you could be right. But there’s been a seeming regularity to this annual variation that also suggests the possibility of cyclicity, or “density-dependence” (boom-bust, as described above), lasting about five years between peaks. I call this the “elfin wave”. When it’s a bust year, expect the flight period to be shorter, and more collapsed to the middle part of the flight period.

Timing, timing, timing: Here’s an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we’ve had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Brown Elfin on April 20 (2012) or 23 (2010) and our last on June 18 (2010) or 24 (2012). Both those “last dates” come from Douglas County (not coastal peatlands by Lake Superior). On the other extreme, 2011 and 2013 were very cool springs. We found Brown Elfin from May 16 (2013) or 17 (2011) to July 6 (2011, Northeast Wisconsin) or 11 (2013, coastal peatlands).

Freija Fritillary

Location, location, location (Northeast Wisconsin): The North Wolf Lake bog (accessible by snowmobile trail through the bog; to reach this access, walk along a hiking trail on an old grade) is excellent for this species. The snowmobile trail cut through the peatland is an excellent place to start, and is about as easy a walk in this type of peatland as you can hope for.

Location, location, location (North Central Wisconsin): The roadside on Forest Road (FR) 137 2.3 miles south of Highway 70 has been our best bet for finding this species on a roadside. They appear to be coming out of the bog east of the road here. The best bogs are on FR 137 1.9 miles south of Highway 70 and FR 505 1.6-1.7 miles south of Highway 70. However, you have to walk well east of the forest road in both cases. It actually isn’t all that far east – maybe 0.1 to 0.2 miles. But unless you’re in top physical condition, you’ll find this a tough, slow walk. You’ll know you’re in the right place once you’ve cleared most of the trees and are in wide open peatland with hummocks 2-3 feet or more tall. The cottongrass will be in full cottony splendor. Be prepared for the Freijas to be

zooming by, and unless you've still got some sprint in your step, you won't keep up with them! Another excellent Freija bog is in Riley Lake State Natural Area south of FR 136. But you have to get about 0.25 miles or more south of the road to reach their prime habitat in the wide open hummocky peatland, and it's not an easy walk.

Timing, timing, timing: Here's an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we've had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Freija Fritillary on April 23 (and tried earlier in both years) and our last on May 19 (2012) or 28 (2010). On the other extreme, 2011 and 2013 were very cool springs. We found Freijas from May 10 (2011) or 16 (2013) to June 4 (2011) or 8 (2013).

Other tips: This species appears most abundant out in the most hummocky, drier peatlands. Watch low on the snowmobile trail. On cool or windy days, this is where it's warmest. The Freijas may stay low in the windbreak.

Red-disked Alpine

Location, location, location: Same spots as for Freija Fritillary. In very good years we've found them in about every bog we survey in the area east of Fifield, even along roads by those bogs in warm sunny weather. But if you don't have such luck, it can be a long slow slog to get out to prime habitat (wide open hummocky peatlands) for this butterfly in the bogs.

Timing, timing, timing: Here's an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we've had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Red-disked Alpine on April 23 (and tried earlier in both years) and our last on May 16 (2010) and May 19 (2012). On the other extreme, 2011 and 2013 (and 2014) were very cool springs. We found Red-disked Alpines from May 23 (2014) or 24 (2011, 2013) to June 5 (2014) or 8 (2011, 2013).

As you can see, just in that short period of time, we had extreme climatic swings that resulted in no overlap in our observed flight periods between these two climatic extremes. On top of that, you have the challenge of getting suitable weather on the day(s) you're available to look once you've figured out what time period to aim for.

Another pattern is also apparent: in the warmer years, the flight period we observed was longer. In 2010, we had 24 days from start to finish, and 27 days in 2012. That's not exactly a long period. But we had only 16 days in 2013 and 14 days in 2014. That's a mad scramble to get all the places visited in a timing with a realistic chance to see an alpine.

I tried to find a pattern of which subregion might be earlier or later. But it's not usually possible to have side-by-side tests: we can't cover all three subregions across northern Wisconsin in one weekend. Furthermore, we make fewer visits to Northeast Wisconsin than to the other subregions, for a variety of logistical reasons. However, as a practical matter, we typically see our first Red-disked Alpine of the year in North Central or Northwest or both. Sometimes we see our last in Northeast but other times it's in North Central or Northwest or both.

Other tips: Think in terms of the warmest microclimates: the best windbreak, the best places to collect and retain heat. This can mean low on the snowmobile trail cut into the hummocks at North Wolf Lake (Northeast Wisconsin). Or heat may collect against the lee of a tree line. Just below the tops of peat hummocks but above the wet "understory" at the base of hummocks can hold heat too. Be prepared to tell the difference between this alpine and Jutta Arctic. They overlap a lot in location: even though Juttas prefer areas with some trees, we've found them well out in open hummocky bogs. Likewise, sometimes we've found the alpines in or near places where we'd more expect Juttas.

Frigga Fritillary

Location, location, location (Northeast Wisconsin): Forest Road (FR) 2182 at 1.4 miles west of FR 2414. But you usually have to work for it by sloggng around out in the bog. This is a typical Frigga site (wet and a bit brushy with deciduous shrubs).

Location, location, location (North Central Wisconsin): Forest Road (FR) 137 at 2.3 miles south of Highway 70 in the bog on the west side of the road, which is hard to walk through. We have occasionally found Frigga on or by the road here too. At FR 505 5.4 miles south of Highway 70 on the east side of the road, head for the part of the bog just south of the tamaracks and spruces. You'll still see peaty hummocks but also deciduous shrubs.

Riley Lake State Natural Area (FR 136 south of the road) is also good (south of the woods, in the brushy area with deciduous shrubs), but this is a very hard walk.

Our best bet for Frigga on or by a road has been near Clam Lake, in the Black Creek Bog State Natural Area. The bog on Forest Road (FR) 164 at 0.5 miles east of Highway GG has Frigga habitat fronting on both sides of the road, but especially on the north side. If you don't luck into a Frigga right at the road, this bog on the north side of the road is about as easy walking as a Frigga bog gets, and you don't have to venture far off-road (you can stay in view of the road the entire time). Also in the Clam Lake area is the east end of the East Twin Lake bog, in the very brushy part just south of the road. But this is about as hard a walk as a Frigga bog gets (at least one we've walked in), so that's saying something.

Timing, timing, timing: Here's an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we've had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Frigga Fritillary on May 9 (2010) or 12 (2012) and our last on May 28 (2012) or June 5 (2010). On the other extreme, 2011 and 2013 were very cool springs. We found Friggas from May 27 (2011, 2013) to June 18 (2011) or 24 (2013).

Other tips: Friggas fly fast and you're especially at a disadvantage slogging through a wet brushy bog. We aim for places with dwarf birch. Watch your step! Don't get hurt!

Jutta Arctic

Location, location, location: In Northeast Wisconsin, we've found these sites to be particularly good: Forest Road (FR) 2182/2414 (northwest of that junction) and FR 2182 at 0.5 miles east of Military Road. In North Central Wisconsin, we've found this species in all the bogs we survey on Forest Road (FR) 137, FR 505, and FR 136. You've got a good chance of finding this species even at sites I'm not particularly recommending. Just put yourself in a part of the bog with some spruce trees.

Timing, timing, timing: Depending on where you are in the state, Jutta Arctic flight periods operate very differently. In Northeast Wisconsin, there's a strong even-odd year split in abundance: odd years relatively high, even years really low.

There's definitely variation in abundance among different odd years, but that is nothing compared to the consistently very low lows in even years. Visit a bog just a bit to the west in North Central Wisconsin, and this difference disappears. Low years are typically not as low and high years typically not as high, and these fluctuations in abundance do not follow the beat of the even-odd drummer. Instead, the fluctuations "behave" much more as with other butterfly species – each year is its own surprise. This is not nearly so in Northeast Wisconsin, where you have much more predictability due to the even-odd pattern.

Why this difference among subregions of Wisconsin? I don't know. But I can tell you that Wisconsin isn't the only place where this species' flight period patterns vary, sometimes a great deal, among juxtaposed subregions.

Why is there any even-odd pattern anywhere? The assumption is that the life cycle takes two years to complete (known to occur in far northern species contending with very short growing seasons). In some regions, all or almost all of the individuals are synchronized on the same biennial pattern. But in other regions there are two separate cohorts, one with adults in even years and the other with adults in odd years. For some reason, all of Wisconsin appears to have Jutta Arctics in both cohorts, since adults are reliably findable not just in odd years but also in even years, including in Northeast Wisconsin. But for some reason, that even-year cohort is consistently very low in abundance in Northeast Wisconsin.

You might be surprised how long it took me to realize there was this even-odd pattern in Northeast Wisconsin in contrast to elsewhere in the state. In my defense, I couldn't have known ahead of time where to draw the subregional boundaries. As I was experiencing our field work, it wasn't easy to know what was just problems of weather on survey day, or being a bit early or late in the flight period, or the usual ups and downs of fluctuations. Even in hindsight, it's really not as obvious as you might think: even in the low even years, we do still reliably find an individual here and an individual there in Northeast Wisconsin.

In our experience across northern Wisconsin (analyzed through 2011 for a publication), northwest Wisconsin has the earliest first date (May 9) and latest last date (July 10) and the longest average flight period per year (30.5 days, range 8-44 days). Northeast and North Central Wisconsin

are relatively similar in earliest dates (May 16 and 15, respectively) and latest dates (July 4 and June 28, respectively). But Northeast Wisconsin has a much shorter average flight span (15.5 days, range 1-34 days) per year compared to North Central (21.4 days, range 7-31 days). This makes sense because of the consistently very low numbers in half the years (all even years) in Northeast Wisconsin.

Since we cycle around our three northern Wisconsin subregions, there's a lot of roughness in our flight period date. So there's value in pooling the data too. For the 10 years analyzed (2002-2011), the first date per year was a mean of May 24 and median of May 26 (range May 9 to June 2). The peak date was a mean of June 11 and median of June 15 (range May 28 to June 19). And the latest date was a mean of 28 June and median of July 1 (range June 18 to July 10).

There's a consistent pattern of the peak date being slightly earlier in North Central Wisconsin than the other subregions. In our North Central bogs, the peak date was a mean of June 6 and median of June 9 (range May 25 to June 15). For Northwest Wisconsin, the mean was June 10 and median June 12 (range May 26 to June 20). In Northeast Wisconsin, the mean was June 13 and median June 14 (range 1 to 27 June).

Since my first guide came out in 2009, we've had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Jutta on May 9 (2010) or 12 (2012) and our last on June 10 (2012) or 18 (2010). On the other extreme, 2011 and 2013 were very cool springs. We found Juttas from May 27 (2011) or 29 (2013) to July 2 (2011, in northeastern Wisconsin) or 11 (2013, both Douglas County and coastal peatlands by Lake Superior).

Other tips: Only very rarely have we encountered a Jutta Arctic away from a bog and out on a roadside or upland trail. However, you don't have to venture far off road to find yourself in a bog with some spruces – no need for long treks as is typically the case for some of the other bog specialties. Juttas may come out into open hummocky parts of the bog but this butterfly is typically not that far from spruce tree lines or groves.

In northeastern Wisconsin, FR 2182/ NW 214 is a good "late" place due to all the tree cover. If you're visiting late in the flight period, look in bog areas with relatively more trees.

The Douglas County areas (northwestern Wisconsin) are remarkably good for a long flight period, including late in the flight period. Our latest published date was July 10, 2004 and came from there. But since that publication, we found Jutta Arctic widely in the Douglas County bogs on July 11, 2013.

We have found Jutta Arctic in the coastal peatlands by Lake Superior, but this isn't where we succeeded very often in getting a late date for Jutta. Except for that outlier observation on July 11, 2013 (a very cool year), as well as an outlier early observation on May 29, 2010 (a very warm year), all our observations have been during June 9-28. So that pattern of how abundance affects observed duration of flight period holds. We rarely find Juttas in the coastal peatlands, so our observed flight period usually contracts to the middle.

Bog Fritillary

Location, location, location (Northeast Wisconsin): Glocke Lake.

Location, location, location (North Central Wisconsin): We've found this butterfly in this subregion but only in a few sites and usually only in low numbers. You can try the bog on the south side of Wilderness Road (FR 193), which is just northwest of Clam Lake. This bog usually requires a slow wet slog for only a few individuals found. We've occasionally found a Bog Fritillary nectaring on roadside flowers by this bog. It's not all that far from Clam Lake to the bogs near Drummond, described in my first bog butterfly article. These are usually a better bet for Bog Fritillary.

Timing, timing, timing: We've not visited Glocke Lake many years. But it's overwhelmingly our best Bog Fritillary site in Northeast Wisconsin. On June 8, 2018, we found 196. On June 9, 2017, we found 103, and on June 10, 2016, we found 99. We found 21 on June 14, 2013 and 14 on the same date in 2014. In 2015, we found 10 on May 31 and 18 on June 9.

The epic hottest year in our experience in Wisconsin was 2012. We visited on May 19 and found 1. Then on June 3, we found 3. It's unclear how we would have fared if we'd visited between those dates, or later. Outside coastal peatlands in 2012, we found a few individuals elsewhere on May 27-28 (Fifield and Clam Lake bog regions) and June 9 (Caroline Lake). But it was only in the coastal peatlands (described in my first bog butterfly

article) where we ran up any numbers, and that was on June 9 (68 at Bark Bay and 25 at Port Wing Boreal Forest west unit). Our last Bog Fritillary of the year was on June 22 in a coastal peatland. However, our last inland Bog Fritillary that year was June 21.

Glocke Lake is a great place to kick off the Bog Fritillary flight period in northern Wisconsin. It appears this site is an “earlier” site than our other northern Wisconsin bogs. As an example, in 2017, we found the most Bog Fritillaries in one site with our single visit to Glocke Lake on June 9. The same weekend and two following weekends, we visited northwestern Wisconsin (see my first bog butterfly article). At East Wishbone Lake (near Drummond), we had our peak count on June 16. Unfortunately, we found none at East Roger Lake and East Crane Lake, which had high water. Bog Fritillary “behaves” like a wetland species, since its numbers fare better in cooler and wetter growing seasons. However, there can be too much of a good thing, with water levels too high in the bogs that don’t float (such as the East Roger Lake and East Crane Lake sites). That appeared to be the case at both East Roger and East Crane Lakes. I think one reason why Glocke Lake can have such high Bog Fritillary numbers is because the bog floats on the lake edge. It can rise and fall atop the lake water level as that fluctuates. I suspect that’s why the coastal peatlands on the south shore of Lake Superior can have relatively high Bog Fritillary numbers too, since at least parts of these peatlands do float, even in the rainiest periods in years when the lake level is high.

Meanwhile, in 2017, in the Douglas County bogs (far northwestern Wisconsin), where we found any Bog Fritillaries, we tended to find more on June 16 than on June 10, 2017. On the coastal peatlands, we had our peak count on either that weekend or June 24. That’s not a huge difference in flight period timing across northern Wisconsin. But given the huge variation in numbers (best on the floating bogs), it’s useful to try to adjust for phenology.

Here’s an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we’ve had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Bog Fritillary on May 19 (2012) or 28 (2010) and our last on June 20 (2010) or June 21 (2012). On the other extreme, 2011 and 2013 were very cool springs. We found Bog Fritillaries from

June 12 (2011) or 14 (2013) to July 2 (2011) or 11 (2013).

Other tips: Silver-bordered Fritillary is very similar to Bog Fritillary and both species can be found in bogs, even on the same day. Harris’ Checkerspot is also surprisingly similar to Bog Fritillary under field conditions, and can also be found in bogs during the Bog Fritillary flight period.

Since both Glocke Lake and the coastal peatlands are usually good for both Bog Fritillary and Bog Copper, I hope you can strategize what region to visit by what your seasonal timing is. If you’re early in the flight period, I hope you can go to Glocke Lake. If you’re late in the season, I hope you can get to northwestern Wisconsin.

Dorcas Copper

Location, location, location (Northeast Wisconsin): At Forest Road (FR) 2182/2414 (northwest of that junction), find less wooded parts, for example at the east end of this bog. In contrast to northwestern Wisconsin (covered in my first bog butterfly guide), I do not have a good roadside area to recommend for finding this butterfly in northeastern Wisconsin.

Location, location, location (North Central Wisconsin): Several bogs are pretty good bets for roadside Dorcas Coppers: the Wilderness Road (Forest Road or FR 193) bog just northwest of Clam Lake and the East Twin Lake (FR 182) roadside just northeast of Clam Lake, as well as Caroline Lake Road. Watch nectar flowers. We do also find this butterfly out in these bogs.

Timing, timing, timing: About the most extreme variation in flight period occurred from 2012 to 2013. In the very warm year of 2012, we found Dorcas Copper from June 15 to July 28. The following year was very cool, and our observed flight period ran from July 1 to August 11. However, 2010 and 2011 had a similar juxtaposition of warm then cool, and we didn’t have nearly the divergence in flight period: July 10-29, 2010 and July 2-30, 2011. I do not have a good explanation, other than summer flight periods may not vary as much as spring flight periods, and abundance may have a lot of influence on how long the flight period is evident as well.

Other tips: We’ve found this copper likes to perch and bask on short spruces, often in remarkably similar locations from year to year.

Bog Copper

Location, location, location: Same as for Bog Fritillary.

Timing, timing, timing: At Glocke Lake, we found 983 on July 1, 2016. In 2015, we found 278 on June 26 and 644 on July 5. In 2018, we found 407 on June 30. (We didn't go in this species' flight period timing in 2017.) In 2013, which had a very cool spring, we found 40 on July 1. We didn't visit in the flight period earlier or later than that. The following year, which also had a cool spring, we found only 1 on July 1 (with cool, cloudy weather) and 126 on July 5, but also did not visit later. In 2011, another cool spring, we found none on July 2 but 31 on Jul 24. By contrast, 2012 was a very warm year. We found none on June 16 and 18 on June 29, and made no visits later than that. It was also warm in 2010. We first visited this bog on June 26, with 76 found. Then on July 13, we found 32. As you can see, the main flight period of this summer butterfly appears easier to schedule for. Regardless of whether it's an early or late year, very late June into the first two weeks of July appear "safe" for finding this delightful species in almost all years.

Here's an update to the flight period information provided in my first bog butterfly guide. Since that guide came out in 2009, we've had two very warm years with very early springs: 2010 and 2012. Across northern Wisconsin, we found our first Bog Copper on June 20 (2010) or 29 (2012) and our last on July 28 (2012) or 30 (2010). On the other extreme, 2011 and 2013 were very cool springs. We found Bog Coppers from July 1 (2013) or 9 (2011) to August 11 (2013) or 14 (2011).

Other tips: Since both Glocke Lake and the coastal peatlands are usually good for both Bog Fritillary and Bog Copper, I hope you can strategize what region to visit by what your seasonal timing is. If you're early in the flight period, I hope you can go to Glocke Lake. If you're late in the season, I hope you can get to northwestern Wisconsin.

Finding other butterflies of interest

Henry's Elfin: In our northern Wisconsin bog surveying, we have occasionally encountered a Henry's Elfin, more often along a roadside fronting a bog, but occasionally out in the bog. Our few dates fall between May 24 (2013) and June 6 (2004). Both of those were cool years, but even in

warm years (such as 1987), our Henry's Elfin dates were in that part of May. Our best bog roadside spot has been FR 137 at 2.3 miles south of Highway 70.

Mustard White: Across northern Wisconsin, we've occasionally found this species in bogs or bog roadsides, primarily in May and July. For the spring generation, our earliest dates were April 23 in both 2010 and 2012, but otherwise only on May 22-31. For the summer generation, we've had a few late June dates (June 25, 2011 and June 23, 2014). But otherwise, our dates have been in July, from July 4 (2009) to July 29 (2009). All our observations in coastal peatlands (July 16-19) nest within what we've observed inland in northern Wisconsin. These observations in bogs are incidental, and not representative of the full abundance and timing of this species in its primary habitats.

West Virginia White: We used to find this butterfly relatively readily during mid to late May along the national forest roads bisecting moist forests in Northeast Wisconsin. But in the last decade that has not been apparent to us. We did have one West Virginia White nectaring on leatherleaf way out in the North Wolf Lake bog on May 31, 2014.

Silver-bordered Fritillary: Before 2010, our earliest date was May 21 and latest was August 23 (Douglas County bogs). Since then, we've had two very warm years with very warm springs: 2010 and 2012. Across northern Wisconsin, we found our first Silver-bordered Fritillary on May 13 (2012) or 16 (2010) and our last on July 28 (2012) or August 14 (2010). Both those late dates were in the Douglas County bogs. Since we usually do not survey later than that in any bog, and usually only survey in August in northwestern Wisconsin (Douglas County and coastal peatlands), our surveying wouldn't represent how late this species might be findable. On the other extreme, 2011 and 2013 were very cool springs. We found Silver-bordered Fritillary from June 12 (2011) or June 14 (2013) to August 12 (2013) or August 14 (2011).

Harris' Checkerspot: We don't find many in any year, but we do find them widely around our bog study areas. Throughout all our survey experience, our first was June 10 and last was July 12. Since 2009, we've had two very warm years with very warm springs: 2010 and 2012. Across northern Wisconsin, we found our first Harris' Checkerspot on June 18 (2010, our only date that

year) or 20 (2012) and our last on June 22 (2012). On the other extreme, 2011 and 2013 were very cool springs. We found Harris' Checkerspot from June 18 (2011) or 30 (2013) to June 24 (2011) or July 11 (2013). Good locations: Glocke Lake in Northeast Wisconsin. In North Central Wisconsin: Forest Road (FR) 137 at mile marks 1.4, 1.9, and 2.3, East Twin Lake roadside, Caroline Lake roadside.

Common Ringlet: Since 2009, we've had two very warm years with very warm springs: 2010 and 2012. Across northern Wisconsin, we found our first Common Ringlet on May 30 (2010) or June 3 (2012). Our last dates inland were July 8 (2012) or 29 (2010) and coastally, July 26 (2012) or 30 (2010). On the other extreme, 2011 and 2013 were very cool springs. We found Common Ringlet from June 17 (2011) or June 22 (2013) to July 28 (2013) or 30 (2011). Good sites: In Northeast Wisconsin: Glocke Lake. In North Central Wisconsin: East Twin Lake roadside, Wilderness Road, Caroline Lake roadside.

Arctic Skipper: This tiny skipper is brightly patterned. We find it charming and cute, but also easily overlooked or dismissed as one of the myriad moth species we don't know. In our bog activities, we are not usually in prime habitat for this species. But in most years we encounter a few individuals as we access a bog, or as we walk along a dirt road near a bog, or even out in the bog on occasion. Arctic Skippers typically perch low on short vegetation, in places where the vegetation is generally not all that tall. They may also perch or bask on dirt roads, or nectar in the roadside or even occasionally out in a bog, for example on Labrador tea.

Over the totality of our bog surveying in northern Wisconsin, we've recorded the greatest range of observation dates in the last decade. Our earliest ever was May 23 (2015) and our latest ever in the interior was July 2 (2017) and coastally, July 11 (2013). During that decade, we had two very warm years with very warm springs: 2010 and 2012. Across northern Wisconsin, we found Arctic Skipper in 2010 only on May 31 (inland). In 2012, our first was on May 27 (2012) and last on June 15 (interior). On the other extreme, 2011 and 2013 were very cool springs. We recorded no Arctic Skippers in our bog surveys in 2011. In 2013, we found Arctic Skipper from June 21 to June 30 (interior) and July 11 (coastal). It's been very rare for us to find any Arctic Skippers in July.

Especially in the interior, our last date for the year has often only been in mid- June; e.g., June 20 (2014), June 12 (2015), June 18 (2016), and June 23 (2018).

Good spots: Northeast Wisconsin: Glocke Lake, Forest Road (FR) 2182 at 1.4 miles west of FR 2414; North Central Wisconsin: FR 136, East Twin Lake Road, Wilderness Road.

Finding Chryxus Arctics

Location, location, location (Northeast Wisconsin): Dunbar Barrens (both in the county forest and in the state natural area); Parkway barrens.

Timing, timing, timing: Our earliest date ever was April 28 (2010), but this was not a "good" first date since we found 43 individuals that day! Our latest date ever was June 14 (2003). Our typical timing here for our peak count is May 16-21. For example, we found 57 individuals on May 20, 2018.

In our experience, elfins emerge before Chryxus Arctics. It's just that we don't usually show up in Chryxus barrens until both are in flight. So I'm not able to tell you by how much elfins precede Chryxus. However, in cool springs, we've visited on May 17 (2008), May 16 (2013), and May 18 (2014) and found several species of elfins but no Chryxus Arctics. In those three years, when we returned a few weeks later, our peak Chryxus Arctic date was June 1 (2008, with 29 individuals found), May 29 (2013, with 47 individuals found), and May 31 (2014, with 28 individuals found). Elfins were also abundant on that all-time peak day for Chryxus Arctics: our daily totals in the barrens on May 20, 2018 were 4 Brown Elfins, 29 Hoary, and 9 Eastern Pine.

Other tips: There are other orange butterflies to distract you in your Chryxus Arctic pursuit: American Ladies and Meadow Fritillaries. Chryxus Arctic is more rounded in front wing shape, compared to the more pointed wing tip of American Lady and more elongated overall wing shape of Meadow Fritillary. Also watch for the strong contrast that Chryxus Arctic has in flight between its burnt-orange above-side color and tan brown underside. When a Chryxus lands, usually on the ground, it can seemingly disappear due to its very cryptic underside pattern. It also often tilts to the side when it lands, thus not standing up as tall as you might expect.

Finding Cobweb Skippers

Location, location, location (Northeast Wisconsin): Dunbar Barrens in the State Natural Area. We have not found this butterfly in the county forest location en route to the Dunbar Barrens State Natural Area, nor have we found it in the Parkway barrens (but I hope you do).

Timing, timing, timing: Our peak Chryxus date is also good timing for Cobweb Skipper. Our best Cobweb Skipper dates at Dunbar Barrens were June 1, 2002 (13 found) and 2008 (12 found). In the very warm spring of 2010, we found 43 Chryxus Arctics on April 28, 2010 but no Cobweb Skippers. When we returned on May 16, we found 41 Chryxus and 6 Cobweb Skippers. Maybe this is a hint that Cobweb Skipper might be a bit later in phenology (seasonal appearance) than Chryxus.

Other tips: This is a tiny butterfly that is very hard to notice: it's a small rapid flier, typically low to the ground. It's tan and brown at a time of year when there's not a lot of green yet amongst last year's tan and brown grass growth. Cobweb Skippers do nectar, with an especial fondness for bird's foot violet. But most individuals we've found are not nectaring but instead basking, perching territorially, or landing after a flight. Unfortunately, throughout the state, we've found it harder and harder to find Cobweb Skipper in recent years.

Finding Common Branded Skippers

Location, location, location (North Central Wisconsin): Namekagon Road grassland site north of Clam Lake.

Timing, timing, timing: Our highest counts occurred on July 27, 2012 (50) and July 31, 2011 (44). We visited again in early August and found notably fewer: August 12, 2011 (29) and August 10, 2012 (10). Likewise, in 2018, we found 32 on July 29 but only 2 on August 10. On July 24, 2016 we recorded 28 but unfortunately, we weren't able to visit again that year. In 2015 we found slightly more in July than August: 14 on July 25 and 12 on August 8. But in 2017, it was the reverse: 0 on July 21 and 5 on July 29 but 11 on August 12. In 2013 and 2014, we only visited in August, with 4 on August 7, 2014, 14 on August 9, 2014, and 11 on August 13, 2013.

Other tips: This is a tiny jumpy grass-skipper living in a region with lots of other grass-skippers, most notably the very abundant European

Skipper. Even though the European Skipper flight period begins a lot earlier, there are still plenty of them in flight during Common Branded timing. European Skippers have a much more fluttery and slow flight and typically stay low to the ground. Common Brandeds are also often low to the ground but aren't shy about flying out or up.

Watch for Common Brandeds perching to bask and to maintain their territories. They engage in territorial skirmishes with each other in spiral flights that can go up vertically or out horizontally or both. Even if you can't track them through these flights, it pays to watch for one or both to return to territorial perches in or near where you last saw them. Also keep an eye on nectar sources, especially goldenrods and birdsfoot trefoil.

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