

Kentucky Lepidopterist

Newsletter of the Society of Kentucky Lepidopterists

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THE SOCIETY OF KENTUCKY LEPIDOPTERISTS

OFFICERS

President

Dr. Jeffrey Marcus
Dept. of Biology
Western Kentucky University
1 Big Red Way
Bowling Green, KY 42101-3576
E-mail: Jeffrey.marcus@wku.edu

Treasurer

Les Ferge 7119 Hubbard Avenue Middleton, WI 53562 E-mail: ferge@netzero.net

Field Trip Coordinator

Bill Black Jr. 201 Friedman Avenue Paducah, KY 42001-4744 E-mail: black8808@bellsouth.net

Editor

Kevin Segebarth 250 Riverside Drive Paducah, KY 42003 E-mail: lepboys@bellsouth.net

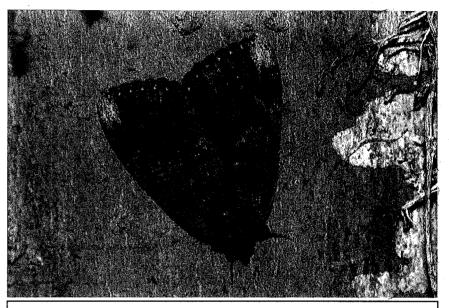
Secretary

Tony Merkle 1501 Stephenson Rd. Walton KY 41094 E-mail: jamphoto@juno.com

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The Society of Kentucky
Lepidopterists is open to anyone
with an interest in the Lepidoptera
of the State of Kentucky.
Membership dues are annual:
\$12.00, and can be sent to the
Treasurer: Les Ferge, (see above).



Catocala carissima
Photo by Ian Segebarth.

Some Catocala News for 2008

by Loran Gibson

The time period from late May into early July of 2008 was a very good time for underwing moths (Catocala species) in parts of Kentucky and Ohio. During that time, Bill Black used bait traps and a light trap to sample Catocala populations in a wet woods in Paducah, McCracken County, Kentucky where a number of hawthorn trees (Craetegus species) were first noticed in September of 2007. Hawthorns are the host plant for several species of small Catocala, and Bill's activities from late May into June revealed good numbers of C. crataegi, C. mira, and C. titania! I joined Bill on 18 June for an evening of bait trapping in that same woodlot, prior to departing for the Lepidopterists' Society meeting in Mississippi. Bill and I were in the process of setting up Bill's bait trap, but before Bill could attached the bottom platform to the screen cylinder, a small Catocala flew in and landed on the trap fabric. It was a C. titania! Apparently, Bill has those moths so well trained that they fly to his bait trap even before the bait is dispensed!. (Continued on page 2)

John Peacock also had good results with bait traps and his famous banana bait in a similar woodlot in Marion County, Ohio. Hawthorn feeders found there this season included C. crataegi, C. mira, C. dulciola, and individuals of a local population that looks something like C. alabamae, but could actually be C. praeclara. Regardless of whether these are praeclara or alabamae, either will represent a new county record and a sizable range extension. John collected females of a number of species, including C. crataegi and "praeclara/alabamae", and placed them in paper bags with small pieces of sponge soaked in a 20% sucrose solution. Several of these, including the "praeclara/alabamae" deposited ova in the bags, and several continue to oviposit. Collected ova will be held over the winter under outside conditions in hopes of getting/"lab-reared" adults next summer.

In addition to the hawthorn feeders, Bill Black also collected *C. ultronia* and *C. ilia*. By the third week in July, John had added *C. ilia*, *C. minuta*, *C. ultronia*, *C. serena*, *C. innubens*, *C. illecta*, *C. lineella*, and *C. residua*.

On 5 July John and Tom Carr, another Ohio lepidopterist, collected *C. miconympha* in Vinton Co., OH. On 12 July I collected a few *C. andromedae* in a light trap in Owsley Co., KY.

During mid-July Gerald Burnett was monitoring woodlots for *Catocala* in the Ballard County Wildlife Management Area in Ballard Co., KY. By 17 July Gerald had seen approximately 10 species including *C. ilia, C. carissima, C. maestosa, C. nebulosa,* and *C. marmorata*. Gerald's report of seeing *C. marmorata* there again this year, in addition to several other species, was enticing for John Peacock.

I was hoping to get a chance to look for *Catocala atocala* in western Kentucky this year. Gerald's records of *C. atocala* collected on 18 July a few years ago along the loess bluffs above the Mississippi River in Carlisle Co., KY provided incentive for me to make a visit to that area as well. After exchanging a few emails and some telephone calls, John and I

agreed to meet Bill and Gerald for a *Catocala* weekend during 25-27 July.

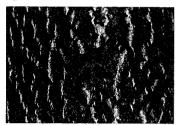
John came to my house in Florence, Ky on Friday, 25 July, and we drove on to Paducah together. After meeting Bill, the three of us set out bait traps and light traps on the Streetman's farm along Massac Creek on the west side of Paducah. Weather, typical for late July, was hot and humid. As we worked to deploy equipment it became obvious that a storm was brewing. Just as we were leaving the farmer's meadow, the storm arrived! Wind, rain, lightning, and thunder put an immediate damper on hopes for good mothing that evening.

Back at Bill and Nancy's house we dried out and were treated to a fine dinner. Gerald Burnett, Kevin and Ian Segebarth and Daphne Haugh arrived and we enjoyed a great evening of conversation. We also laid plans for our field activities on Saturday.

On Saturday morning we brought in our traps. We had attracted no Catocala with either bait or light. The best catches of the night included a nice plusiinae moth (Enigmogramma basigera) that came to Bill's light trap in a canebrake, and a pan-American big-headed tiger beetle (Tetracha (Megacephala) carolina) which was attracted to my light trap along Massac Creek. A few moths were attracted to John's bait traps, but none were of great interest.

Later that morning, we met Gerald Burnett and Kevin, Craig, and Ian Segebarth, and we drove to the Ballard County Wildlife Management Area (BCWMA) to search for Catocala using the tree-tapping method. Treetapping for Catocala is simple - one walks through a wooded area where underwing moths are known to rest on tree trunks and looks for moths. Catocala are very well camouflaged against tree bark and seeing them is often difficult. If no moths are seen on a likely looking tree, the tree is tapped with a stick or a stick is slid up and down the tree trunk to flush any unseen moths that might be hiding there. If tapping a tree flushes a moth, it (Continued on page 12)

will usually fly to another near-by tree and the search continues. There are a large number of huge trees in the river bottom forests of BCWMA. Many of them have vines of poison ivy, trumpet creeper, or Virginia creeper clinging to their bark. Some *Catocala* hide under leaves of these vines. Others crawl under loose bark of shagbark hickory or other tree species. Others do not hide, but rely on their



cryptic forewing patterns (*C. piatrix, left*) for protection. Some of these blend in amazingly well with the color and texture of tree bark.

After entering the woods, it wasn't long until a few *Catocala* were found. Some of us were collecting specimens while others were taking photographs. Ian Segebarth had good results

photographing moths (see page 16) with a Canon digital Rebel Xti with Canon 300mm f4 image stabilizer lens and 580EX2 flash.



Before leaving BCWMA we were able to record *C. innubens*, *C. obscura*, *C. maestosa*, *C. retecta*, *C. luctuosa*, *C. lacrymosa*, *C. palaeogama*, *C. neogama*, *C. ilia*, *C. marmorata*, and *C. carissima*! Most of these were fresh, gorgeous individuals. The only *C. marmorata* observed was on a large white oak tree resting with head "up". That is unusual for this species which usually rests head "down". Unfortunately, no photographer was nearby when the moth was discovered, so we have no photo of this species.

From Ballard County we continued south along the Mississippi River to the Westvaco Wildlife Management Area (WWMA) in Carlisle County. This area was logged to some extent in the recent past, so we were not confident of finding suitable tapping habitat. A stroll along the lower drainage basin of Sandy Branch revealed an open woods with a sandy understory. Most of the low plants in the basin had been covered by sand during recent

flooding making the area ideal for tree tapping. This part of the woods had not been logged and many large trees, especially cottonwoods and black willows were growing there. These had a few *Catocala* resting on them, including a striking black and white form of *C. lacrymosa* (see p. 16), which was initially mistaken for a *C. atacola*. Additional species observed in WWMA near Sandy Branch were *C. innubens*, *C. piatrix*, *C. obscura*, *C. maestosa*, *C. neogama*, *C. carissima*, and *C. amatrix*.



John Peacock and Bill Black at Sandy Branch

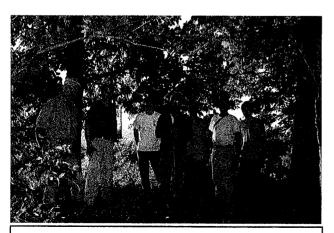
With C. atocala still unseen, we made our way south to a couple of areas along the top of the loess bluffs in Hickman County where this species has been recorded in recent years. Bill, John, and I set out bait traps and I set out a light trap along Bluff Road. We then moved to an area north of Columbus, KY along Drew Road. Here the bluffs are high and the drop-off to the floodplain is abrupt! From openings in the trees along this road one can see the Mississippi River in the distance. A highlight for me here was the occurrence of a few individuals of the Virginia big-headed tiger beetle (Tetracha (Megacephala) virginica). Ian got a photo of one of these and I collected a couple. We set out additional bait traps and a couple of light traps here and then drove north and east looking for food! At Gerald's recommendation we stopped at Luke's Restaurant in Arlington, KY. It was after 8:00 p.m. CDST before we arrived, but (Continued on page 13)

luckily, the restaurant was still open. We ate catfish and shrimp, hush puppies and cole slaw, white beans and French fries and washed it all down with iced tea and water. What a feast! Thanks once again to Gerald for his knowledge of the area! The restaurant was closed when we finally finished eating and talking. We said our good-byes there and went our separate ways after a great day in the field.

On Sunday morning John and I returned to collect our traps while the others attended church services. The light traps had a couple of C. amatrix, one C. piatrix, and one C. amica. Our bait traps failed to bring in any Catocala, although some moths, including a Zale species, a couple of sphingids, and a few geometrids were attracted. One of John's traps brought in 18 individuals of Abbot's sphinx (Sphecodina abbottii)! The light traps were full of beetles so most of the moths that we had trapped were in poor condition. My two traps had one individual each of the large stag beetle Lucanus There were also a couple of other elephas. species of stag beetles, some cerambicids, a variety of click beetles, many water beetles, and much, much more. No doubt Charles Wright, our Coleopterist member, will be happy with the catch!

The final tally of *Catocala* species recorded during the weekend came to 14 species! We were very happy with the results of our efforts!

Many thanks to John Peacock for comments, additions, and corrections.



Group photo on Drew Road bluff

A Succinct Summary of The Great Papaipema Chase 2007

By Bill Black

Kentucky Lepidopterists continue their quest to collect moths of the genus *Papaipema* and to record the state-wide data. Looking back at the 2007 season reveals the emergence of several new patterns in the evolution of *The Great Papaipema Chase* itself.

Only five collectors reported data, but their efforts documented a total of 26 species! Never were more than three collectors assembled together in the field (excluding the early September KY Lep Field Trip, which did not focus on Papaipema). Three got together only once for a camping/collecting trip (Gibson, Henderson, and Black 2-4 Oct 07). Two collected together once (Gibson and Henderson 30 July 07). Two of the five contributing collectors (Smith and Burnett) were not able to rendezvous at all during GPC 07. Nevertheless, on their own, they pursued Papaipema and forwarded their data, making some of the most significant finds of the season. Each of the three who were able to rendezvous once or twice. also collected alone. Loran Gibson turns the "virtual field trip" into The Great Papaipema Chase, as he "aggregates the data" from disparate sites in the state sent to him by all the collectors (included as an insert with this issue).

Some highlights of the GPC '07:

Loran Gibson had been homing in on *P. nelita* for years. (See *Kentucky Lepidopterist*, vol.33, No.3, p. 5, Sep 07). He had collected (31 Aug 84) one of only five specimens known from KY. Without recent success, he had been placing light traps in the larval food plant, Tall Coneflower (*Rudbeckia laciniata*), during the presumed flight time based on the dates of the five KY specimens (24 Aug – 7 Sep). Then he heard that the Segebarths had collected a Tennessee *P. nelita* during a Great Smoky Mtns BioBlitz in July. This made him wonder if he'd been searching too late in KY. On 12 Jul 07 (*Continued on page 14*)

he found them at Red River Gorge, in Menifee Co. and in Powell Co. He had kicked off the GPC 07 early! He and Richard Henderson repeated the success on 30 Jul 07.

Dr. Jonathan Smith, of Morehead (Rowan Co.), KY, finds it hard to get away from his medical practice for extended field trips. Autumn 07 saw no relief in his busy professional schedule. However, close-by are remnant colonies of a number of prairie plants. He did the best he could - and made some spectacular catches. By setting light traps in remnant prairie sites, he collected P. unimoda, P. lysimachiae, P. duplicata, and P. silphii: - two uncommon species, a rarity, and a new state record respectively! (See Kentucky Lepidopterist, Vol. 34, No.1, p.6, Jun 08.) He collected a total of (18) species of Papaipema. These roadside prairie remnants were owned by The National Forest Service. One would have assumed they were recognized and accorded protection. But alas, the Forest Service sold them to a developer who has bulldozed them, and is assembling prefabricated housing units on the land!

At the other end of the state, Paducahan Gerald Burnett had his hands full too. As a member of the staff at Ballard Wildlife Management Area, he is hustling in October to prepare for the annual waterfowl migration and hunting season - hardly an ideal situation for taking time off. His work does acquaint him with large areas of habitat - for Lepidoptera as well as for waterfowl. So, after work on two afternoons, he set a light trap. On 14 Sep 07, at Obion Creek WMA, Hickman Co., he collected (6) different species of Papaipema in one trap. On 17 Oct 07, at Ballard WMA, Ballard Co., he collected (2) more Papaipema species, in a light trap, set this time in cane on the Ohio River. One of the species was Papaipema n.s. #5, and there were four specimens in the trap. This cane site advances the known range of P. n.s. #5 fourteen miles further north in Kentucky. Gerald Burnett's four specimens of P. n.s. #5 are the first to be found on the Ohio River.

Loran Gibson has collected Lepidoptera for many years in the Red River Gorge of Menifee

and Powell Counties. He has focused special attention in recent years on known *Papaipema* food plants, plants of prairie origin, and prospective locations to trap *Papaipema* adults during their flying seasons. He invited Richard Henderson and Bill Black to join him 2-4 Oct 07 to check out his sites. To their disappointment, every targeted wildflower field had been bushhogged a week or two earlier, presumably by National Forest Service contractors to maintain open spaces.

The three collectors scouted tree lines, margins of fields, and margins of creeks for vestiges of food plants missed by the bush hogs. Creative placement of light traps enabled the capture of ten species of *Papaipema*, including *P. astuta* and *P. duplicata*. (Stone-root (*Collinsonia canadensis*), the presumed larval food plant of *P. duplicata*, was not observed.) The trio imagined the possibilities of discovery next year in Red River Gorge, if they could convince the National Forest Service to schedule mowing at least three of the fields a month later (perhaps the last week in October).

On the afternoon of 3 Oct 07, Gibson led Henderson and Black to one of the four sites in Kentucky where *P. speciosissima* is known to exist. To minimize the danger of over-collecting the small colony, they set only one light trap (8W), for only one night, agreeing to share any specimens collected. They collected five evidence the colony was in good shape.

Finally, Bill Black intended to host a modest expedition in far Western Kentucky, operating out of Paducah. Several KY LEP members were planning to come, including Mo Neilsen and Ted Herig from Michigan. Mo and Ted had graciously hosted several Kentuckians at Mo's Quonset Hut for a field collecting trip in mid-August. (See *Kentucky Lepidopterist*, vol. 33, no. 3, p. 6-8, Sep 07.) Unfortunately, one of Black's brothers fell seriously ill, and the GPC gathering had to be cancelled. (His brother eventually recovered.) Members continued to collect alone, with 21 Oct 07 the last date of reported data for the Kentucky season.

Letter from the President, August 2008

Dear Fellow Lepidopterists,

I hope that everyone has been enjoying the summer. Lately, I've been trying to spend one day a week in the field. I'm working on a project in Hart, Green, and Taylor counties in Kentucky, looking at effects of a habitat corridor being built by the Environmental Protection Agency along the Green River to protect water quality and increase connectedness of natural areas along the river. Landowners are being paid to plant a mix of native prairie plants, bottomland forest trees, or to exclude cattle and other livestock from areas immediately adjacent to the river. The Green River is among the most biologically diverse in North America, and about 20 federally listed endangered species (none of them Leps) live in or along the river. We're using the changes in the population genetics of half a dozen Lepidopteran species along the river as a case study of what can happen to species population structure when a habitat corridor is built. Some of the larvae of these Leps feed on the plants in the seed mix, others feed on plants that are adversely affected by cattle grazing, while some feed on plants that are unlikely to be affected by the creation of the corridor. We're expected that the different Lepidopteran species will respond differently based on which category their larvae are in.

This project has gotten me out of my office, and I've been taking my students out with me (most of whom are "gene jocks"), giving them a chance to learn some field identification skills, too. I've gotten a whole bunch of new county records, especially in Green and Taylor Counties, which are not well studied. Perhaps best of all, last week, for the first time ever I saw a gold-banded skipper (Autochton cellus) on the wing. It's always a good feeling to see a new bug for the first time!

Finally, let me convey a piece of personal news that relates to my role in the Society of

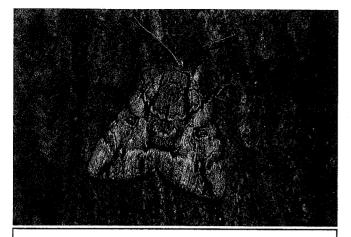
Kentucky Lepidopterists. I have been offered an endowed faculty position in the Department of Biological Sciences at the University of Manitoba in Winnipeg, Canada. The new job provides a lot that my current position at Western Kentucky University does not: access to a complete Entomology Department (where I will have an adjunct appointment), a PhD program in which I can train advanced students, and extensive lab space. This is an opportunity that is just too good for me to pass up. There are some governmental approvals that have to take place (related to immigration, etc.) before I take the position, so I will be in Kentucky for another academic year, but if all goes as planned, we will be moving in early summer 2009.

As I said in my last letter to the membership, I will be stepping down after my current term as President because it is impractical for me to serve when I am out of the country. If you value and enjoy your membership in this organization, please consider taking a more active role in its governance. Being a board member or the secretary of the Society of Kentucky Lepidopterists requires about 2 hours/year commitment during the annual meeting. The other leadership positions require somewhat more time, but again, they're not onerous. If you are interested in doing more, please drop me an email. We need you.

Thanks, Jeff

jeffrey.marcus@wku.edu

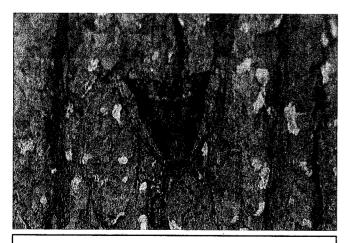




Catocala luctuosa



C. maestosa



C. angusi



C. lacrymosa "zelica"



Tetracha (Megacephala) virginica

All photos this page by Ian Segebarth

Western Kentucky Field Trip 5-7 SEP 08

Kentucky Lepidopterists will gather at the home of Bill and Nancy Black for fun and refreshments at 7:00 pm CDT. Anyone wishing to set a bait trap or light trap around Paducah Friday afternoon should contact Bill before the weekend if guidance to a site is needed. Friday night trappers should plan to arrive before 4:00 pm CDT.

Days Inn, on US Hwy 60, at Exit 4 of I-24, has again offered a special rate of \$45.00 plus tax to KY Lepidopterists. Members can call 270-442-7500 to make reservations.

Saturday morning, collectors will rendezvous at Days Inn at 8:30 am CDT, and depart for the field at 9:00 am. Plan to take sack lunches or snacks, for eating on the road between sites, thereby maximizing collecting time. After checking several favorite butterfly sites around Paducah, the caravan will head West through Ballard, Carlisle, and Hickman Counties toward the Mississippi River. Finally, traps can be set along the Mississippi River loess bluffs.

Sunday morning, the group will rendezvous again at Days Inn at 8:30, and depart at 9:00, for the Mississippi River bluffs to collect traps and browse for morning butterflies. Moving southward, the party will check some wetland habitats in Hickman and Fulton Counties, heading ultimately to Charlie Covell's Hybridization Hot Spot – the Mississippi Riverbank below Hickman (City) in Fulton County.

Notify Bill Black if you intend to come: 270-442-9587 or black8808@bellsouth.net.

2008 Annual Meeting

October 31 - November 1

Lexington KY

Details will follow in the next issue of Kentucky Lepidopterist

Dues Reminder

Please check your dues status and bring up to date if necessary.

The year following your name on the address label indicates the last year for which dues were paid. Send payment to treasurer Les Ferge, whose address is listed on the cover page of this newsletter.

Aggregated Data from The Great Papaipema Chase 2007

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37d 50' 39.7' N 38d 06' 54.9'' N 38d 07' 39.1'' N 38d 07' 39.1'' N	In UV Lt. trap in canebra in UV Lt. trap in canebra in UV Lt. trap UVLtTp(8w) at cane UVLtTp(15w) UVLtTp(15w) at cane, be In UV Lt. trap In UV Lt. trap		 	3	+		5			
37d 50' 39.7' N 38d 06' 54.9' N 38d 07' 39.1' N	In UV Lt. trap in canebre in UV Lt. trap in canebre in UV Lt. trap in cane UVLtTp(8w) at cane UVLtTp(15w) at cane, be UVLTp(15w) at cane, be		 	2007	2 Oct	Leatherwood Fork @ Indian Creek	1 KY Menifee	astuta	Papaipema	9477
37d 50' 39.7' N 38d 06' 54.9' N	In UV Lt. trap in canebre In UV Lt. trap in canebre In UV Lt. trap UVLtTp(8w) at cane UVLtTp(15w)at turn in k UVLtTp(15w) at cane, be			2007	16 Sep	FR-16, 0.6 mi west of 1274	1 KY Rowan	astuta	Papaipema	9477
37d 50' 39.7' N 38d 06' 54.9' N	In UV Lt. trap in carebre in UV Lt. trap in carebre in UV Lt. trap in carebre UVLtTp(75w) at care UVLtTp(15w) at care UVLtTp(15w) at care, be									
37d 50° 39.7° N 37d 50° 39.7° N 38d 06° 54.9° N	In UV Lt. trap in canebre in UV Lt. trap in canebre in UV Lt. trap in canebre UVLtTp(75w) at cane UVLtTp(15w)at turn in k			2007	21 Oct	W Fk Clark's River, Hughes Site #6		impecuniosa	Papaipema	9473
37d 50° 39.7° N 37d 50° 39.7° N 38d 06° 54.9° N	In UV Lt. trap in canebre in UV Lt. trap in canebre in UV Lt. trap UVLtTp(8w) at cane UVLtTp(15w)at turn in k			2007	20 Oct	Paducah, Littleville, SE wing of Carex site	2 KY McCracken	impecuniosa	Papaipema	9473
37d 50° 39.7° N 38d 06° 54.9° N	In UV Lt. trap in carector in UV Lt. trap in carector in UV Lt. trap UVLtTp(8w) at care			2007	14 Oct	Blood Riv, NW cor.logged bottoms, 1/4 mi N Grubbs Rd.	1 KY Calloway	impecuniosa	Papaipema	9473
37d 50° 39.7° N 38d 06° 54.9° N	In UV Lt. trap In UV Lt. trap in canebra			2007	14 Oct	W Fk Clark's River, Greene Site #3	1 KY Calloway	impecuniosa	Papaipema	9473
37d 50° 39.7° N	In UV Lt. trap			2007	2 Oct	Cane @ Clark Fish Hatchery	1 KY Rowan	impecuniosa	Papaipema	9473
+	In UV Lt. trap		+	2007	2 Oct	Meadow West of Edwards Branch, Rd 23	1 KY Menifee	impecuniosa	Papaipema	9473
			+	7007	ال الا	For. Rd. 9A, Indian Creek & Leatherwood Fork	T KY Menitee	arctivorens	Papaipema	9471
+			-		-					
38d 02' 15.4" N 83d 35' 04.5" W	In UV Lt. trap	1	-	2007		FR-909 meadow east of Gunrange.	হ	polymniae	Papaipema	9469
at Polymnia uvedalia	UVLtTp(8w) in tree line at Polymnia uvedalia	B WB	WB WB	2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	2 KY Menifee	polymniae	Papaipema	9469
bank at Joe Pye Weed	UVLfTp(15w) on creek bank at Joe Pye Weed		WB WB	2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	2 KY Menifee	polymniae	Papaipema	9469
	In UV Lt. trap in Polymnia uvedalia			2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	3 KY Menifee	polymniae	Papaipema	9469
	In UV Lt. trap			2007	3 Oct	N side Leatherwood Oreek, Cave Run Rec. Area	1 KY Menifee	polymniae	Papaipema	9469
	In UV Lt. trap		\dashv	2007	20 Sep	FR-909, meadow 0.6 mi. above Gunrange	3 KY Bath	polymniae	Papaipema	9469
38d 01' 42.7" N 83d 35' 04.5" W	In UV Lt. trap		Sr Sr	2007	6 Sep	FR-909, meadow 0.6 mi. above Gunrange	5 KY Bath	polymniæ	Papaipema	9469
. 38d 06' 10.6" N 83d 25' 34" W	In UV Lt. trap	S	Sr Sr	2007	3 Sep	Rt 1274, 3.3mi south of 519	3 KY Rowan	polymniae	Papaipema	9469
		1								
	In UV Lt. trap			2007	17 Oct	Ballard Co. WWA, Little Turner Lake		cataphracta	Papaipema	9466
1/3 of cane dead, probably drought.	ive catch;		WB WB	2007	13 Oct	Mayfield Creek, Hayes Cane Site #9	1 KY Ballard	cataphracta	Papipema	9466
	In UV Lt. trap		포 포	2007	9 Oct	Otter Creek Park, Cedar Hill Area	2 KY Meade	cataphracta	Papaipema	9466
38d 06' 54.9" N 83d 33' 28.2" W	In UV Lt. trap		-	2007	5 Oct	Cane @ Clark Fish Hatchery	3 KY Rowan	cataphracta	Papaipema	9466
UVLtTp(15w) in tree line at Polymnia uvedalia in woods edge	UVLtTp(15w) in tree line		-	2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	1 KY Menifee	cataphracta	Papipema	9466
at Polymnia uvedafia	UVLtTp(8w) in tree line at Polymnia uvedalia	BW WB	WB WB	2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	1 KY Menifee	cataphracta	Papipema	9466
38d 02' 00.9" N 83d 31' 21.4" W	In UV Lt. trap	e LG	רפ רפ	2007	3 Oct	N side Leatherwood Creek, Cave Run Rec. Area	1 KY Menifee	cataphracta	Papaipema	9466
	UVLtTp(15w)	B WB	BW BWB	2007	2 Oct	Leatherwood Fork @Indian Creek, Red River Gorge Rec. Area	1 KY Menifee	cataphracta	Papipema	9466
38d 06° 54.9° N 83d 33° 28.2° W	In UV Lt. trap	S	Sr Sr	2007	2 Oct	Cane @ Clark Fish Hatchery	1 KY Rowan	cataphracta	Papaipema	9466
37d 52' 35.0° N 83d 40' 13.6° W	In UV Lt. trap	포	곳 곳	2007	2 Oct	Leatherwood Fork @ Indian Creek	1 KY Menifee	cataphracta	Papaipema	9466
37d 52' 35.0" N 83d 40' 13.6" W	In UV Lt trap	e Le	LG LG	2007	2 Oct	Leatherwood Fork @ Indian Creek	1 KY Menifee	cataphracta	Papaipema	9466
£7,	UVLtTp(8w)	B WB	WB WB	2007	2 Oct	FR9 Red River Gorge Rec. Area, Indian Creek 0.35 mi W br	1 KY Menifee	cataphracta	Papipema	9466
Comments Latitude Longitude)n	y Collection		,	0	Location	# ST County	Species	IA Genus	MONA
		74	Col. Det.		· · ·			200		

Processom Indiation 11 NY Monta			2007	RETA DELLA TURA, CICARO CIRCARO	Calcordy	icois	, chalocina	3
Processors Audition			Oct 2007 WB WB WB	WEK Obrk's River Creams Site #3	KY Callburgy	nehric	Danainema	2010
Paragrams Inchis 1 V Seare Light			Oct 2007 WB WB WB	W Fk Clark's River, Greene Site #1	KY Calloway	nebris	Papaipema	9496
Explaname Inchine 1 W. Remart United Date Condended Control Horses 1 W. Remart United Condended Control Horses 2 W. Remart U			Oct 2007 WB WB WB	N side Leatherwood Creek, Cave Run Rec. Area	R	nebris	Papaipema	9496
Explanem India			Oct 2007 WB WB WB	N side Leatherwood Creek, Cave Run Rec. Area	₹	nebris	Papaipema	9496
Particularies claims cla			Oct 2007 WB WB WB	N side Leatherwood Creek, Cave Run Rec. Area	হ	nebris	Papaipema	9496
Procedure Author 1	83d 31' 21.4"	38d 02" 00.9" N	Oct 2007 RH RH RH	N side Leatherwood Creek, Cave Run Rec. Area	KY Menifee	nebris	Papaipema	9496
Perpanyone Inchine 1 IV Planon Danie Cond-Dark Optic Hillynes 1 IV Planon Dark Dark Dark Dark Dark Dark Dark Dark	83d 31 21.4 W	38d 02' 00.9" N	Oct 2007 RH RH RH	N side Leatherwood Creek, Cave Run Rec. Area	KY Menifee	nebris	Papaipema	9496
Projection Infinite 1 1 1 1 1 1 1 1 1	83d 39' 37.1"	37d 50' 01.8" N	Oct 2007 LG LG LG	West of Rt. 77 Bridge @ Red River	KY Menifee	nebris	Papaipema	9496
Purplement Infention 1 1 1 2 Data District Color Hill Note 1 1 2 Data District Color 1 1 2 Data District Color 1 2 2 District Color 1 2 2 District Color 1 District Col	83d 39' 53.2"	37d 50' 39.7" N	Oct 2007 RH RH RH	Meadow West of Edwards Branch, Rd 23	KY Menifee	nebris	Papaipema	9496
Papelpane Columb Columb	83d 39' 53.2"	37d 50' 39.7" N	Oct 2007 LG LG LG	Weadow West of Edwards Branch, Rd 23	KY Menifee	nebris	Papaipema	9496
Expansion Subbrook 1			Oct 2007 WB WB WB	FR9 Red River Gorge Rec. Area, Indian Creek 0.35 mi W br	KY Menifee	nebris	Papaipema	9496
Projections Online Onlin			Sep 2007 WB WB WB	W Fk Clark's River, Greene Site #2	KY Calloway	nebris	Papaipema	9496
Populyment Mah 1 1 1 1 1 1 1 1 1			Sep 2007 WB WB WB	Wilson Crk., Hwy 1820, at past site of Water Hembok	হ	nebris	Papaipema	9496
Projection chain 1 XV Industry Clark Count Park Park Park Count Park Park Count Park Park Park Count Park Park Park Count Park Park Park Count Park Park Park Park Park Park Park Park			Sep 2007 WB WB WB	Mayfield Creek, Hwy 1820, Barnhill property	KY Carlish	nebris	Papaipema	9496
Pepalpornal Indibison 1 KV Manda 1 KV Man			Sep 2007 GB GB GB	Obion Creek WMA	KY Hickman	nebris	Papaipema	9496
Preparations Infant 1 kV Monte Chart Park Obder 1 kV Robus Light on Trouts Wilepscownil Drine 2 kg 2007 65 kg 25								
Propigional budished 1 KY Models 1 KY	83d 29' 03.54	38d 11' 10.5" N	Oct 2007 JS JS JS	backyard on whippoorwill drive	KY Rowan	furcata	Papaipema	9495
Populyment onlib 1 V Most Most V Most Most	83d 39' 53.2"	37d 50' 39.7' N	Oct 2007 RH RH RH	Weadow West of Edwards Branch, Rd 23	KY Menifee	furcata	Papaipema	9495
Populyama naith 1 V/ Massio 1 V/ Mas	83d 39' 53.2'	37d 50' 39.7" N	Oct 2007 LG LG LG	Meadow West of Edwards Branch, Rd 23	KY Menifee	furcata	Papaipema	9495
Papapama inaba 1 K7 Roman Charle Cha	83d 40° 30.9	37d 51' 27.6" N	Oct 2007 RH RH RH	Rd. 9 Red River Gorge Rec. Area, indian Creek	KY Menifee	furcata	Papaipema	9495
Populations cubbs 1 KY Rowan Light on house Windprount/Drive 12 May 2007 15 MS MS MS MULTIP/Zelly the celebra 284 117 102 N			Oct 2007 WB WB WB	FR9 Red River Gorge Rec. Area, Indian Creek	KY Menifee	furcata	Papipema	9495
Papaiporna cubia 1 KY Mode Check Park Codar Hill Area 1 KY Mode Check Park Check Park Codar Hill Area 2007 15 LS LS LUL Ltep Check Park Check Park			200 2000	er in Salin Clara, in agrico Sino No.	Collegedy	inci grandonio	, abalpoina	0.101
Papaigname Julia 1 KV Monde			Oct 2007 WB WB WB	W. F. Chr. Piner Hunbos Site #6	KY Calburar	marginidens	Danainema	9 8
Papaignenne Indite 1 KY Reducte	030 23 34	200 00 10.0 N	Oct 2007 WB WB WB	Rhod River Seems Osmunda Fem Site #1	KY Calhway	marninidens	Panainema	2010
Papaganna Indib 1 IV Mosta Otter Creek Park, Coder Hill Area 9 Oct 2007 H RH RH IN UV Lt trap wom individuals	WC 13C PC0	384 08: 40 St N	Oct 2007 IS IS IS	Dt 1977 3 3mi south of 510	KY Dower	marginidans	Danainama	0/07
Papalponna onlibe I KY Rowan Otter Creak Park, Oxfort Hill Area 9 Oxf. 2007 RH RH In UV Lt trap, wom individuals 384 If 10.5 N Papalponna baptisiase 1 KY Rowan Light on bouss. Whitppoonwill Drine 24 Aug. 2007 US US US US US Aug. 2007 US US US US Aug. 2007 US US<	83d 25' 27 s	38d 06' 59" N	Oct 2007 JS JS JS	Rt-1274 remnant prairie 1.8 mi south of 519	KY Rowan	marginidens	Papaipema	9492
Papalponne Intity 1 KV Meade 1 KV Meade 1 KV Rowan Ugit on Nouse Whippoorwill Drive 22 Mg 2007 US US UVL11p(25w) No cards). UVL11p(25w) No ca			Oct 2007 RH RH RH	Offer Creek Park Centar Hill Area	KY Weade	marginidens	Panainema	9499
Papadponna drift 1 KY Mouth Other Oreak Park, Oeder Hill Area 9 Oct 2007 RH RH NH INV Lt frap, worm individuals Papadponna baptisiae 1 KY Rousen Light on house. Whipproorwil Drive 24 Aug 2007 US U	83d 35' 04 5	38d 02' 15.4" N	Oct 2007 JS JS JS	FR-909 meadow east of Gunrange.	KY Rowan	marginidens	Papaipema	9492
Papaignama Initial 1 KV Readab Other Oracle Plat Acade 4 KV Readab Other Oracle Plat Acade 9 Oct 2007 RH RH RH In VV Lt trap, worn individuals Papaignama baptissiae 1 KV Rowan Light on house, Writpoonwill Drive 24 Aug 2007 US US UV Lt trap 38d 11*10.5* N Papaignama baptissiae 1 KV Rowan Peatucah, 7p Track 7 Sep 2007 US US UV Lt trap 38d 05*1.3* N Papaignama baptissiae 5 KV McCracken Peatucah, 7p Track 7 Sep 2007 US US UV Lt trap Papaignama baptissiae 1 KV Boducah, 7p Track 7 Sep 2007 US US UV Lt trap 38d 05*1.3* N Papaignama baptissiae 1 KV Boducah Peatucah, 7p Track 1 Sep 2007 US US US	83H 32 38 3	384 DB: 54 Q: N	Oct 2007 JS JS IS	Came @ Clark Fish Hatchery	KY Rowan	marginidens	Panainema	9497
Papaignema Indifie 1 KY Measte Other Oreak Park, Ceatlar Hill Area 9 Cot 2007 RH RH RH DU Lit trap, worm individuals Papaignema baptisiaes 1 KY Rawan Light on house, Whitppoorwil Drive 12 Aug 2007 US US UL/Lit trap, worm individuals Papaignema baptisiaes 1 KY Rawan Lught on house, Whitppoorwil Drive 24 Aug 2007 US US UL/Lit p(25w) No coach. 9 Aud 17 10.5* N Papaignema baptisiae 1 KY McCracken Paducah, Zip Track 7 Sep 2007 US US UL/Lit p(25w) No coach. 9 Aud 20 1 N Papaignema baptisiae 1 KY Bath Cracken Paducah, Zip Track Site 7 Sep 2007 US US UL/Lit pap 3 Mod 27 15.4*N Papaignema baptisiae 1 KY Bath RA 309, neadow meat to gurrange 2 Sep 2007 US US UL/Lit pap 3 M	83d 35' 04.5	38d 02' 15.4" N	Sep 2007 JS JS JS	FR-909, meadow 0.6 mis. of gunrange	KY Bath	marginidens	Papaipema	9492
Papapienna Initia I. I. KV. Meade Other Cheek Park, Cedar Hill Area 9 Ced 2007 LB II. W. Ltrap, worm individuals 38d 171 10.5° N Papapienna baptisiae 1 KV. Meade Laphard DyFork 24 Mg 2007 JS. US. ULTrg/25w) Ne ceatch. 38d 171 10.5° N Papapienna baptisiae 1 KV. MeCharken Peducah, Zip Track. 2 Sep 2007 US. US. ULTrg/25w) Ne ceatch. 38d 171 10.5° N Papapienna baptisiae 1 KV. McCharken Peducah, Zip Track. Stele 7 Sep 2007 US. US. ULTrg/25w) Ne ceatch. 38d 05° 12.3° N Papapienna baptisiae 1 KV. McCharken Peducah, Zip Track. Stele 7 Sep 2007 US. US. ULTrg/25w) Ne ceatch. 38d 05° 12.3° N Papapienna baptisiae 1 KV. McCharken Peducah, Zip Track. Stele 7 Sep 2007 US. US. ULTrg/25w) Ne ceatch. 38d 05° 12.3° N Papapienna baptisiae 1 KV. Rowan Crack Reported to gurrange 1 Sep 2007 US. US. ULTrg/25w) N 1 NULTrg Arbord N 38d	83d 26° 30.7	38d 07 39 1 N	Sep 2007 JS JS JS	FR-16, 0.6 mi west of 1274	KY Rowan	marginidens	Papaipema	9492
Papaipenna Initia 1 KY Meade Other Creek Park, Cedar Hill Area 9 Ced 2007 RH RH In LIV Lt trap, worm individuals 38d 11' 105' N Papaipenna baphisse 1 KY Revall Light on house. Whipport Mil Dine 12 Aug 2007 US UNLTIP(25w) fee catch. 98d 11' 105' N Papaipenna baphisiae 1 KY Medade Lapland, Dyr Fork 24 Aug 2007 US US UNLTIP(25w) fee catch. N <	83d 35' 04.5	38d 01' 42.7" N	Sep 2007 JS JS JS	FR-909, meadow 0.6 mi s. of gunrange	KY Bath	marginidens	Papaipema	9492
Papaipema nutils 1 KY Meade Other Oreek Park, Oedar Hill Area 9 Cet 2007 RH RH In LIV Lt trap, worm individuals 38d 11' 10.5' N Papaipema baptisiaes 1 KY Rowan Light on house. Whippoorwill Drive 12 Aug 2007 US US ULTIP(25w) five catich. 38d 11' 10.5' N Papaipema baptisiae 1 KY Rowan Remnant praire, mi-3.1's of 519 24 Aug 2007 US US ULTIP(25w) five catich. 38d 08' 12.3' N Papaipema baptisiae 1 KY McCracken Paducah, Zip Track Site 7 Sep 2007 US US ULTIP(25w) five catich. 38d 08' 12.3' N Papaipema baptisiae 1 KY McCracken Paducah, Zip Track Site 7 Sep 2007 US US UV Lt trap 38d 08' 12.3' N Papaipema baptisiae 1 KY Rowan Rt. 1274, mi 3.3 s.of 519. Side of woods. 15 Sep 2007			Oct 2007 WB WB WB	Blood River Seeps, Osmunda Fern Site #1	KY Calloway	nepeleptena	Papaipema	9490
Papaiperma Intilis 1 KY Meade Other Creek Park, Cedar Hill Area 9 Cet 2007 RH RH In UV Lt trap, worm individuals Aug 11/10/5 N Papaiperma baptisiae 1 KY Rowan Light on house. Whippoonwill Drive 12 Aug 2007 JS JS UVLTTp(25w) ive catch. 38d 11′10/5′N Papaiperma baptisiae 1 KY Revalue Lapland, Dry Fork 2 Aug 2007 JS JS I/ULTp(25w) ive catch. 38d 01′10/5′N Papaiperma baptisiae 4 KY Revalue Paparity Drivack 7 Sep 2007 JS JS I/ULTp(25w) ive catch. 38d 05′12.3°N Papaiperma baptisiae 5 KY McCracken Particular 7 Sep 2007 JS JS I/ULTp(25w) ive catch. 38d 05′12.3°N Papaiperma baptisiae 1 KY Barth FR-909, meadownext to gurrange 1 Sep 2007 JS JS								
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Papapernal Intital 1 KY Meade Otter Oreek Park, Cedar Hill Area 9 Cot 2007 RH RH In LV Lt trap, worn individuals Papapernal baptisiae 1 KY Rewarn Light on house, Whippoorwill Drive 12 Aug 2007 JS JS UVLL trap, worn individuals Papapipernal baptisiae 1 KY Rewarn Light on house, Whippoorwill Drive 12 Aug 2007 JS JS UVLL trap Papapipernal baptisiae 1 KY Meade Lapland, Dry Fork 24 Aug 2007 JS JS JS In UV Lt trap Papapipernal baptisiae 4 KY Reward Paducah, Zip Track 7 Sep 2007 JS JS In UV Lt trap 38d 08° 12.3°N Papapipernal baptisiae 1 KY McCracken Paducah, Zip Track Site 7 Sep 2007 JS JS In UV Lt trap Papapipernal baptisiae			Sep 2007 GB LG GB	Obion Creek WMA	KY Hickman	birdii	Papaipema	9486
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Papaipema ntitis 1 KV Meade Otter Creek Park, Cedar Hill Area 9 Cct 2007 RH RH In UV Lt. trap, worn individuals Papaipema baptisize 1 KV Rowan Light on house. Whippoorwill Drive 12 Aug 2007 JS JS UV Lt. trap, worn individuals Papaipema baptisize 1 KV Rowan Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt trap, worn individuals Papaipema baptisize 1 KV Rowan Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt Trap, worn individuals Papaipema baptisize 1 KV Rowan Light on house. Whippoorwill Drive 1 Aug 2007 JS JS JS UV Lt Trap, worn individuals Papaipema baptisize 1 KV Rowan Paparite mis-3.1 s. of 519 2 2007 JS JS JS JUV Lt trap	874 75 34s	384 06' 10 6" N	Oct 2007 IS IS IS	Rt 1974 mi 3.3 s of 519 Side of woods	KY Rowan	bantisiae	Panainama	0485
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Papaipema ntils 1 KV Meade Otter Oreek Park, Cedar Hill Area 9 Oct 2007 RH RH In LIV Lt. trap, worn individuals Papaipema baptisize 1 KV Meade Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV_LtTp(25w) five catch. 38d 11*10.5*N Papaipema baptisize 1 KV Rowan Remnant prarie, mi-3.1 s. of 519 2 Sep 2007 JS JS JS IN_ULTTp(25w) five catch. 38d 11*10.5*N Papaipema baptisize 4 KY Rowan Paducah, Zip Track 7 Sep 2007 JS JS JS IN_ULTTp(25w) five catch. 38d 11*10.5*N Papaipema baptisize 5 KY McCracken Paducah, Zip Track Site 7 Sep 2007 JS JS JS IN_ULTp(25w) five catch. Papaipema baptisize 1 KY McCracken Paducah, Zip Track Site 7 Sep 2007			Sep 2007 GB LG GB	Obion Creek WMA	KY Hickman	baptisiae	Papaipema	9485
Papaipema ntitis 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Oct 2007 RH RH RH In UV Lt. trap, worn individuals Papaipema baptisize 1 KY Meade Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UVLITp(25w) five catch. 38d 11*10.5*N Papaipema baptisize 1 KY Rowan Remnant prarie, mi-3.1 s. of 519 2 Sep 2007 JS JS UVLITp(25w) five catch. 38d 11*10.5*N Papaipema baptisize 4 KY Rowan Paducah, Zip Track 7 Sep 2007 JS JS JS UVLITp(25w) five catch. Papaipema baptisize 5 KY McCracken Paducah, Zip Track Site 7 Sep 2007 JS US UVL Lt trap Papaipema baptisize 1 KY McCracken Paducah, Zip Track Site 7 Sep 2007 WB WB UVL Lt trap	83d 35' 04.5	38d 02' 15 4"N	Sep 2007 JS JS JS	FR-909, meadow next to gunrange		baptisiae	Papaipema	9485
Papaipema ntils 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Cct 2007 RH RH RH In UV Lt. trap, worn individuals Papaipema baptisiae 1 KY Meade Uight on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt. trap, worn individuals Papaipema baptisiae 1 KY Revall Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt. trap, worn individuals Papaipema baptisiae 1 KY Revall Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt. trap, worn individuals Papaipema baptisiae 1 KY Reade Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UV Lt. trap, worn individuals Papaipema baptisiae 4 KY Reade Lapland, Dry Fork 2 Sep 2007 JS JS <td></td> <td></td> <td>Sep 2007 WB WB WB</td> <td>Paducah, Zip Track Site</td> <td>KY McCracken</td> <td>baptisiae</td> <td>Papaipema</td> <td>9485</td>			Sep 2007 WB WB WB	Paducah, Zip Track Site	KY McCracken	baptisiae	Papaipema	9485
Papaiperma nutila 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Oct 2007 RH RH RH In UV Lt. trap, worn individuals Papaiperma baptisiae 1 KY Meade Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS UVLtTp(25w) five catch. 38d 11*10.5*N Papaiperma baptisiae 4 KY Rowan Remnant prarie, mi-3.1 s. of 519 2 Sep 2007 JS JS In UV Lt. trap WU Lt. trap 38d 06*12.3*N			Sep 2007 LG LG LG	Paducah, Zip Track	KY McCracken	baptisiae	Papaipema	9485
Papaiperma nutils 1 KY Meade Otter Oreek Park, Cedar Hill Area 9 Oct 2007 RH RH In UV Lt. trap, worm individuals Papaiperma baptisiae 1 KY Rowan Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS JVL.tTp(25w) five catch. Papaiperma baptisiae 1 KY Meade Lapland, Dny Fork 24 Aug 2007 WB WB WB UVL.tTp(25w) five catch.	83d 25° 33.5	38d 06' 12.3" N	Sep 2007 JS JS JS	Remnant prarie, mi-3.1 s. of 519	KY Rowan	baptisiae	Papaipema	9485
Papaipema nutila 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Oct 2007 RH RH RH In UV Lt. trap, worn individuals Papaipema baptisiae 1 KY Rowan ' Light on house. Whippoorwill Drive 12 Aug 2007 JS JS JS JS 38d 11'10.5" N			Aug 2007 WB WB WB	Lapland, Dry Fork	KY Meade	baptisiae	Papaipema	9485
Papaipema rutila 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Oct 2007 RH RH RH	83d 29' 03.5	38d 11' 10.5" N	Aug 2007 JS JS	Light on house. Whippoorwill Drive	KY Rowan	baptisiae	Papaipema	9485
Papaipema rutila 1 KY Meade Otter Creek Park, Cedar Hill Area 9 Oct 2007 RH RH RH RH							-	
			Oct 2007 RH RH RH	Otter Creek Park, Cedar Hill Area	KY Weade	rutile	Papaipema	9484

Aggregated Data from The Great Papaipema Chase 2007

				F					\vdash					
MONA	A Genus	Species	*	ST	County	Location	2	.≍ 2 m		Collection	5	Comments	Latitude	Longitude
9497	Papaipema	necopina	-	조		Obion Creek WMA	14 Sep	2007 G	GB LG			In UV Lt. trap		
9497	Papaipema	necopina		₹	KY Calbway	W Fk Clark's River, Hughes Site #2	29 Sep	2007 W	WB WB	WB	UVLtTP(15w)	P(15w)		
9497	Papaipema	necopina	r.	<u>₹</u>	KY Rowan	1274, remnnt prairie, mi-1.8 s. of 519	16 Oct	Z007	S S	SL	<u>₽</u>	In UV Lt. trap	38d 06' 59" N	83d 25' 27.5" W
9498	Panainema	sihhii	-	KY Rowan	Sowan	1774 remnnt nraine mi-18s of 519	Š	1. 7000	2	\perp	NI di	In IN 14 tran Firet KV ranned	38d 06' 59" N	83d 2F 27 F W
8070	Panainama	ciphii		2	KV Boston	1974 remnnt preirie mi-1 8 c of 510	5 3	+-	+	3 2	1 1 1		384 06' 50" N	834 75' 77 5" 181
}	allodindo -		+	= -		121-1; tottillit praire, ill-1:05: O 010	3				3	רוי חמלו	200000	W 2.12 02 DOO
9499	Papaipema	duplicata	-	KY	KY Rowan	1274, remnnt prairie, mi-1.8 s. of 519	2 0ct	Z007	JS LG	SU	In UV Lt. trap	Lt. trap	38d 06' 59" N	83d 25' 27.5" W
9499	Papaipema	duplicata	-	Κζ	KY Menifee	N side Leatherwood Creek, Cave Run Rec. Area	3 Oct	2007 W	WB WB	_		UVL1Tp(8w) tree line at Polymnia uvedalia; No Stoneroot obs'd.		
9499	Papaipema	duplicata		KY	KY Menifee	N side Leatherwood Creek, Cave Run Rec. Area	3 Oct	Z007 W	WB WB	, WB	UVLITE	UVLITp(15w) tree line at P. uvedalia, woods edge; ditto.		
				Н										
9201	Рараірета	eupatorii	_	<u>≥</u> ≿	0	N side Leatherwood Creek, Cave Run Rec. Area			WB WB			UVLtTp(15w) on creek bank at Joe Pye Weed	Table of the state	
9501	Papaipema		-	KY Rowan		Cane @ Clark Fish Hatchery			-		NO III	In UV Lt trap	38d 06' 54.9" N	83d 33' 28.2" W
320	Рараірета	eupatorii		<u>د</u>	KY Calbway	Bbod Riv, NW cor.bgged bottoms, 1/4 mi N Grubbs Rd	14 Oct	Z007 W	WB WB	WB	UNLIT	UVLtTp(15w)at tum in bggers' trail		
00.00				- 1		manufolded and the state of the		_	-					
2003	Papaipema	nelita		KY Powell		CR 613, near Hon Cemetary, along Red River	3			_	In UV Lt. trap	Lt. trap	37d 50° 33.7" N	83d 41' 51.1" W
3203	Papaipema	neita		<u>≥</u>	a)	Rd. 9A, Indian Creek & Leatherwood Fork	寻	_		_	ln 2 bla	In 2 blackight traps	37d 52' 34.8" N	83d 40' 11.1" W
9503	Papaipema	neita		KY Powell		CR 613, near Hon Cemetary, along Red River	马				- Si u	In UV Lt. trap	37d 50' 33.7" N	83d 41' 51.1" W
3203	Papaipema	neitta		KY Powell		CR 613, near Hon Cemetary, abng Red River	밁				A) u	In UV Lt. trap	37d 50' 33.7" N	83d 41' 51.1" W
9503	Papaipema	neita	=	∑ _	Menifee	Rd. 9A, Indian Creek & Leatherwood Fork	30 Jul	2007 R	RH RH	RH	In 2 bla	In 2 blackight traps	37d 52' 34.8" N	83d 40' 11.1" W
9503	Papaipema	rigida	3	<u>≥</u>	KY Menifee	Leatherwood Fork @ Indian Creek			-		_ 3 <u>∎</u>	In UV Lt. trap	37d 52' 35.0" N	83d 40° 13.6° W
9503	Papaipema	ngida	-	∑ V	Menifee	Meadow West of Edwards Branch, Rd 23	Ö	2007 R	RH RH			In UV Lt. trap in canebrake	37d 50' 39.7" N	83d 39' 53.2" W
9203	Papaipema	ngida	-	≥ ∠	KY Menifee	FR9 Red River Gorge Rec. Area, Indian Creek	2 Oct	2007 WB	-			at LG's Lt Sheet w UV/MV		
9503	Papaipema	nigida	2	<u>₹</u>		FR9 Red River Gorge Rec. Area, Indian Creek 0.35 mi W br	ö	2007 WB	B WB	WB	UVLtTp(8w)	o(8w)		
9503	Рарајрета	ngida	-	KY Rowan		1274, remnnt prairie, mi-1.8 s. of 519	14 Oct	2007 JS	ठ	SS	In UV Lt. trap	Lt. trap	38d 06' 59" N	83d 25' 27.5" W
			-	1					\rightarrow					
9202	Papaipema	cerussata		호	nan	Obion Creek WMA	Sep	\rightarrow	GB GB		In UV Lt. trap	Lt. trap		
3202	Рараірета	cerussata		<u>®</u> ∑		FR-909 meadow east of Gunrange.	Sep				In UV Lt. trap	Lf. trap	38d 02' 15.4" N	83d 35' 04.5" W
9202	Papaipema	cerussata		₹		W Fk Clark's River, Hughes Site #2	79 Sep	2007 WB	B WB		UVLtTP(15w)	P(15w)		
9202	Papaipema	cerussata		₹	Menifee	Leatherwood Fork @ Indian Creek	Oct		3 LG		l VN u	In UV Lt. trap	37d 52' 35.0" N	83d 40' 13.6" W
9202	Papaipema	oenussata	က	₹		Leatherwood Fork @ Indian Creek	Oct		RH RH		In UV Lt. trap	Lt. trap	37d 52' 35.0" N	83d 40' 13.6" W
9202	Papaipema	oerussata		<u>₹</u>		Meadow West of Edwards Branch, Rd 23	Oct	$\overline{}$	-		II UN I	In UV Lt. trap in canebrake	37d 50' 39.7" N	83d 39' 53.2" W
3202	Papaipema	cerussata	-	₹		Meadow West of Edwards Branch, Rd 23	S				In UV	In UV Lt. trap in canebrake	37d 50' 39.7" N	83d 39' 53.2" W
9202	Papaipema	cerussata	9	<u>₹</u>	Rowan	Cane @ Clark Fish Hatchery	Ö	2007 JS	SU S		l VV	In UV Lt. trap	38d 06' 54.9" N	83d 33' 28.2" W
9505	Рараірета	cerussata	-	<u>≥</u>		FR9 Red River Gorge Rec. Area, Indian Creek 0.35 mi W br	Oct	2007 WB	B WB		UVLtTp(8w)	o(8w)		
3202	Papaipema	cenussata		≥	Wenifee	N side Leatherwood Creek, Cave Run Rec. Area	ਲੋ	2007 LG			l NO m	in UV Lt. trap	38d 02' 00.9" N	83d 31' 21.4" W
9202	Papaipema	oerussata	-	<u>₹</u>	KY Menifee	N side Leatherwood Creek, Cave Run Rec. Area	ਲੁ	2007 RH			ln UV	In UV Lt. trap in Polymnia uvedala	38d 02' 00.9" N	83d 31' 21.4" W
9505	Papaipema	cerussata	က	ĭ Z	Menifee	N side Leatherwood Creek, Cave Run Rec. Area	3 Oct	2007 WB	B WB	WB	UVLtTp	UVLtTp(15w) on creek bank at Joe Pye Weed		
9202	Papaipema	oerussata	-	Σ	Menifee	N side Leatherwood Creek, Cave Run Rec. Area	3 Oct	2007 WB	B WB		UVLtTp	UVLtTp(15w) in tree line at Polymnia uvedala in woods edge		
9505	Papaipema	cerussata	7	KYB	Bath	FR-909 meadow east of Gunrange.	100 / L	2007 JS	જ		I AN III	In UV Lt. trap	38d 02' 15.4" N	83d 35' 04.5" W
9202	Papaipema	cerussata			Y	W Fk Clark's River, Hughes Site #2	Oct		B WB		UVLITP(15w)	P(15w)		
3205	Рараірета	cerussata	2	<u>Σ</u>	Rowan	1274, remnnt prairie, mi-1.8 s. of 519	14 Oct	2007 JS	સ	ಬೆ	N III	In UV Lt. trap	38d 06' 59" N	83d 25' 27.5" W
			\rightarrow					_		-				
6096	Papaipema	unimoda	2	<u>~</u> ≿	Rowan	FR-16, 0.6 mi west of 1274	16 Sep	Z007 JS	સ જ	SZ	<u>n</u>	In UV Lt. trap	38d 07' 39.1" N	83d 26' 30.7" W
		-												
			_	+		TANK TO THE TANK T		+	-		+			
-	TOTO TOTO THE PROPERTY OF THE PASSAGES	CONTROL OF CANADACTOR CONTROL	-		GOOTH THE SECTION OF THE TRANSPORT		Boomers of the Country of the Countr	-	-		The state of the s			Section that the state of the s

9509.4	Papaipema	n. sp. #4	-	KY Calbway		W Fk Clark's River, Hughes Site #4	82	Sep 2007	07 WB	3 W/B	WB	UVLtTP(15w) five catch; nearest cane 100m		
9209.4	Papaipema	n. sp. #4	3	KY Rowan		Cane @ Clark Fish Hatchery	3	Oct 2007	St 70	SL	Sľ	In UV Lt. trap 38d 06' 54.9" N	⊢	83d 33' 28.2" W
9509.4	Papaipema	n. sp. #4	-	KY Rowan		Cane @ Clark Fish Hatchery	5	Oct 2007	SC 70	ಬ	St	In UV Lt trap 38d 06' 54.9" N	-	83d 33' 28.2" W
9509.4	Papaipema	n. sp. #4	-	KY Calloway		W Fk Clark's River, Greene Site #1	9	Oct 2007	07 WB	3 WB	WB	UVLtTP(15w) at cane		
9509.4	Papaipema	n. sp. #4	-	KY Ballard		Mayfield Creek, Hayes Site #9	13 (Oct 2007	07 WB	3 WB	WB	UVL1Tp(25w) Ive catch; 1/3 of cane dead, probably drought.		
9509.4	Papaipema	n. sp. #4	3	KY Calloway		W Fk Clark's River, Greene Site #3	14 (Oct 2007	07 WB	3 WB	WB	UVLITp(8w) at cane		
9209.5	Papaipema	n. sp. #5	7	KY Calloway		Blood River, Cane Site #4A, 40m S orig Site #4	14 (Oct 2007	07 WB	3 WB	WB	UVLtTp(15w) Two males:one worn, one fresh.		
9509.5	. Papaipema	0. sp. #5	4	KY Ballard		Ballard Co. WMA, Little Turner Lake	17 (Oct 2007	07 GB	eB S	89	In UV Lt. trap		
										_				
					2	26 Species!		-	-					
	-					NAME ABBREVIATIONS								
					ata.	WB = William R. Black Jr.						The state of the s		
					٠	GB = Gerald Burnett								
					7	LG = Loran D. Gibson			_					
					Œ	RH = Richard A. Henderson								
						S. = Smith								