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Northeastern Illinois University
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Introduction

Nearly all (99.99%) of the vast tall grass prairie that once blanketed large portions of Illinois has been destroyed (White 1978). Despite the enormity of this destruction, numerous fragments of the once extensive prairies and wetlands of Illinois remain intact. Unfortunately, these very small (most < 15 ha) and widely spaced 'habitat islands' will likely prove inadequate as wildlife sanctuaries for habitat-restricted animals (Diamond 1975; Soule' et al 1980; Kerr 1982; Blake and Karr 1984; Panzer 1984;). For this reason, the establishment of at least a few large prairie preserves is considered to be a major conservation priority in Illinois.

The Fermilab Prairie Restoration (FLP) represents one of the most ambitious efforts to establish a large native grassland in northeastern Illinois. Although less than 12 years old, and little more than a grade 'D' prairie from a botanical standpoint (see White 1978), FLP, by virtue of its large size, may play an important, if not crucial role in the long term survival of many of the indigenous prairie animals of northeastern Illinois. FLP already supports sizable populations of bobolinks, meadowlarks, and savanna sparrows, migratory prairie animals that were able to reach this isolated site with very little difficulty. Unfortunately, many animals, insects included, are apparently sedentary and reluctant to cross even seemingly inconsequential habitat gaps like roads and fences (Ehrich 1961; Terborgh 1975; Diamond 1976; Frankel and Soule' 1981; Arnold 1983; Wourms 1984; Panzer 1984; Cappucino and Karieva 1984). Can (or will) the numerous insect species that once flourished on the prairies of this region recolonize this reclaimed cornfield as the prairie habitat improves? Or, will it be necessary, as in the case of the prairie flora, to translocate many, perhaps most, habitat-restricted prairie, wetland, and savanna species to this site?

This (ongoing) survey represents an attempt to determine to what extent the native insects of this region have managed to reoccupy the Fermilab Prairie Restoration. More precisely, we are striving to accumulate qualitative base line insect data which will facilitate a comparison between the insect community on FLP, and those on nearby prairie remnants. It is hoped that this information will eventually contribute to insect translocation activities at FLP.

The following taxa, those with which we are most familiar, were heavily emphasized during the first year of this survey:
Butterflies & moths (Macrolepidoptera)
Grasshoppers (Orthoptera; Acrididae, Tettigidiidae)
Katydid s (Orthoptera; Tettigoniidae)
Tree crickets (Orthoptera; Gryllidae, Oecanthinae)
Dragonflies & Damselflies (Odonata)
Leafhoppers, treehoppers, and cicadas (Homoptera, in part)
Horse & deer flies (Diptera; Tabanidae)
Stink bugs, shield backed bugs, negro bugs (Hemiptera; Pentatomoidae)

Methods

The study site was visited by 2 (occasionally 3) investigators on 19 occasions between April 1 and September 26, 1986. Aerial nets and sweep nets were employed to capture specimens during each visit. A malaise trap was used in July and again in September in an effort to capture elusive species that are difficult to capture by other means (eg. Tabanad flies). Black lights and fermented bait mixtures were employed as attractants during 5 evening surveys conducted between June 15 and September 20. Three bait traps were used for 7 nights in September in an effort to capture late-flying underwing moths.

Common, easily identified insects were captured, identified, and released. Uncommon species were sacrificed and retained for further examination; these are currently housed as voucher specimens at Northeastern Illinois University and in the collection of the senior author.

Specimens were identified using a wide variety of taxonomic manuals, keys, and field guides, most of which are listed in the attached bibliography. Also, in the case of the moths, specimens were compared with reference specimens from the collection of the Field Museum of Natural History, Chicago, Ill.
Results

Two hundred and fifty-two species representing 56 families were captured and identified to genus; two hundred and thirty-six of these were identified to species [see attached listing]. Whereas the bulk of these animals were determined to be wide ranging species with broad ecological amplitudes, twenty-seven were determined to be potentially uncommon or rare habitat-restricted species [see table I].

Discussion

As expected, the qualitative data gathered this first year demonstrate that the insect community at Fermilab Prairie closely resembles that of an old field or 'eurasian meadow'. We were somewhat surprised to find, however, that several uncommon, habitat-restricted species have managed to recolonize this young restoration, possibly from the few miniscule wet prairie remnants that occur along the roads within the accelerator ring.

Insect Abundance

Many insects that tend to be exceedingly abundant in old field and even cultivated habitats were found to be very abundant at FLP as well. Examples include the Armyworm moth, Spuedeleta unipuncta, the Cabbage butterfly, Pieris rapae, the European skipper, Thymelicus lineola, the European leafhopper, Anthysanus argentarius, the Cucumber beetle, Diabrotica undecimpunctata, the Goldenrod beetle, Trirhabda canadensis, a flea beetle, Systena sp., and certain undetermined weevils (Curculionidae), just to name a few.

In sharp contrast, most of the uncommon, habitat restricted species encountered during this study (see below) were found to occur in very small numbers. Speyeria cybele, Erynnis baptisatae, and Mesamia nigridorsum, for example, were each recorded 3 or less times this year.
It is interesting to note that the grasshoppers recorded for this site were found to be somewhat scarce as well. The very small population of *Melanoplus femurrubrum* at FPR contrasts sharply with the very large populations of this same species that typically occur in the 'weedy fields' of this region.

**Species Diversity**

Species diversity among several of the groups we examined appears to be very low as compared with comparable natural areas, as seen in Tables 2, 3, 4, and 5. This disparity is particularly evident in the case of the butterflies, as can be seen when FLP is compared with the larger remnants of this region (Table 5).

Unexpectedly, we found a few groups to be reasonably well represented on this site. Examples would include the leafhoppers, the grasshoppers (Table 6), and especially the katydids (Table 7). In fact, FLP probably supports as many katydid species as do most comparable natural areas (This is the first site we have encountered that supports 4 coneheaded katydid species [*Neoconocephalus* spp.]).

**Qualitative Assessment**

As anticipated, the insect community at FLP resembles that of an old field from a qualitative standpoint. To begin with, many rather common prairie/savanna species were not recorded during this first year. Examples would include the Silphium weevil (*Marynchites aenous*), the Little wood satyr (*Megisto cymela*), the bronze copper (*Lycaena thoe*), the Delaware skipper (*Atrytone logan*), the Milkweed tiger moth (*Euchaeoleus aglae*), the Tick clover beetle (*Odonne horni*), and the Cordgrass leafhopper (*Hecalus lineatus*), just to name a few.

Most of the species we recorded at FLP are known to be wide ranging animals with very broad habitat requirements. Interestingly, a moderate number of habitat-restricted insects, species that are not generally associated with early seral, weedy habitats, were recorded as well. Examples of species thought to be 'moderately' habitat restricted in this region would include: the Sweetheart underwing, *Catocala amatrix*, the wood nymph, *Cercyonis pegala olympus*, the Edwards hairstreak, *Satyrium edwardsii*, the Great-spangled fritillary,
*Speyeria cecile*, the cattail katydid, *Conocephalus attenuatus*, and the leafhoppers *Parabolocratus major*, *Cicadula melanogaster*, and *Graminelia fitchii*. Examples of species thought to be decidedly habitat restricted in this region would include: the baptisia duskywing, *Erynnis baptisai*, the nebraska conehead, *Neoconocephalus nebrascensis*, the Robust conehead, *N. robustus*, and the leafhoppers *Dorycephalus platyrhynchus*, *Paraphiepsius lobatus*, and *Mesamia nigrigoria*.

It is interesting to note that nearly half of the habitat restricted species shown in Table 1 are wetland species, while fewer than 25% are upland prairie forms. This may be accounted for by the fact that all of remnants within the ring are wetlands. Did these very small degraded wetland remnants serve as insect refugia or, were the extensive wetlands formed by the breaking of the tile drainage simply more easily recolonized from external sources than were the restored uplands? If the bulk of the wetland species listed in Table 1 did indeed simply expand into the restoration from adjacent remnants, then only the 13 upland prairie and savanna species may have managed to transverse a significant distance to reach this site; and many of these may have emanated from the upland woodlands immediately outside of the accelerator ring. In short, the listing of uncommon animals (Table 1) does not provide compelling evidence that there has been an appreciable movement of habitat-restricted insects into the Fermilab Prairie Restoration from distant remnants.

**Survey Thoroughness**

Whereas we have likely recorded 80-90% of the butterflies, grasshoppers, and katydids that occur on this site, we have almost certainly recorded less than 80% of the leafhoppers and certain of the other groups examined -- far less in the case of the moths. Given the extent of the fluctuations in density that insect populations tend to undergo, the very localized distributions of many species within what appear to be homogeneous habitats, the tendency of certain species to flee well in advance of an investigator, and the large size of the Fermilab Prairie, a second and possibly third year of study will be required to complete this survey. The effectiveness of this study might be further improved by expanding to include a qualitative and quantitative comparison of the FLP insect community with that of the nearby West Chicago Prairie, a high quality preserve that includes sedge meadow, wet and mesic prairie, and tall grass savanna on similar soils.
Conclusion

Fermilab Prairie supports a wide variety of common, wide ranging insects, as well as a modest number of what are generally considered to be prairie and wetland insects. The data obtained in this study seem to support the view that restorations, at least the large ones, can potentially contribute, within reasonably short periods of time, to the conservation of habitat-restricted insect species. Our results also suggest, however, that many native species may be excluded from the 'apparently' suitable habitats within isolated restorations by the inhospitable gaps that separate these sites from nearby prairie remnants. Planned attempts to reintroduce appropriate insect species into the FermiLab Prairie should provide an interesting test of this hypothesis.
# TABLE 1

HABITAT ASSOCIATIONS OF THE UNCOMMON INSECTS OF THE FERMILAB PRAIRIE RESTORATION

<table>
<thead>
<tr>
<th>Species:</th>
<th>Habitat:</th>
<th>Wetland</th>
<th>Prairie</th>
<th>Savanna</th>
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<td>Enallagma aspersum</td>
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<td>Calopteryx maculata</td>
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<td>Scudderia texensis</td>
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<td>Neocnococephalus robustus</td>
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<td>Conocephalus attenuatus</td>
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<tr>
<td>Dorycephalus platyrhynchus</td>
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<tr>
<td>Parabolocratus rotundus</td>
<td>X</td>
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<tr>
<td>Scaphoideus ochraceous</td>
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<tr>
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<td>Flexamia inflata</td>
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<tr>
<td>Graminella fitchii</td>
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<td>Amplicephalus osborni</td>
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<td>Amblyseius curtisi</td>
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<td>Limnotettix striolus</td>
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<td>Nesamia nigrodorsum</td>
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<td>Paraphlepsius eburneolus</td>
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<td>Paraphlepsius lobatus</td>
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<td>Elymana acrita</td>
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<td>Cicadula melanogaster</td>
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<td>Satyrium edwardsii</td>
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<td>Speyeria cebela</td>
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<td>Lethe eurydice</td>
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<td>Cercyonis pegala</td>
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<td>Erynnis babtisiae</td>
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<td>Somme</td>
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<td>Wedsworth</td>
<td>Fermilab</td>
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<td><em>Philaeus spumarius</em></td>
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<td><em>Clastoptera obtusa</em></td>
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<td><em>Clastoptera proteus</em></td>
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<td><em>Prospia bicincta</em></td>
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### TABLE 3
THE UNDERWING MOTH COMMUNITIES OF FOUR
PRAIRIE/WETLAND/SAVANNA COMPLEXES IN THE CHICAGO REGION

<table>
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<th>Species</th>
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<th>Middlefork</th>
<th>Wadsworth</th>
<th>Fermilab</th>
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<td>Catocala micronympha</td>
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<td>Catocala ultonia</td>
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<tr>
<td>Catocala cerogama</td>
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<tr>
<td>Catocala briseis</td>
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<td></td>
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<tr>
<td>Catocala illa</td>
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<td>Catocala parta</td>
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### TABLE 1
THE TREEHOPPER COMMUNITIES OF FOUR PRAIRIE/WETLAND/SAVANNA COMPLEXES IN THE CHICAGO REGION

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<td>Telamona compacta</td>
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<td>Telamona sp.</td>
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<td>Glossosmarus crataegi</td>
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<td>Microcentrus perditus</td>
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TABLE 5
DISTRIBUTION OF BUTTERFLY DIVERSITY ON 18 PRAIRIE AND WETLAND REMNANTS IN THE CHICAGO REGION

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<th>Area (ha.)</th>
<th>Species number:</th>
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<td></td>
<td></td>
<td>Restricted</td>
<td>Nonrestricted</td>
<td>Total</td>
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<td>Fermilab Restoration</td>
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<tr>
<td>Braidwood Dunes/Savanna</td>
<td>100.0</td>
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<td>Midlothian Prairie</td>
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<td>24</td>
<td>32</td>
</tr>
<tr>
<td>Paintbrush Prairie</td>
<td>17.0</td>
<td>7</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Somme Prairie</td>
<td>14.0</td>
<td>8</td>
<td>18</td>
<td>26</td>
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<tr>
<td>Cook Prairie</td>
<td>14.0</td>
<td>13</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>Buffalo Grove Prairie</td>
<td>6.4</td>
<td>5</td>
<td>16</td>
<td>21</td>
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<tr>
<td>I-57 Prairie</td>
<td>4.5</td>
<td>3</td>
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<td>20</td>
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<tr>
<td>Belmont Prairie</td>
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<td>6</td>
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<td>Chicago Ridge Prairie</td>
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<td>Cary Prairie</td>
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<td>19</td>
<td>22</td>
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<tr>
<td>Main Street Prairie</td>
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<td>19</td>
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<tr>
<td>Vermont Cemetery Prairie</td>
<td>1.0</td>
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<td>14</td>
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</table>

* includes prairie restricted species only.
TABLE 6.
THE GROUSE LOCUST, GRASSHOPPER, AND WALKING STICK
COMMUNITIES OF FOUR PRAIRIE/WETLAND/SAVANNA
COMPLEXES IN THE CHICAGO REGION

<table>
<thead>
<tr>
<th>Somme Middlefork Wadsworth Fermilab</th>
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</thead>
</table>

**Acrididae: Grasshoppers**

<table>
<thead>
<tr>
<th>Species</th>
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<tbody>
<tr>
<td>Chortophaga viridifasciata</td>
<td>X</td>
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<tr>
<td>Dissosteira carolina</td>
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</tr>
<tr>
<td>Chorthippus curtipennis</td>
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<td>X</td>
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<td></td>
</tr>
<tr>
<td>Chloealthis conspersa</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Melanoplus bivitattus</td>
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</tr>
<tr>
<td>Melanoplus viridipes</td>
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<tr>
<td>Melanoplus gracilis</td>
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<tr>
<td>Melanoplus femurrubrum</td>
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<td>Trachyrachis kiowa</td>
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**Tetrigidae: Grouse locusts**

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<tbody>
<tr>
<td>Hemotettix cristatus</td>
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<td></td>
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<tr>
<td>Tetrix ornatum</td>
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</table>

**Phasmatidae: Walking sticks**

<table>
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<th>Species</th>
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<th>5</th>
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</thead>
<tbody>
<tr>
<td>Diaphosera blotchleyi</td>
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</tr>
<tr>
<td>Diaphosera femorata</td>
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</tbody>
</table>
### TABLE 7.
THE KATYDID COMMUNITIES OF FOUR PRAIRIE/WETLAND/SAVANNA COMPLEXES IN THE CHICAGO REGION

<table>
<thead>
<tr>
<th>Species</th>
<th>Somme</th>
<th>Middlefork</th>
<th>Wadsworth</th>
<th>Fermilab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pterophylla camellifolia</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ameblycorpha rotundifolia</td>
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<tr>
<td>Ameblycorpha oblongifolia</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Microcentrum rhombifolium</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Neoconocephalus ensiger</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Neoconocephalus retusus</td>
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<td>Neoconocephalus robustus</td>
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<tr>
<td>Neoconocephalus nebrascensis</td>
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</tr>
<tr>
<td>Scudderia curvicauda</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Scudderia furcata</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Scudderia texensis</td>
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<tr>
<td>Scudderia ptiliata</td>
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<td>Atlanticus testaceus</td>
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<tr>
<td>Conocephalus attenuatus</td>
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<td>X</td>
</tr>
<tr>
<td>Conocephalus nigripleurum</td>
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<td>X</td>
</tr>
<tr>
<td>Conocephalus fasciatus</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Conocephalus brevipennis</td>
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<tr>
<td>Conocephalus strictus</td>
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</tr>
<tr>
<td>Orchelia vulgare</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Orchelia nigripes</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Order ODONATA
suborder Anisoptera: dragonflies

family Aeshnidae

_Anaax junius_ (Drury)  Green darner
This is a very common, migratory species.

family Libellulidae

_Symphetrus rubicundulus_ (Say) 6-16-86  Red topper
This is a common, early summer species. Members of this genus breed
in the temporary waters of wet prairies, sedge meadows, and
marshes.

_Symphetrus obtrusus_ Hagen  7-9-86  White-faced topper
This is a somewhat common, late summer species.

_Platythemis lydia_ (Drury)  White-tailed dragonfly
This very common, wide ranging species breeds in the permanent
waters of ponds and ditches.

_Libellula pulchella_ Drury  Ten-spotted skimmer
This very common, wide ranging species breeds in the permanent
waters of ponds and ditches.
Libellula luctuosa Burmeister  
The Widow  
This is a common, wide ranging species.

Tramea lacerata Hagen 7-9-86  
Saddle bags  
This is a very common, wide ranging species.

Pachydiplax longipennis (Burmeister)  
Blue pirate  
This is a common, wide ranging species.

suborder Zygoptera: damselflies

family Coenagrionidae

Ishnura verticalis (Say)  
Common fork-tail  
This is a very common, wide ranging species.

Enallagma civile (Hagen) 8-12-86  
bluet  
This is a common species, inhabiting ponds, lakes, and slow streams.

Enallagma apersum (Hagen) 8-31-86  
bluet  
This uncommon species inhabits sedge and grass-bordered ponds.

family Calopterygidae

Calopteryx maculata Burmeister  
Black-winged damselfly  
One individual was recorded on this date. This somewhat uncommon stream species probably does not breed in the stagnant waters on this site. 8-11-86

family Lestidae

Lestes uncatus Hagen  
damselfly  
Several members of this common, widespread species were observed mating on this date. 6-16-86
Lestes uniguiculatus Hagen damselfly
This is a very common member of this genus. Several individuals were observed mating on 6-11-86.

Order ORTHOPTERA
suborder Caelifera: grasshoppers & grouse locusts
family Acrididae
subfamily Acridinae

Chloaalthis conspersa Harris 7-9-86 Sprinkled locust
This would appear to be a somewhat uncommon, northern savanna/woodland species. . .recorded within plots 1 and 4.

Chorthippus curtipennis (Harris) slant-faced grasshopper
This is a very common wetland species.

subfamily Oedipodinae

Chortophaga viridifasciata (DeGeer). Green-striped g’hopper
This common, wide ranging spring species overwinters as an adult. 5-28-86

Dissosteira carolina (L.) Carolina grasshopper
This very common, wide ranging species thrives in denuded habitats such as paths and gravel roadways.

subfamily Cyrtacanthacridinae

Melanoplus bivitattus (Say) Two-striped grasshopper
This common, bimodal species occurs both in wet prairies and on xeric hill prairies. 7-9-86
Melanoplus fesurrubrous (DeGeer)  Red-legged grasshopper
This is a very common, wide ranging species. Although this species typically occurs in tremendous numbers in recently degraded, weedy habitats, we found it to be somewhat scarce within the restored prairie plots on this site. 8-11-86

family Tetrigididae

Acadianus granulatus Kirby  8-11-86  grouse locust
This northern prairie species is somewhat common in the Chicago region.

suborder Ensifera: katydids & crickets

family Tettigoniidae
subfamily Phaneropterinae

Scudderia curvicauda (DeGeer)  Curve-tailed bush katydid
This would appear to be a somewhat common, wide ranging wetland species. 7-9-86

Scudderia furcata Brunner  Fork-tailed bush katydid
This is a common, wide ranging ecotonal species. 8-11-86

Scudderia texensis Saussuer & Picket  Texas bush katydid
This is a somewhat uncommon prairie species. Found in large numbers in predominantly weed-free stands of prairie grasses on this site. 8-11-86

Aolyrcorypha oblongifolia (DeGeer)  Oblong-singed katydid
This common species was recorded singing from shrubs and herbaceous vegetation on several occasions.

Microcentrus rhombifolius (Saussure)  Angle-singed katydid
This common arboreal species was recorded singing within the savanna on 8-25-86.
subfamily Copiphorinae

*Neoconocephalus ensiger* (Harris)  Sword-bearing conehead
This is a common, wide ranging species. Favored host plants include *Andropogon* spp. 8-11-86

*Neoconocephalus robustus* Scudder  Robust cone-head
While apparently restricted to sand prairies in the Chicago region, this species apparently occurs along roads and in oldfields in the Aurora area. 8-29-86

*Neoconocephalus retusus* (Scudder)  Brown conehead
This ubiquitous southern species has apparently expanded into this region within the past 20 years.

*Neoconocephalus nebrascensis* (Bruner)  Nebraska conehead
Blatchley stated that it was the most common conehead in central and northern Indiana. Nevertheless, this is only our second record of this species in this region. It has been reported to be more of a savanna species in Nebraska. We captured this individual while singing in the savanna.

subfamily Conocephalinae

*Conocephalus fasciatus* (DeGeer)  Slender meadow katydid
This is a common, wide ranging species. 8-11-8

*Conocephalus attenuatus* (Scudder)  Long-tailed meadow katydid
This would appear to be an uncommon, marsh-inhabiting species in this region. 8-11-86

*Conocephalus brevipennis* (Scudder)  Short-winged meadow katydid
This is apparently the most common member of this genus in this region. It seems to be present in most prairies and old fields in the Chicago area.

*Orchelesium vulgare* Harris  Common meadow katydid
This is a common, wide ranging upland prairie species. 7-9-86
Orchelium nigripes Scudder  Black-legged meadow k'did
This common, wide ranging species occurs along the margins of
wetland areas. 8-11-86

subfamily Pseudophyllinae

Pterophylla camellifolia (F.) 8-11-86 True katydid
Reported to be a somewhat common, arboreal species, this katydid
was recorded singing from the savanna tree tops on several
occasions.

Family Gryllidae
subfamily Oecanthinae

Oecanthus niveus (DeGeer)  Narrow-singed tree cricket
Taken within the savanna on oaks. 8-26-86

Oecanthus argentinus Saussure tree cricket
Taken within the savanna on oaks. 8-26-86

Oecanthus nigricornus T. J. Walker tree cricket
Taken within the savanna on 9-22-86

order NEUROPTERA: lacewings

family Chrysopidae

Chrysopa spp. green lacewing

family Hemerobiidae

Hemerobius spp. brown lacewings
Order HEMIPTERA: true bugs

family Pentatomidae

*Euschistus variolarius* (P.B.) One-spotted stink bug
This is a very common, wide ranging species.

*Holcostethus limborarius* Stal stink bug

*Acrosternum hilare* (Say) Southern green stink bug
This is a very common, wide ranging species.

*Cosmopepla binaculata* (Thomas) stink bug
This species occurs with regularity on the prairie remnants of this region. Occurs in atypically small numbers on this site.

*Predisus maculiventris* (Say) Spined soldier bug

family Podapidae

*Amaurochrous brevitylus* Barber & Sailer turtle bug
Taken in sweep samples on 5-28-86.

family Thyreocoridae

*Coriselaena lateralis lateralis* (F.) negro bug

family Cydnidae

*Sehirus cinctus* (Palisot de Beauvois) burrower bug

family Alydidae

*Alydus eurinus* (Say) broad-headed bug
This common prairie species occurs on *Lespedeza capitata*. 


family Lygaeidae

_IShnodeus falcus_ (Say.)  
Chord grass seed bug
This prairie species is apparently restricted to a remnant patch of _Spartina_ adjacent to plot 1. 5-28-66

_Lygaeus kalmii_ Stal  
Small milkweed bug
This common species occurs predominantly on _A. syriaca_. 6-17-86

_Oncopeltis fasciatus_ (Dallas)  
Large milkweed bug
This common species occurs predominantly on _A. syriaca_. 6-17-86

family Tingidae

_Corythucha ciliata_ (Say)  
lace bug

family Phymatidae

_Phymata sp._  
Ambush bug
Common on goldenrods.

family Nabidae

_Nabis americofcrerus_ Carayon  
damsel bug
This is a very common, wide ranging species.

family Miridae

_Poecilocapsus lineatus_ (F.)  
Four-lined Plant Bug
Host plants include gooseberries (_Ribes spp._).

_Lygus lineolaris_ (P.B.) 5-28-86  
Tarnished plant bug
This is a very common, wide ranging species.
Leptopterna dolabrata (L.)  
Meadow plant bug  
This is a very common, wide ranging species.

Order HOMOPTERA: leafhoppers & planthoppers

family Cicadellidae

Idiocerus [incomptus or nervatus]  leafhopper  
6-16-86

Nacropsis viridis (Fitch) 6-16-86  leafhopper  
Reported to be a common, transcontinental species. Host plants are willows.

Agallia quadripunctata (Provancher)  leafhopper  
This common northeastern species occurs in moist open woodlands. 5-28-86

Aceratagallia sanguinolenta (Provancher)  Clover leafhopper  
A very common and widespread species.  7-9-86

Kolla bifida (Say) 7-9-86  leafhopper  
Reported to be a common species.

Helochara communis Fitch 6-16-86  leafhopper  
A common, transcontinental, wet prairie species.

Graphocephala coccinea (Forster) 9-21-86  leafhopper  
This common eastern species can be found on ornamentals as well as on Rubus.

Draeculacephala [constricta or mollipes]  leafhopper  
6-16-86

Draeculacephala producta (Walker)  leafhopper  
Reported to be a common, wide ranging species.  6-19-86
Draeculacephala antica Walker  7-12-86 leafhopper
Common in eastern U.S.

Gyponona ortha Delong  7-14-86 leafhopper
A widely distributed species in eastern and midwestern U.S.

Ponana rubida DeLong  6-19-86 leafhopper
A midwestern species taken at black light.

Dorycepha/us platyrhynchus Osborn.  Duck-billed leafhopper
This western grass feeding prairie species is rare in the Chicago
region. It is apparently restricted in distribution to plot 6,
west of the savanna.  5-28-86

Parabolicratus major Osborn  7-12-86 leafhopper
This is a somewhat uncommon, wet prairie species.

Parabolicratus rotundus DeLong  9-21-86 leafhopper
Reported to be an uncommon wetland species; known only from
Illinois and Ohio (DeLong 1948).

Aphrodes costata (Panzer) subterranean leafhopper
This common species is apparently introduced from Europe.

Xestocepha/us superbus (Provancher) leafhopper
Reported to be common on herbaceous growth in open woodlands.
8-12-86

Scaphoideus ochraceus Osborn  8-31-86 leafhopper
This is an unusual eastern woodland species.

Scaphoideus sp.  7-9-86 leafhopper

Prescottia lobata (VanDuzee)  8-31-86 leafhopper
Occurs on Solidago caesia in open woodlands or edges.

Cloanthanus cuprescens (Osborn) Copper leafhopper
Reported to be a common, widespread species.  7-9-86
Cloanthanus frontalis (VanDuzee)  leafhopper
Reported to be a common, widespread species. 6-16-86

Cloanthanus acutus (Say)  6-19-86  leafhopper
Reported to be a common transcontinental species.

Flexania inflata (Osborn and Ball)  6-16-86  leafhopper
Delong described this as the most common Flexania in Illinois, found on pastures and prairies. Only one specimen was swept. We have yet to encounter this species on other sites.

Lotulcus missellus (Ball)  7-9-86  leafhopper
A northern species found in meadows and open woodlands.

Lotulcus sayi (Fitch) 5-28-86  leafhopper
A common pasture species on bluegrass and other grasses; swept from Festuca.

Polyania imicina (Say)  6-16-86  leafhopper
A common transcontinental grass-feeder.

Deltacephalus sonorus Ball  6-12-86  leafhopper
A common widely distributed grass-feeder.

Laevicephalus sp.  5-28-86  leafhopper

Psammotettix striatus (L.)  5-28-86  leafhopper
A transcontinental grass-feeder.

Ambicephalus osborni (Van Duzee)  6-19-86  leafhopper
A northern marsh species, caught at black light on 6-19-86.

Graeminella fitchii (Van Duzee)  6-19-86  leafhopper
A wet prairie species, attracted to black light.

Amblystellus curtisii (Fitch)  9-21-86  leafhopper
A northeastern species on Calamagrostis.
Stereillus bicolor (VanDuzee) leafhopper
Reported to be a common species in meadows and on crops. 7-9-86

Doratura stylata (Boheman) Short-winged European leafhopper
This exotic species would appear to be very common locally. 6-16-86

Paraselus nervosus (Fall) 6-19-86 leafhopper
This exotic species was abundantly attracted to black light.

Atheyanus argentarius Metcalf leafhopper
A ubiquitous introduction from Europe.

Latoettix striolus (Fallen) 5-28-86 leafhopper
A sedge meadow species.

Mesasia nigr dorsus Ball Helianthus leafhopper
This prairie species would appear to be very uncommon in this region. 7-9-86

Paraphlepsius irroratus (Say) leafhopper
This is a very common transcontinental species. 6-19-86

Paraphlepsius eburneolus (Osborn & Lathrop) leafhopper
This apparently uncommon species reportedly feeds on grasses in woodlands. 8-31-86

Paraphlepsius collitus (Ball) 6-19-86 leafhopper
A common grass-feeding species in meadows and savannas.

Paraphlepsius lobatus (Osborn) 8-31-86 leafhopper
An uncommon wet prairie species.

Chlorotettix unicolor (Fitch) 7-9-86 leafhopper
This wet prairie species may be uncommon in this region.

Elymna acrita DeLong 9-21-86 leafhopper
Described from Illinois as found on Elymus in shaded areas.
Cicadula melanogaster (Provancher) 6-19-86 leafhopper
This would appear to be a somewhat uncommon, wet prairie species.

Colladonius clitellarius (Say) leafhopper
Reported to be a widespread northeastern and midwestern species.

Macrosteles divisa (Uhler) leafhopper
A common species on crops. 6-16-86

Jassus olitorius Say 8-21-86 leafhopper
Common on oaks from mid July onward.

Nesosteles neglecta (DeLong and Davidson) leafhopper
A common widespread species.

Emoasca spp. 7-12-86 leafhopper

Dikraneura sp. 6-16-86 leafhopper

Typhlacyba sp. 6-19-86 leafhopper
These leafhoppers were swept from oaks in the degraded savanna on numerous occasions.

Erythrineura sp. 6-16-86 leafhopper

family Cicadidae

Tibicen linneti (Smith and Grossbeck) dog-day cicada
This species was heard singing from the tops of the trees in the oak savanna on 7-9-86.

Tibicen sp. 8-11-86 dog-day cicada
family Membracidae

*Microcentrus perditus* (Amyot and Serville)  
Host plant is bur oak.

*P. concava* (Say) 8-29-86  
A common, wide ranging species that feeds on a wide variety of herbaceous plants.

*Stictocepha/la taurina* (Fitch)  
A common, wide ranging species that feeds on a wide variety of woody and herbaceous plants.

*Stictocepha/la bubalus* (F.) 7-9-86  
Buffalo treehopper  
This common, wide ranging species feeds on a wide variety of woody and herbaceous plants.

*Stictocepha/la diceros* (Say) 7-9-86  
Another common, wide ranging species that feeds on a wide variety of woody and herbaceous plants.

*Acutalis tartarea* (Say) 7-3-86  
Treehopper  
Host plants for this common species include *Ambrosia, Solidago,* and *Helianthus*

*Micralis calva* Say 8-11-86  
Minute treehopper  
Host plants for this common species include *Ambrosia* and *Helianthus* spp.

*Telamona decorata* Ball 8-11-86  
Treehopper  
Host plants are oaks (*Quercus* spp.)

*Telamona westcotti* Goding 8-11-86  
Treehopper  
Host plants are various oaks and Basswood.

*Telamona sp.*  
Treehopper
family Dictyopharidae

Scolopes sulcipes (Say) Candle-headed planthopper
This is a common upland prairie species.

family Acanaloniidae

Acanalonia bivitata Say 8-11-86 planthopper
A very common, wide ranging species.

family Derbidae

Ceresa sp. 8-11-86 planthopper
Swept commonly from herbaceous vegetation.

family Flatidae

Metcalva pruinosa (Say) 8-11-86 planthopper
This common, wide ranging species was swept from trees and shrubs.

Anarsenis septentrionalis (Spinola) planthopper
This common, wide ranging species was swept from shrubs.

family Cercopidae

Philaenus spumarius (L.) Meadow spittlebug
This is a very common, ubiquitous species.
Order COLEOPTERA: beetles

family Cicindelidae

*Cicindela sexguttata* (F.) 6-spotted tiger beetle
This is a common denizen of bare soils and pathways. 5-28-86

*Cicindela sp.* 7-9-86 tiger beetle
This species was found to be common on the bare ground between bunch grasses (plot 6) on this date.

family Carabidae

*Lebia ornata* Say Ornate ground beetle
This common species was swept from vegetation in plot 1.

family Silphidae

*Microphorus sp.* carrion beetle
Taken at a blacklight on 8-31-86.

family Cantharidae

*Chauliognathus pennsylvanicus* (DeGeer) soldier beetle
This is a very common, wide ranging species. 7-9-86

family Coccinellidae

*Coleomegilla fuscilabris* (Mulsant) ladybird beetle
This somewhat common species occurs with regularity on irises.
**Coccinella transversoguttata** Faldermann  ladybird beetle
A common, wide ranging species. 6-14-86

**Hippodamia parenthesis** (Say)  ladybird beetle
This species was taken both in sweep samples and at black lights. 6-18-86

**Brachycantha ursina** (F) 6-14-86  Small ladybird
This species occurs with regularity on *A. syriaca*.

**Cycloneda sanguinea** (L.)  Unmarked ladybird
Occurs with regularity on *A. syriaca*.

**family Cerambycidae**

**Tetrapetes tetraophthalmus** (Forester)  Red milkweed beetle
The host plant for this common species is *A. syriaca*. 6-14-86

**Oberea tripunctata** (Swederus) 6-16-86  Dogwood longhorn
Host plants for this common species are reported to include cottonwoods, elms, dogwoods, and viburnum.

**Typocerus sinuatus** (Newman) 7-9-86  Rudbeckia longhorn
This common species visits composite flowers with regularity.

**family Chrysomelidae**

**Systena sp.**  leaf beetle
This ubiquitous species was found to occur in very large numbers on a wide variety of herbaceous plants.

**Triplabda canadensis** (Kirby)  Goldenrod beetle
This ubiquitous species was found to occur in large numbers wherever its foodplant, *Solidago altissima*, was present.
**Microrhopala vittata** (F.)  
*leaf beetle*

Host plants for this somewhat uncommon species include *Silphium* spp.

**Diabrotica undecimpunctata howardi Barber Cucumber Beetle**

This is a very common, wide ranging species.

**Chrysochus auratus** (F.)  
*Dogbane Beetle*

This common species feeds on *Apocynum* spp.

**Labidomera clivicollis** (Kirby)  
*Swamp Milkweed Beetle*

This common species was found to feed primarily on *A. syriaca* on this site.

**Zygogramma suturalis** (F.)  
*leaf beetle*

One individual was taken in plot 1.

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**Order LEPIDOPTERA: butterflies & moths**

**family Nymphalidae**

**Polyogonia interrogationis** (F.)  
*Question mark*

This common ecotonal species was seen visiting dogbane and Canada thistles on this date, 7-9-86

**Polyogonia comma** Harris  
*Comma*

One specimen of this somewhat uncommon woodland species was taken in a bait trap on 9-31-86.

**Junonia coenia** Hubner  
*6-17-86 Buckeye*

This common, migratory species was recorded 'puddling' along the gravel road.
Hysphalis antlopa (L.) 5-28-86 Mourning cloak
This common, willow-feeding species was found to be common on this site.

Vanessa atalanta (L.) Red admiral
This is a common, wide ranging species

Vanessa cardu (L.) 5-28-86 Painted lady
This is a very common, wide ranging species. Host plants are thistles (Cirsium spp.).

Vanessa virginiensis (Drury) 7-9-86 American painted lady
This somewhat common species feeds on pussytoes (Antennaria spp.).

Speyeria cybele (F.) Great spangled fritillary
This somewhat uncommon species was seen flying through and adjacent to the oak savanna on 7-9-86 (only 3 sightings).

Basilarchia archippus (Cramer) Viceroy
This common, willow-feeding species was found to be somewhat uncommon on this site.

Phyciodes tharos (Drury) 7-9-86 Pearl crescent
This very common, wide ranging species feeds on asters.

Limenitis arthemis astyanax (Boisduval & LeConte) Red-spotted purple
This common ecotonal species is reported to feed on a wide variety of woody plant species. 8-11-86

family Danaidae

Danaus plexippus (L.) 5-28-86 Monarch
This is a common, migratory species.
family Satyridae

_Satyrodes eurydice_ (Johannsson)  
**Eyed brown**  
This is an uncommon wet prairie species. Host plants are sedges 
(*Carex* spp.)

_Cercyonis pega/a_ (F.)  
**Blue-eyed grayling**  
This is a somewhat uncommon inhabitant of the prairie/forest 
ecotone. Host plants are grasses.

family Pieridae

_Colias eurytheme_ Boisduval  
**Orange sulphur**  
This ubiquitous species was found to occur in large numbers. 
Host plants include cultivated legumes.

_Colias philodice_ Godart  
**Common sulphur**  
This ubiquitous species was found to occur in large numbers. 
Host plants include cultivated legumes.

_Pieris rapae_ (L.)  
**Cabbage butterfly**  
This ubiquitous exotic was found to occur in large numbers. Host 
plants are crucifers.

family Papilionidae

_Papilio polyxenes asterius_ Stoll.  
**Black swallowtail**  
This very common species feeds on both native and exotic members of 
the family Umbelliferae.

family Lycaenidae

_Everes cosyntas_ (Godart)  
**Eastern-tailed blue**  
This very common species feeds on a wide variety of native and 
exotic legumes.
Celastrina ladon (Cramer)  
Spring azure  
The host plants for this common species include willows.

Satyrium edwardsii (Saunders) 7-9-86  
Edward's hairstreak  
Two very worn specimens of this uncommon, oak feeding species were captured while visiting *A. syriaca* directly south of the savanna.

family Hesperiidae

Thymelicus lineola (Ochsenheimer)  
European skipper  
Found to occur in numbers within patches of *Phleum pratense*, its favored host plant. 5-17-86

Polites themistocles (Latreille)  
Tawny-edged skipper  
This very common species was found to occur in uncharacteristically small numbers.

Ancyloxypha numitor (F.)  
Least skipper  
This somewhat common species was sighted on many occasions in the marsh and sedge meadows areas adjacent to the central pond.

Erynnis baptisai (Forbes) 8-11-86  
duskywing  
This very uncommon species was recorded nectaring at *Ratibida pinnata*. Only one individual was seen.

family Noctuidae

Catocala ultronia (Hbn) 7-14-86  
Ultronia underwing  
Host plants are members of the family Rosaceae.

Catocala ilia (Cramer) 7-14-86  
Ilia underwing  
This oak-feeding species is reported to be common.

Catocala asica (Hbn.) 7-14-86  
Girlfriend underwing  
This oak-feeding species is reported to be common.
Catocala amatrix (Hbn.)  The Sweetheart
This is reported to be an uncommon, willow-feeding species.

Zale lunata (Drury)  7-14-86  Lunar moth
Host plants include willows and maples. Taken at blacklight.

Papaisa arctivorens Hampson  9-21-86  moth
This somewhat common species reportedly feeds on burdock.

Papaisa nebris (Guenee)  moth
This somewhat common species reportedly feeds on a variety of weedy plants.

Sunira bicolorata (Guenee)  Bicolored sallow
This reportedly common species feeds on a variety of weedy plants.

Lithacodia synochitis (Grote & Robinson)  Black-dotted lithacodia
This species is reported to feed on smartweeds (Polygonum spp.).

Lithacodia carneola (Gn.)  Pink-bordered lithacodia
Host plants include Solidago and Polygonum spp.; taken at blacklight 7-14-86

Caenurgina erecheta Cramer  Clover moth
This is an exceedingly common and wide ranging species. Host plants include several exotics.

Leuconycta diptheroides (Gn.)  6-18-86  Green leuconycta
This reportedly common (?) species feeds on goldenrods (Solidago spp.).

Scoliopteryx libatrix (L.)  8-29-86  The Herald
Host plants are reported to be poplars and willows.

Plusia falcifera Kirby  6-14-86  Celery looper
This is a very common and wideranging species. Host plants include several exotics.
**Autographa biloba** Stephens  7-9-86  Bilobed looper
This is reported to be a very common, wide ranging species.

**Smyra henrici** (Grote)  6-17-86  Henry's marsh moth
The host plants of this common species include cattails, grasses, and sedges.

**Tarachidia erastricoides** (Gn.) Small bird-dropping moth.
The host plant for this common species is *Ambrosia trifida.*
6-16-86

**Apanea amputatrix** (Fitch)  7-1-86  Yellow-headed cutworm
This common species apparently feeds on a wide variety of native and cultivated plants. Taken at bait.

**Amphipoea americana** (Speyer)  7-14-86  American ear moth
Host plants are grasses and sedges. Common at bait.

**Nepheleodes minians** Gn.  8-21-86  Bronzed cutworm
Hosts are grasses including corn.

**Idia aemula** (Hubner)  8-21-86  Common idia
Larvae feed on dead leaves on the forest floor.

**Idia americanis** (Guenee)  7-14-86  American idia
This reportedly common lichen-feeder was taken at bait.

**Idia lubricalis** (Geyer)  8-14-86  Glossy black idia
Host plants include grasses and rotten woods. Taken at baits.

**Pseudaelasia unipuncta** (Haworth)  Armyworm moth
This very common broad spectrum feeder was taken on numerous occasions at black lights and baits. 7-9-86

**Leucania multilineata** Walker  Many-lined wainscot
This is reportedly a common, grass-feeding species. 6-19-86

**Leucania scirpcola** Guenee  Scirpus wainscot
This somewhat uncommon species was taken at baits. 8-31-86
Spodoptera frugiperda (J.E. Smith)  
Fall armyworm 
This very common species feeds on a wide variety of plants. 8-26-86

Bleptina caradrinalis Guenee  
Bent-winged owlet 
Reported to be a common, wide ranging species. 7-10-86

Agratis ipsilon (Hofnagel)  
Ipsilon dart 
Reported to be a very common wide ranging species. Host plants include several cultivated plants. 7-14-86

Xestia dolosa Franclemont  
Black-lettered dart 
Reported to be a very common wide ranging species. Host plants include cultivated plants. 8-31-86

Pyrophila tragoponis L.  
Three-dotted wing 
Taken at a black light on 7-14-86.

Amphipyra pyramidoides Guenee  
Copper underwing 
This common woodland species reportedly feeds on a wide variety of woody plants. 8-31-86

Heliothis zea (Boddie)  
Corn earworm 
This common agricultural pest was taken at black light.

family Arctiidae

Ctenucha virginiana (Esper)  
Virginia ctenucha 
A common, grass and sedge-feeding species. 5-28-86

Scapsis fulvicalis (Hubner)  
Yellow-collared scape moth 
A common, wide ranging species.

Haploa reversa Stretch  
Reversed haploa 
Captured at black lights. This common ecotonal species feeds on a wide variety of forbs and woody species.
Hypoprepia fucosa Hubner 7-14-86  Painted lichen moth
This reportedly common, lichen-feeding species was taken at lights.

Phragmatobia fuliginosa (L.) Ruby Tiger moth
Taken at a black light. 7-14-86

Cycnia tenera Hubner 7-14-86 Dogbane moth
Taken at a black light.

Halysidota tessellaris (J.E. Smith) Banded tussock moth
This reportedly common species feeds on a wide variety of woody plant species. 7-14-86

family Lasiocampidae

Malacosoma americana (F). Eastern tent caterpillar
Fresh specimens captured at blacklights on this date. 6-18-86

family Notodontidae

Dotana integerrima Grote & Robinson Walnut caterpillar moth
Host plants of this reportedly common species include walnut and hickories. 7-14-86

Hadota gibbosa (J.E. Smith) White-dotted prominent
This reportedly common species feeds on a variety of hardwood species. Taken at a black light. 6-19-86

family Pyralidae

Desmia funeralis (Hubner) 8-31-86
Host plants include Oxonthera.

Crambus spp. grass moths
Pyrausta orphisalis Walker 7-14-86 moth
Host plants include Monarda fistulosa.

Callima argenticinctella Clemens moth
Taken on 7-14-86 at lights. Associated with elms.

Argyrotaenia quercifoliana (Fitch) leafroller moth
Host plants for this reportedly common species include Oaks.
6-18-86

family Lymantriidae

Orgyia leucostigma (J. E. Smith) White marked tussock moth
Over 140 known hosts. Taken at black light on 9-21-86.

family Geometrididae

Orthotana cerstrostrigaria (Wallaston) Bent line carpet
Host plants include smartweeds (Polygonum spp.).

Eulithis diversilineata (Hubner) Lesser grape vine looper
Common

Scopula lixiboundata (Haw.) 6-18-86 Large lace-border
This common woodland species feeds on a wide variety of plants.

Euchlaena serrata (Drury) 6-18-86 The Saw-wing
Host plants include maples (Acer spp.).

Xanthotype urticaria Swett 7-14-86 False crocus geometry
This species is somewhat common in this region. Host plants
include a wide variety of woody and herbaceous species.

Haematopis grateria (F.) Chickweed geometry
This very common species feeds on a wide variety of weedy plant
species. 7-7-86
family Gelechiidae

Trichotaphe flavocostella (Clemens) Cream costal trichotophe
Host plants are sunflowers (Helianthus) and goldenrods (Solidago).
Taken at a black light.

family Tortricidae

Eucosma dorsisignata (Clemens) 9-21-86
Larvae feed on roots of Solidago spp. Taken at black light.

Choristoneura rosaceana (Harr.) Oblique-banded leafroller
Larvae feed on oaks, roses, and other woody species. Taken at black lights. 6-18-86

Sparganothis reticulatana (Clemens) 9-21-86 moth
Larvae feed on a variety of trees and shrubs. Taken at black light.

Order DIPTERA: flies

family Tachinidae

Archytas apicifer (Walker) Caterpillar tachinid
This common species preys on caterpillars.

family Tabanidae

Tabanus quinquivittatus Weidemann horse fly
This is a very common, wide ranging species. Larvae have been found in soils with a variety of moisture conditions.

Tabanus subsimilis Bellardi horse fly
This is a very common, wide ranging species. Larvae prefer moist conditions.
Tabanus similis Macquart 8-86 horse fly
This is a very common, wide ranging species. Larvae have been found in soils with a variety of moisture conditions.

Chrysops pikei Whitney 7-9-86 deer fly
This is a very common, wide ranging species. Larvae found in moist conditions.

Chrysops univitattus 7-9-86 deer fly
This is a very common, wide ranging species. Larvae found in wet conditions.

Chrysops flavidus Wiedemann 7-11-86 deer fly
This is a very common, wide ranging species. Larvae found in moist conditions.

Order HYMENOPTERA: bees & wasps

family Sphecidae

Sphex ichneumoneus (L.) Thread-waisted wasp

family Vespidae

Vespula maculifrons (L.) 9-20-86 Eastern yellow jacket
A very common, wide ranging species.

Vespula maculata (L.) Baldfaced hornet
A very common, wide ranging species.

Polistes sp. paper wasp

Amophila pennsylvanica (L.) thread-waisted wasp
A common, wide ranging species
family Apidae

Apis mellifera (L.)                      Honey Bee
This is an exceedingly common exotic species.

Bombus fervidus (F.)                    bumble bee
A common, wide ranging species.

Bombus affinis Cresson                  bumble bee
A common, wide ranging species.

Bombus pennsylvanicus (DeGeer)          bumble bee
A common, wide ranging species.

Note: The dates listed for each species generally refer to the earliest date of capture.
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