

# **Lepidoptera Biodiversity Surveys Conducted at the Roy Larsen Sandyland Preserve in early June of 2008**

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## **Abstract**

We report 290 Lepidoptera species we documented at the Roy E. Larsen Sandyland Sanctuary from 1-3 June 2008, in the families Psychidae, Attevidae, Lacturidae, Urodidae, Sesiidae, Cossidae, Megalopygidae, Limacodidae, Drepanidae, Geometridae, Hesperidae, Papilionidae, Pieridae, Lycaenidae, Nymphalidae, Lasiocampidae, Apatelodidae, Saturniidae, Sphingidae, Notodontidae, and Noctuidae (including Arctiinae and Lymantriinae as subfamilies). Lepidoptera were sampled with MV sheets, UV traps, bait traps, and diurnal collecting. We provide detailed records of each species documented at specific locations in the preserve, including collection date, GPS coordinates, habitat types present, and survey method. We report the hypothesized habitat dependency of most of the species documented. About 78.1% of the Macrolepidoptera species we recorded are hypothesized to be habitat generalists, whereas 4.4% are hardwood forest dependent, 8.5% are wetland dependent, and 7.0% are xeric oak-pine habitat dependent.

## **Introduction**

The Roy E. Larsen Sandyland Sanctuary (RLS) is an area of diverse habitat types in Hardin County, Texas, owned and managed by The Nature Conservancy of Texas. Habitat types present include xeric longleaf pine-oak sandy savanna and woodland, hydric longleaf pine savanna and woodland, hydric hardwood (floodplain) forest, bald cypress-tupelo forest, beech-magnolia forest, bay gall swamp, and herb bog.

The RLS has benefited from some previous Lepidoptera survey work conducted by Charles Bordelon and Ed Knudson of the Texas Lepidoptera Survey. Bordelon and Knudson (1999) listed 555 Lepidoptera species from the RLS, including 263 species of Macrolepidoptera and 296 species in all of the families covered in this paper.

From 1-3 June 2003 we visited the RLS to conduct Lepidoptera biodiversity blitz surveys, where we attempted to document as many species as possible in the families Psychidae, Attevidae, Lacturidae, Urodidae, Yponomeutidae, Sesiidae, Cossidae, Zygaenidae, Megalopygidae, Limacodidae, Epipyropidae, Thyrididae, Thyatiridae, Drepanidae, Geometridae, Epiplemae, Hesperidae, Papilionidae, Pieridae, Lycaenidae, Riodinidae, Nymphalidae, Mimallonidae, Lasiocampidae, Apatelodidae, Saturniidae, Sphingidae, Notodontidae, and Noctuidae (including Arctiinae and Lymantriinae as subfamilies). The purpose of this paper is to report the results of these surveys.

## Methods

Lepidoptera surveys were conducted with MV sheets, UV traps, bait traps, and diurnal collecting with a net. We obtained three MV sheet samples, six UV trap samples, and 29 bait trap samples (although not all bait traps attracted moths on each date). All traps were run all night long, except for UV Trap 6 on 3 June which was set up about 20 minutes after dark. The MV sheet was watched all night long on each survey date. Diurnal survey was much more limited, with only a couple of hours devoted to diurnal survey on 2 and 3 June. Table 1 provides the location, GPS coordinates, and habitat types where each survey method was used on each survey date. We put the greatest effort into surveying the xeric longleaf pine-oak savanna/woodland habitat (all three MV sheet samples) but we also surveyed floodplain forest, bay gall swamp, and bog habitats with UV traps and bait traps.

At each survey method on each survey date we attempted to document each Lepidoptera species encountered in the included families noted in the introduction, although for some of the smaller families no representatives were found at the RLS. All reported records are based on collected voucher specimens identified by the senior author and currently housed in the research collections of the authors. Some representatives of other Lepidoptera families were collected as well, but except for a few Pyralidae species this material has not yet been identified and is not included in this paper.

## Results

From 1-3 June 2003 we documented 290 Lepidoptera species in the included families at all survey stations combined (Table 2). About half of the species we documented (145) had been previously reported from the RLS by Bordelon and Knudson (1999), whereas the other 145 species had not been previously recorded from the RLS to our knowledge. These figures do not include the Pyralidae as most of our material in this family is currently unidentified, although we include seven determined species of Pyralids in Table 2. Three of the species documented had not previously been reported from Texas to our knowledge, and were not included in the Knudson and Bordelon (2003) Texas checklist: *Condica cervina*, *Callopietria granitosa*, and an undescribed Limacodid we are referring to as *Apoda* nr. *rectilinea*. Several additional species were not reported from southeast Texas in Bordelon and Knudson (1999); these species are denoted with an “\*” in Table 2.

Table 2 presents a checklist of 440 Lepidoptera species recorded from the RLS in the families included in this paper, based on both our survey work and Bordelon and Knudson (1999), as indicated in the table. This table also includes seven species of Pyralidae, but most of our material in this family has yet to be identified. When records for families not included in this paper but included in Bordelon and Knudson (1999) are added to the Table 2 checklist, the RLS Lepidoptera species list is 700 species. Tables 3 and 4 present the detailed data for what species were recorded at each survey station on each survey date among our surveys. MV Sheet, UV Trap, and diurnal survey data are included in Table 3, whereas bait trap data is included in Table 4. These tables include the number of species recorded at each survey station on each survey date.

## Discussion

**Habitat Dependency:** Table 2 also includes the hypothesized habitat dependency of RLS species on the southeast coastal plain, based primarily on the analysis of north Florida habitat records presented in Kons and Borth (2006). Our survey work in eastern Texas suggests the

habitat requirements of most Lepidoptera species are similar in northern Florida and eastern Texas; however, some exceptions are noted in Table 2. [A reference to a paper with a habitat analysis of our Texas data will be added here, when this paper is completed].

Figure 1 reports the percentages of recorded Macrolepidoptera species in different categories of habitat dependency, based on our 1-3 June 2008 checklist and the habitat dependency designations provided in Table 2. Figure 2 does the same thing for the total Macrolepidoptera checklist, including the Kons-Borth and Bordelon-Knudson survey data combined. The percentages for the 1-3 June 2008 checklist are similar to the overall checklist, with all differences under 3%. Note the percentages in these figures do not add up to 100% as there is overlap between wetland dependency and hardwood forest dependency, as a hydric hardwood forest is both a type of hardwood forest and a type of wetland. Also, for a few species we have too little information to formulate a hypothesis if habitat dependency.

In an analysis of the habitat dependency for species from 24 north Florida localities where we had recorded between 119 and 642 Macrolepidoptera species, Kons and Borth (2006) reported that the sizeable majority of the species recorded from any given site were habitat generalists, i.e. species for which a variety of different habitat types can support populations. Among these 24 localities, the percentage of habitat generalists varied between 68.5% and 95.0% (mean 82.7%), although only about 50% of the total species we had recorded from northern Florida were hypothesized to be generalists. The value of 75.4% habitat generalists among the documented RLS species is characteristic of sites that contain a diverse array of habitat types that support a greater diversity of habitat specialists than is typical for many localities. A relatively lower value for the percentage of habitat generalists can also be obtained at sites that are extensively surveyed and where new species are being added infrequently despite intensive collecting. Kons and Borth (2006) noted the relatively lower percentage of generalist species recorded from such sites can result from the accumulation of records for dispersers (species that do not breed at the locality and are usually not present there). However, this is certainly not the case at RLS, where about half of the species we documented over three nights of surveys were new records for the site.

Xeric oak-pine savanna: Some of the more localized species in eastern Texas recorded from the RLS are likely to be those that are candidates for dependency on xeric oak-pine savanna habitats in the southeast coastal plain. These species include: *Semiothisa eremiata*, *Nemoria bifilata*, *Lobocleta plemyraria*, *Lobocleta peralbata*, *Hyarpax aurora*, *Catocala jair*, *Hyperstrotia nana*, *Schinia sordida*, *Schinia petulans*, *Schinia turberculum*, *Schinia obscurata* and *Euagrotis lubricans* complex species 2. In addition, *Callopietria granitosa* may be xeric oak-pine savanna dependent in eastern Texas, but if so it is clearly not so restricted in northern Florida. Some of these species are probably more widespread in northern Florida where xeric oak-pine savanna is much more widespread. While some species hypothesized to be xeric longleaf pine-oak savanna dependent on the southeast coastal plain are endemic to the southeast coastal plain, most occur in other geographic areas in habitats with some common elements, such as dry prairies and oak savannas in the midwest and/or xeric oak-juniper savannas in the Sonoran Life Zone. Most of the xeric oak-pine savanna species that appear to be endemic to the southeast U.S. have been recorded from Florida but not Texas, although this may be in part due to more extensive survey conducted in such habitats in Florida. Among the RLS species, *Hyperstrotia nana* and *Schinia petulans* are the only xeric oak-pine savanna dependency candidates that are potentially endemic to the southeastern United States.

Kons and Borth (2006) noted that many of the species dependent on xeric oak-pine scrub savanna habitats in Florida are univoltine and present only during the spring or fall. Thus, our 1-3 June survey dates had no chance of recording many of the species that should be sought in the RLS xeric oak-pine savanna habitats. Bordelon and Knudson (1999) documented three *Schinia* species that occur only during the fall (*S. sordida*, *S. petulans*, and *S. turberculum*), but we

suspect a number of additional xeric oak-pine savanna species could be added to the RLS checklist from surveys conducted during the spring or fall.

There are a number of species that are xeric oak-pine savanna dependency candidates in the southeast U.S. that have been recorded from eastern Texas during May or early June, but which we did not find at the RLS. These species include: *Tornos cinctarius* (credited to E TX by Bordelon and Knudson (1999)), *Hesperia meskei*, *Polites origenes* (also occurs in moist savanna in FL), *Schizura apicalis*, *Apantesis near nais*, *Grammia doris*, *Pygarctia abdominalis* (also occurs in xeric oak-pine forest in Bastrop County, although it is uncommon there), *Sigela* species 2, *Hemeroplanis trilineosa*, *Phytometra ernestinana*, *Catocala messalina*, and *Tarachidia parvula*. With the exceptions of *T. cinctarius*, *S. apicalis*, and *T. parvula*, we found these species in late May 2008 in Angelina County, so our RLS surveys should have been during their flight season in 2008. Additional survey work will be needed to determine which of these species will eventually show up in RLS (we were only there for three nights, and we sampled only one site in the prime xeric oak-pine savanna habitat), and which are absent from there. Kons and Borth (2006) noted that in Florida different localities with xeric oak-pine scrub appeared to differ considerably with respect to the diversity and composition of their specialist Lepidoptera fauna.

Kons and Borth (2006) noted that in Florida there are species that occur exclusively at sites with xeric oak-pine savanna and species that occur in both savanna sites and closed xeric oak-pine woodland, but that there were no good candidates for species that occur exclusively in xeric oak-pine forest and are absent from savanna habitats. The species in Table 2 designated as dependent on xeric oak-pine habitats occur in both oak-pine savanna and closed oak-pine woodlands in both Florida and eastern Texas.

Herb Bog: Kons and Borth (2006) reported that in the Canadian Life Zone of Wisconsin bogs have among the highest number of Macrolepidoptera species particular to a specific habitat type, but that in northern Florida there are relatively few species that are candidates for bog dependency. The Floridian candidates for bog dependency include *Scopula purata*, a *Virbia* species similar to *opella*, an undetermined (perhaps undescribed) *Cygnia* species, *Gabara distema*, *Exyra semicrocea*, *Exyra ridingsii*, *Exyra fax*, *Acrionicta sinescripta*, and *Papaipema appassionata*. There is also an undescribed *Macrochilo* species (in the opinion of the senior author) collected from Texas bogs in the Texas Lepidoptera Survey collection. The *Exyra* species all are host specific on pitcher plants, which do not occur in RLS bogs. Of the Floridian bog dependency candidate species, only *Gabara distema* and *Exyra semicrocea* were listed on the Texas checklist of Knudson and Bordelon (2003), only *Exyra semicrocea* was found among our Texas surveys, and none of these species were collected in bog habitat at the RLS. However, our survey of RLS bog habitats was limited to two UV trap samples (the MV sheet survey technique used in the xeric oak-pine habitats tends to be much more effective in documenting greater numbers of species), as the best bog habitats occur in parts of the preserve where the access roads appeared too treacherous to risk driving our vehicle on. Thus, our surveys of RLS bog habitats were far from thorough for the dates we were there.

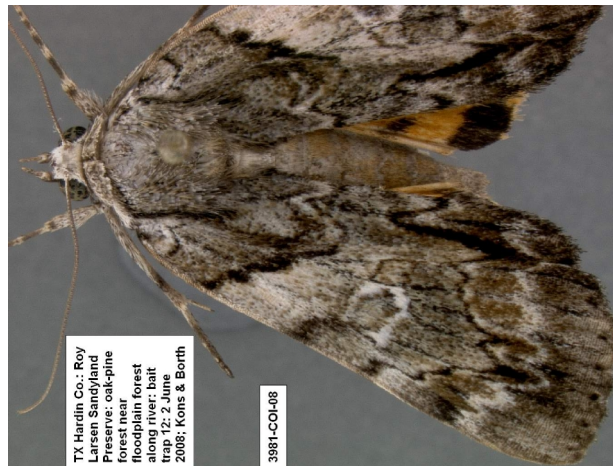
There were two species we collected in RLS bog habitat that we have found only in bogs or in close proximity to bogs in Texas, but which are more widespread in Florida. These species are *Argyrostromis sylvarum* and *Argyrostromis deleta*. Other wetland dependent species (but not exclusive to bogs) we collected in RLS bog habitats include: *Itame varadaria*, *Neonympha aerolata*, *Argyrostromis flavistriaria*, *Acrionicta oblinata*, *Simyra henrici* complex species A, *Fagitana littera*, and *Leucania linita* complex species 1 (the darker species). *A. flavistriaria* is apparently wetland dependent in eastern Texas although it is more widespread in Florida.

Two species that should be sought in bog habitats in eastern Texas that have not yet been recorded from Texas are *Catocala praeclara* and one of the *Doryodes* species going under the name *bistrialis* (two other “*bistrialis*” species are associated with coastal salt marsh). While these species are not particular to bogs, in Florida we have found *C. praeclara* most common in bogs

(it occurs less commonly in hydric hardwood forest). The *Doryodes* occurs in both bogs and turkey oak-longleaf pine scrub in Florida, but has not been found in any other type of habitat.

Floodplain: Hydric Hardwood Forest and Cypress Habitats: We collected six wetland dependent species at the RLS that are probably particular to cypress habitats, including *Cutina arcuata*, *Cutina distincta*, *Cutina aluticolor*, *Cutina albopunctilla*, *Iridopsis pergracilis*, and *Semiothisa aequiferaria*. All of these species occur at many of the sites we have investigated with bald cypress and/or pond cypress in both northern Florida and eastern Texas, as well as a cypress swamp in southern Indiana (probably near the northern limit of their range). At RLS we found these species in light and/or bait traps overlooking the lowlands along the river that contained hardwoods and cypress. Some other cypress habitat dependent species we did not find at RLS include *Iridopsis cypressaria*, *Isoparce cupressi*, *Dasychira dominickaria*, *Zale perculata*, *Acrionicta perblanda*, an undescribed *Lithophane* species, and a possible undescribed *Egira* species. The latter four species are univoltine spring species that have not yet been recorded from Texas but which could potentially occur there. The RLS would be a good site to survey for these species in the event they do occur in TX, but our surveys were too late in the season to have any chance of finding them. *Iridopsis cypressaria*, *Isoparce cupressi*, and *Dasychira dominickaria* have been recorded from eastern Texas and could have been present at the RLS at the time we were there, but these species tend to be uncommon at lights and can easily be missed by limited surveys. Given the difficulty in documenting these species by standard survey techniques on a limited number of survey dates, it is difficult to know how localized they might be, or how good the prospects are for finding them at the RLS.

Species we documented at the RLS that are candidates for hydric hardwood forest dependency in the southeast U.S. include *Timandra amaturaria*, *Dysgonia telma*, *Catocala crataegi* complex, and *Acrionicta betulae*. An additional species reported from RLS by Bordelon and Knudson (1999) is a hydric hardwood forest dependency candidate: *Lithacodia indeterminata*. The other species we list as hardwood forest dependent in Table 2 occur in both mesic and hydric hardwood forests in the southeastern U.S.

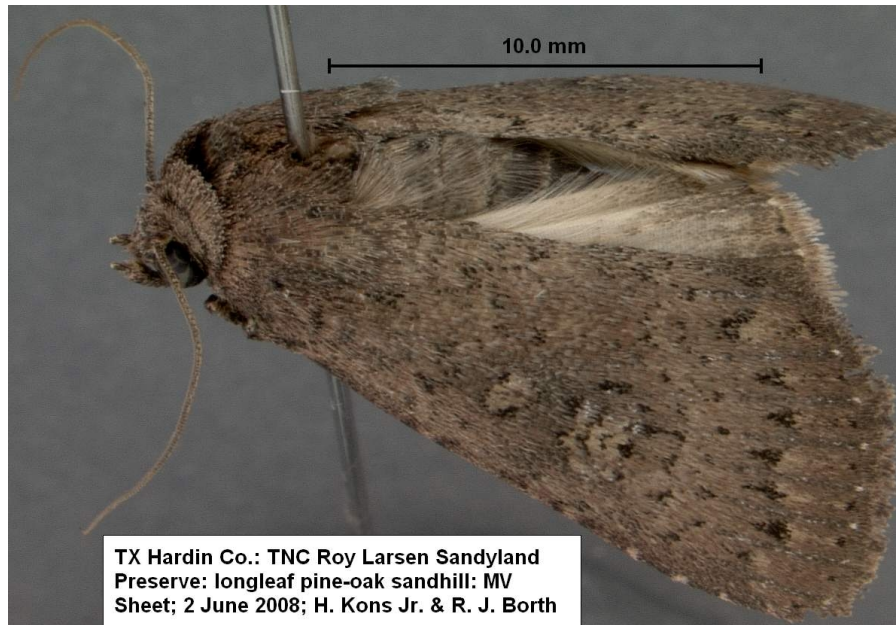


*Catocala crataegi* complex

Unexpected Habitat Affiliation: We recorded one species at the RLS that we would not have expected based on the habitat types present in the preserve. With the exception of one RLS specimen, all of our specimens of *Pero zallisaria* from Florida and Texas come from coastal salt marsh habitats. Bordelon and Knudson (1999) reported *P. zalissaria* from two coastal salt marsh localities and not from the RLS. However, this species may not be restricted to salt marsh throughout its range, as it is recorded from Kentucky, a state that contains no salt marsh. Covell

(1999) reported the Kentucky records were “in cypress swamp” and “associated with bald cypress.” The RLS specimen was collected at the MV sheet in the xeric oak-pine uplands, but several wetlands occurred in close proximity. The specimen was almost certainly a disperser to the upland habitat, but we are not certain if it was a short range disperser from nearby wetlands, or if it was a longer range disperser from the coast.

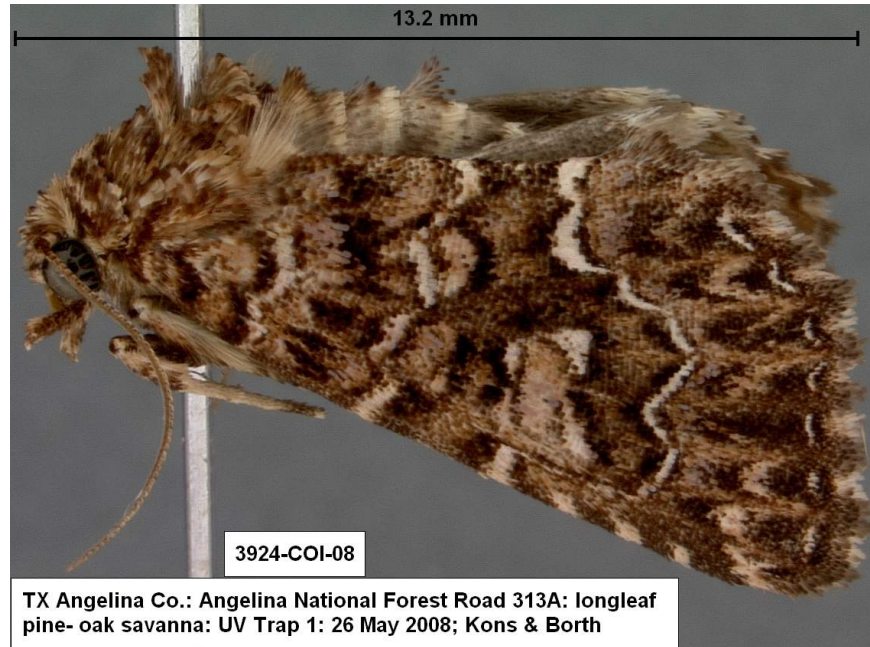
**Some Especially Notable Records:** Three species we recorded from our RLS surveys had never been reported from Texas to our knowledge: *Condica cervina*, *Callopietria granitosa*, and *Apoda* near *rectilinea*. We discuss these species and some other especially notable records below.



*Condica cervina*

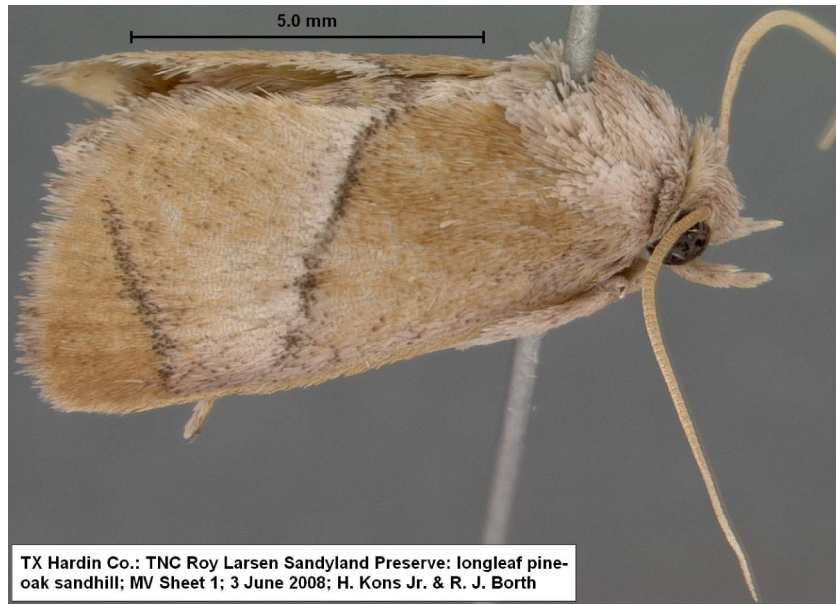
*Condica cervina*: *Condica cervina* was recorded from two specimens taken at our MV sheet. This species occurs in a variety of habitats in northern Florida and was listed as a habitat generalist in Kons and Borth (2006), although this species is usually uncommon in northern Florida, typically with one or two individuals found on a given night. It is possible this species is more localized in eastern Texas, given only one east Texas locality has been documented with all of the survey work conducted by Knudson and Bordelon and the authors. If this is the case, there is not enough information available to speculate on what the east Texas habitat requirements for this species might be.





*Callopietria granitosa*

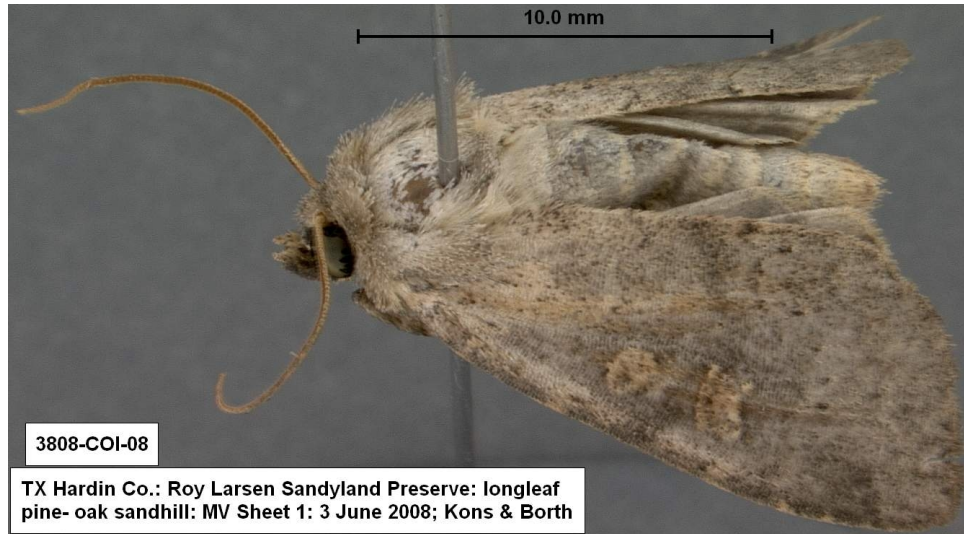
*Callopietria granitosa*: *Callopietria granitosa* was also listed as a habitat generalist in Kons and Borth (2006), having been documented at fifteen of our 24 best studied north Florida localities and in a variety of different habitats. However, we have noted that this species tends to be much more plentiful in xeric oak-pine habitats in northern FL relative to other habitat types. In 2008 we found this species in two east TX and one western LA localities. The other two localities are Angelina National Forest Road 313A in Angelina County, Texas, and the Red Dirt Wildlife Management Area in Natchitoches Parish, Louisiana. These are the three study sites among our east TX/western LA survey localities that contain xeric longleaf pine-oak savanna. Since multiple individuals were found at each of these sites (including six at the RLS), and since no individuals were found at any of our other study sites lacking this habitat type, the east TX/west LA data is most consistent with a hypothesis of xeric oak-pine savanna dependency in the western part of this species' range. Five of the RLS individuals were found at the MV sheet in xeric longleaf pine-oak savanna, and one was taken in a UV trap in a bay gall swamp; however, the UV trap site was in close proximity to xeric longleaf pine-oak savanna. We are uncertain if this species has been a long time resident of East Texas, or if it might have colonized the state recently, as it had not been recorded from Texas prior to 2008 to our knowledge.



*Apoda* nr. *rectilinea*

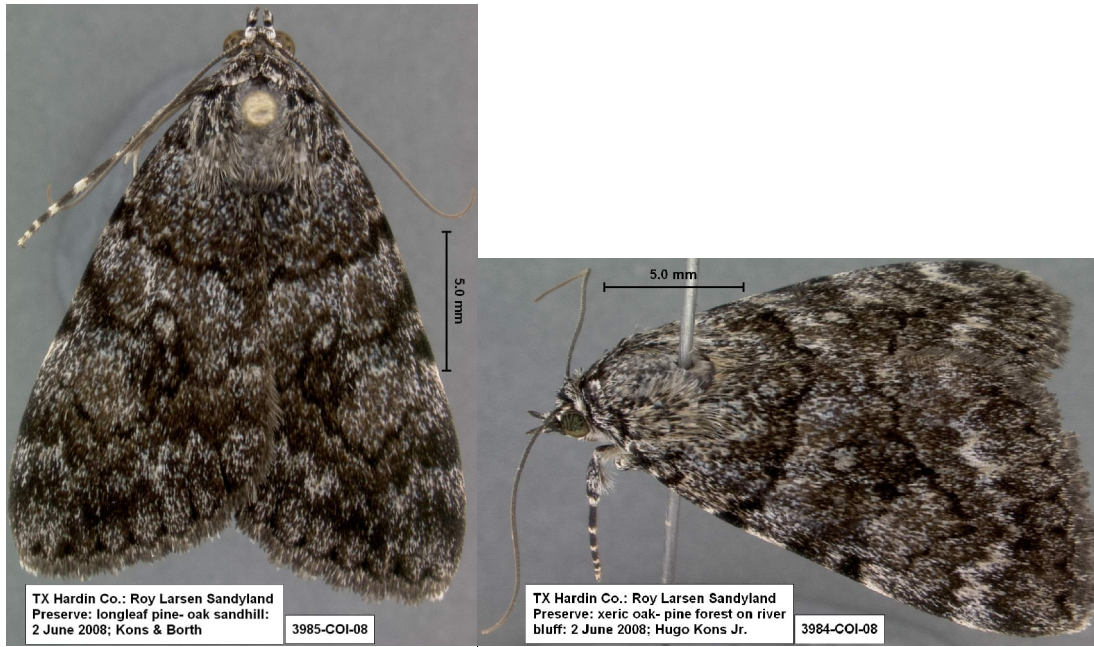
*Apoda* nr. *rectilinea*: *Apoda* nr. *rectilinea*, a species that has apparently not been formally named, is a candidate for xeric oak-pine savanna dependency throughout its known range (north peninsula FL, the FL panhandle, western LA, and east TX). We have found this species at the Katharine Ordway Preserve in Putnam County, Florida, the Apalachicola Bluffs and Ravines Preserve in Liberty County, Florida, the Red Dirt Wildlife Management Area in Natchitoches Parish, Louisiana, and the RLS. We did not mention this species in Kons and Borth (2006) because at that time we were unsure if it really was a separate species from the similar *Apoda rectilinea*. We have subsequently had one of the Bluffs and Ravines specimens sequenced for the 5' region of the cytochrome oxidase subunit I gene. One of the RLS individuals was collected at the MV sheet in xeric longleaf pine-oak savanna and the other was taken in a UV trap in a bog. However, all of the localities where we have found this species contain xeric longleaf pine-oak savanna, and most individuals collected among these localities were collected right in pine-oak savanna habitat. We did not uncover this species at our other east TX longleaf pine-oak savanna study site in the Angelina National Forest.





Apameini new species 3

Apameini new species 3: Another notable record is a single specimen of an apparently undescribed species that we list as Apameini new sp. 3 in Table 2. With the exception of the RLS record, all specimens of this species we have collected were in close proximity to *Arundinaria* (cane). However, we suspect *Arundinaria* occurs somewhere at the RLS based on the presence of this specimen, although we did not see it there are many areas in the preserve we did not investigate. Most Texas specimens of this species come from a dense cane area in hydric hardwood forest at Martin Dies, Jr. State Park in Jasper County, Texas, although we have also documented this species near Sixmile in the Sabine National Forest (Sabine County) and at the Double Lake Recreation Area in San Jacinto County, Texas. This may be the same species as some similar specimens we have from *Arundinaria* habitats in the Florida panhandle. In the Florida panhandle we have collected four species of Apameini during May-early June that appear dependent on *Arundinaria* habitats: *Acrapex relictus* and three undescribed species. However, we only found one of these species among our Texas surveys.

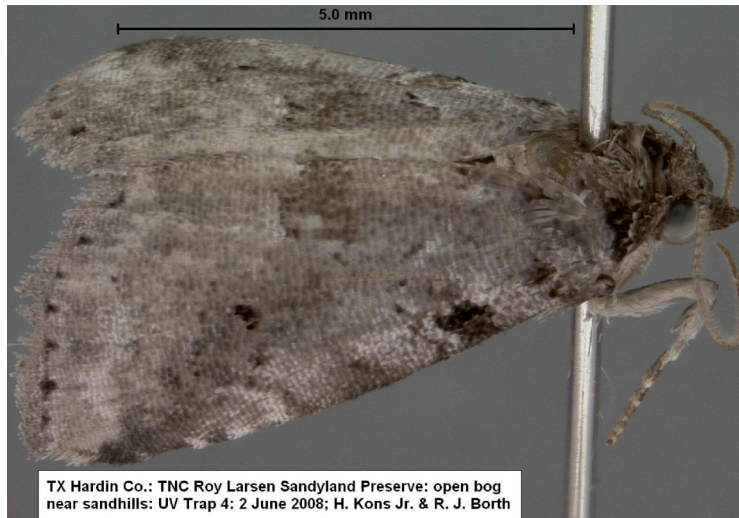


*Catocala jair*

*Catocala jair*: *Catocala jair* was not reported from southeast Texas by Bordelon and Knudson (1999), but we have identified five specimens from the RLS, and we have confirmed the identification of three of them with COI DNA sequences. The appearance of Texas *Catocala jair* specimens differs from Florida specimens, they are quite similar in pattern to other related species (more so in Texas than in Florida), and it had been controversial if any Texas specimens were actually attributable to *C. jair*. However, we have found that COI 5' sequence haplotypes of Texas *jair* from RLS and Bastrop State Park are identical to haplotypes found in Florida specimens. Also, some FL panhandle specimens are intermediate in pattern between peninsular FL specimens and Texas specimens. In Florida and east Texas we have found *C. jair* only at sites that contain both xeric longleaf pine-oak savanna and xeric oak-pine forest. In Florida we have found *C. jair* on tree trunks in closed oak-pine forest during the day under hot and sunny conditions but not in the hotter microclimate of the more open savanna, although the majority of individuals we have collected at night were in the open savanna habitat, and we found no Florida populations at sites with oak-pine forest but lacking the open savanna. We had proposed that in Florida *C. jair* might require the combination of xeric oak-pine savanna and xeric oak-pine forest. However, the Bastrop State Park site, where we have found *C. jair* commonly, is an exception to the Florida distributional pattern, as this site is almost exclusively closed xeric oak-loblolly pine forest. Apparently *C. jair* is more localized in Texas than in Florida. We found *C. jair* only at Bastrop State Park and RLS among our Texas surveys. We did not find this species in the longleaf pine-oak savanna we investigated for six nights during the potential flight season in the Angelina National Forest.

*Catocala consors*: *Catocala consors* is apparently a localized species for which we have found two populations among our surveys in eastern Texas, one at the RLS where it was previously reported by Bordelon and Knudson (1999), and one in the Angelina National Forest along Road 313A (Angelina County). Both of these sites contain xeric longleaf pine-oak savanna with *Carya nigra*, what we suspect is the host plant. We also collected one specimen in this same type of habitat at the Red Dirt Wildlife Management Area in Natchitoches Parish, Louisiana, again in an area with *Carya nigra*. At the RLS *Carya nigra* occurs in both the more open savanna habitats and in more closed oak-pine forest, and *C. consors* was found in bait traps in both habitat types.

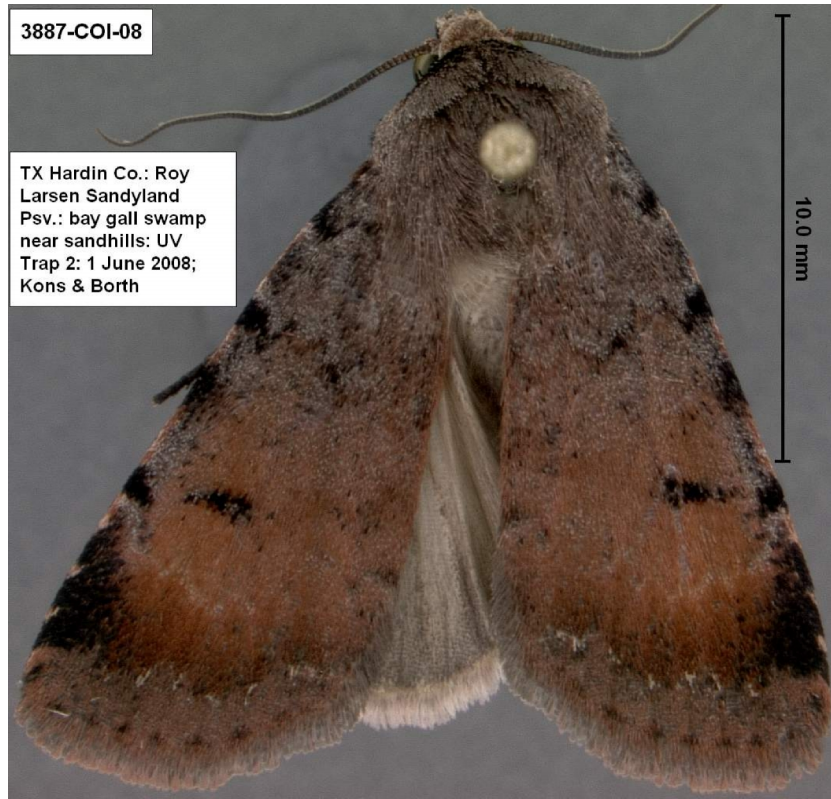
Rings et al. (1992) reported the larval host is *Carya pallida*, but this species of *Carya* does not occur at the peninsular Florida or eastern Texas localities where we have found populations of *C. consors*. In peninsular Florida we suspect the host is *Carya floridana*, a hickory species endemic to dry habitats in peninsular Florida. The Florida habitat is similar to the Texas habitat: xeric to semi xeric oak-pine forest but with *Carya floridana* rather than *Carya nigra*. Also, our Florida *consors* sites with *Carya floridana* are primarily closed oak-pine woodlands, and nearby open savanna habitats lack the *Carya floridana*. We have compared COI 5' DNA sequences among both east Texas populations, the Louisiana specimen, and a Florida population from the Withlacoochee State Forest (Citrus County). While there was minor intraspecific variation in the sequences, this variation did not correspond to geographic distribution, with identical haplotypes present in both Florida and Texas/Louisiana individuals.



*Hyperstrotia nana*

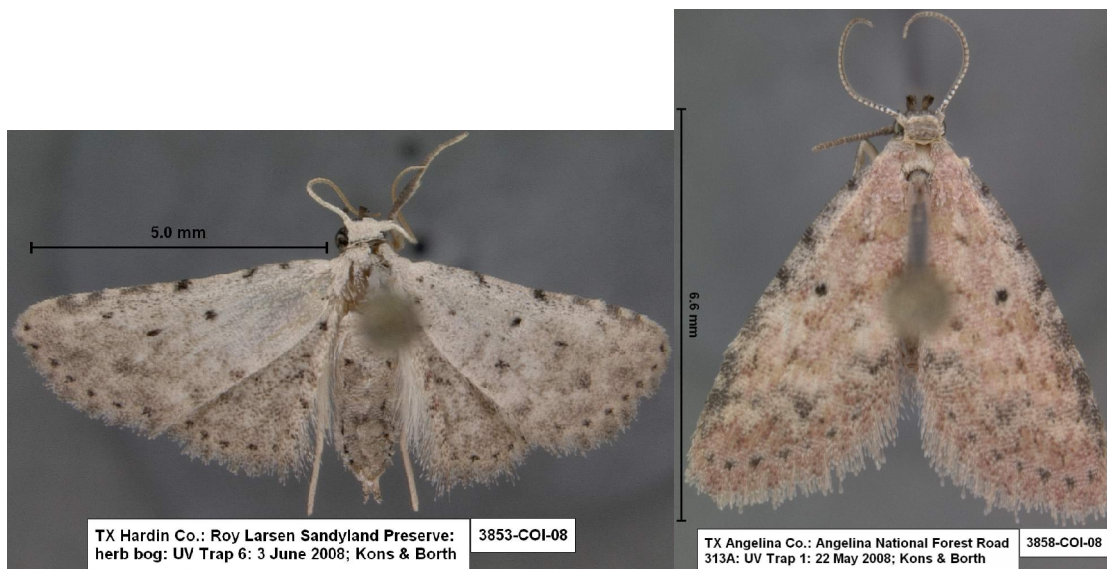
*Hyperstrotia nana*: We collected one specimen of an interesting *Hyperstrotia* phenotype at both the RLS and the Red Dirt Wildlife Management Area in Natchitoches Parish, Louisiana. There are also specimens of this phenotype from the RLS in the Texas Lepidoptera Survey collection. This phenotype resembles the Floridian phenotype of *Hyperstrotia nana*, a species associated with xeric longleaf pine-oak savanna in Florida; however, the pattern is distinctly outside the range of variation in our Florida series of *nana*. We were uncertain if this phenotype represents geographic variation of *H. nana* or an undescribed species, and submitted a leg from the LA specimen for DNA sequencing. The 5' region of Cytochrome Oxidase Subunit I matches *Hyperstrotia nana* from Florida. Both localities where we collected this phenotype contain xeric longleaf pine-oak savanna, as would be expected if this phenotype is *H. nana*, but could also be the case with a closely related species. However, our two specimens were not collected right in the xeric oak-pine savanna habitat, although they were both collected in close proximity to this habitat.



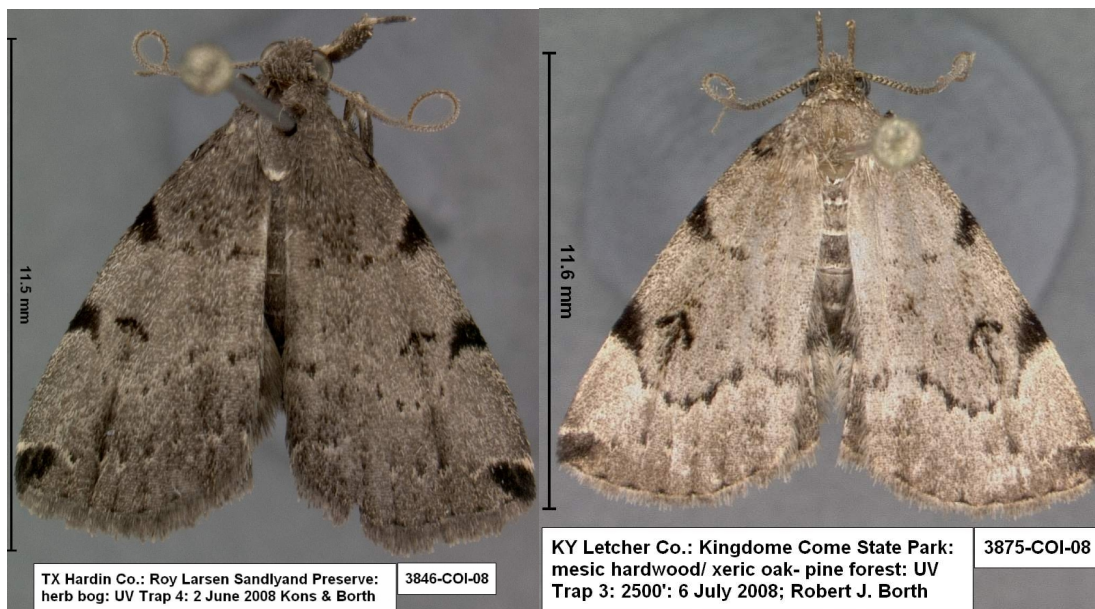


*Euagrotis* sp.

Euagrotis species: *Euagrotis* are in need of further study in the southeast U.S. The *E. lubricans* complex forms four haplotype clusters with COI. One of these is recognizable from wing pattern and seems particular to xeric oak-pine habitats; we have recorded this species from peninsular Florida and the panhandle but not eastern Texas. The separation of the remaining three haplotype clusters is less clear, and more sequenced material would be desirable. Two of the haplotype clusters are recorded from eastern Texas and from the Sandylands Preserve.



Two undescribed *Sigela* in Eastern Texas: species 4 (left) and species 2 (right)



*Zanclognatha* nr. *lituralis* (left), *Zanclognatha lituralis* (right)

**Species omitted from the checklist:** There are a few Macrolepidoptera species reported from the RLS by Bordelon and Knudson (1999) that we have not retained on the checklist in Table 2: *Anavitrinella atristrigaria*, *Zanclognatha lituralis*, *Sigela penumbrata*, and *Sigela eoides*. The senior author thinks records of *A. atristrigaria* are referable to *Anavitrinella pampinaria*, and that records of *Z. lituralis* refer to an undescribed species similar to *lituralis*, which we recorded from the preserve. We have seen no specimens of *Sigela eoides* or *Sigela penumbrata* from Texas, but there are two undescribed species in east Texas that are somewhat similar. We have recorded one from the Sandylands Preserve and would expect the other to occur also.



**Strays:** There are six species recorded from the RLS that we suspect are strays, i.e. species that never establish breeding populations in southeast Texas. We are aware of very few specimens of these species from eastern Texas, but they all occur in numbers to the west or south of this area. *Eubaphe unicolor*, *Macristis schausi*, *Melipotis indomita*, *Drasteria ingeniculata*, and *Micrathetis triplex* were all reported from the RLS by Bordelon and Knudson (1999). Bordelon and Knudson (1999) list a single southeast TX record for *E. unicolor* (from RLS in October). This species is common in central Texas and occurs in numbers at least as far east as Bastrop County. Bordelon and Knudson (1999) list two southeast TX records for *M. schausi* and *M. triplex*. For the former there is one record from RLS during October and one from the coast during September. For the latter there are two RLS records from these same months. These species also occur in numbers as far east as Bastrop County. *Melipotis indomita* is common and widespread throughout the Sonoran and Subtropical regions of Texas and occurs as a resident at least as far east as Bastrop County. We have taken no specimens in eastern Texas, although Bordelon and Knudson (1999) report three records. The senior author has taken two specimens of this species as far east as Florida, both as isolated captures of single individuals. One was collected at our most intensively sampled Florida study site (the American Entomological Institute property in Gainesville (Alachua County)) and the other on the Gulf coast (Dixie County). Kimball (1965) lists two other Florida *M. indomita* records. *Drasteria ingeniculata* is perhaps the most unusual stray of a western species; Bordelon and Knudson (1999) report one southeast TX record from the RLS during March. *Amyna bullula* is a tropical species known for long range dispersal, with strays recorded as far north as Ohio (Rings et al. 1992). We collected one specimen in the RLS, and Knudson and Bordelon (1999) reported one other southeast Texas record, from the RLS during October.

### Acknowledgments

We thank Wendy Ledbetter, The Nature Conservancy SE TX project director, for authorizing our research as well as providing maps and information about the sanctuary. We also thank Bob Boensch, the preserve manager, for providing information about the preserve and for providing a place for us to charge our trap batteries. Ed Knudson and Charles Bordelon of the Texas Lepidoptera Survey provided information on Lepidoptera species previously documented at the preserve, and hosted us for several visits to their exceptional collection during the years we conducted fieldwork in Texas. Finally, we thank David Wahl and the American Entomological Institute for providing infrastructural support for our Lepidoptera research.

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thicket of East Texas.

## Appendix: Definition of Terms from Kons and Borth (2006)

**Note:** These terms will be defined in an introductory paper to the North American Journal of Lepidoptera Biodiversity Volume that will include the Sandylands paper, and thus this appendix will be omitted from the final version of this paper.

### Definitions from Kons and Borth (2006)

**Unique Species Record:** The collection of one or more voucher specimens of one species from one date at one survey station. This and the following concept enables one to use a type of quantitative data in modeling and analyses without having quantitative data on the number of individuals of a species encountered.

**Unique Locality Record:** The collection of one or more specimens of one species at one survey locality.

**Survey Station:** One MV Sheet, UV Sheet, UV Trap, Bait Trap, Bait Trail, Malaise Trap, or a search area surveyed without use of the preceding methods. Survey stations representing a trap or sheet are point coordinates, whereas survey stations representing a bait trail or another search area are broader areas.

**Habitat Dependency Hypothesis:** A hypothesis that a species requires a particular type of habitat for its survival within a geographic area.

**Habitat Specialist:** A species which requires a particular type of habitat for its survival within a geographic area. This is distinguished from a host specialist, i.e. a species that has a single larval host. Host specialists may be habitat generalists if their host occurs in a variety of habitat types that meet that species' environmental tolerances, or host generalists may be habitat specialists if all of their host plants or and/or environmental tolerances are found in a single habitat type.

**Habitat Generalist:** A species that utilizes a variety of habitat types for breeding within a geographic area, i.e. its hosts and environmental tolerances occur in a variety of habitat types.

**Habitat Intermedialist:** A species which is not a habitat specialist, but which is limited to several types of specialized habitats. The distinction between this and a habitat generalist involves some subjectivity.

**Resident:** A species which is present at a locality year round in some life stage.

**Annual Migrant:** A species which colonizes an area every year, but which migrates into the area and is not present year round in some life stage. Colonization is either inferred by the presence of multiple individuals in fresh condition or verified by the detection of immature stages.

**Ephemeral Migrant:** A species which temporarily colonizes an area during some years but not others.

**Non Breeding Migrant:** A species which migrates into an area and may be present in numbers, but which does not establish temporary breeding populations within that area. Non breeding status is inferred by the absence of individuals in fresh condition. The only suspected example for northern Florida is *Ascalapha odorata*, which may also be found as isolated occurrences.

**Disperser:** A species which is a resident of the geographic area where it is found, but not of a locality where it is found. An example is the collection of a species in a mesic hardwood forest that utilizes submergent aquatic plants for larval hosts.

**Stray:** A species which occurs in an area only as isolated occurrences outside of its breeding range.

Table 1: Location of Survey Stations for the Roy Larsen Sandylands Preserve for 1-3 June 2008 Surveys								
Date	Survey Station	Label Code	Locality	Exact/ Vicinity	Latitude ° N	Longitude ° W	Habitat	Comments
1 June 2008	MV Sheet 1	RLS:1	First power line cut through longleaf pine-oak sandhill	E	30.36108	94.24455	open power line cut through longleaf pine-oak sandhill	78.1-67.1F
1 June 2008	UV Trap 1	RLS:2	sand hill habitat on main road before first power line cut	E	30.36055	94.24434	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	UV Trap 2	RLS:3	first baygall swamp beyond first power line cut	E	30.36665	94.24572	bay gall swamp	
1 June 2008	Bait trap 1	RLS:4	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36070	94.24477	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 2	RLS:5	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36067	94.24460	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 3	RLS:6	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36059	94.24448	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 4	RLS:7	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36055	94.24434	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 5	RLS:8	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36054	94.24425	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 6	RLS:9	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36041	94.24400	longleaf pine-oak sand hill with <i>Carya nigra</i>	
1 June 2008	Bait trap 7	RLS:10	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36237	94.24526	longleaf pine-oak sand hill with <i>Carya nigra</i>	
2 June 2008	MV Sheet 1	RLS:11	First power line cut through longleaf pine-oak sandhill	E	30.36108	94.24455	open power line cut through longleaf pine-oak sandhill	78.4-69.3F
2 June 2008	UV Trap 3	RLS:12	on bluff overlooking river near pavilion	E	30.34938	94.23818	semi xeric oak-pine-hickory forest on bluff over river	
2 June 2008	UV Trap 4	RLS:13	herb bog corridor near main road near entrance	E	30.35167	94.23511	herb bog corridor	
2 June 2008	Bait trap 7	RLS:14	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36237	94.24526	longleaf pine-oak sand hill with <i>Carya nigra</i>	
2 June 2008	Bait Trap 8	RLS:15	xeric oak-pine-hickory forest near herb bog near entrance	E	30.35148	94.23534	xeric oak-pine-hickory forest near herb bog	
2 June 2008	Bait Trap 9	RLS:16	xeric oak-pine-hickory forest near herb bog near entrance	E	30.35134	94.23506	xeric oak-pine-hickory forest near herb bog	
2 June 2008	Bait Trap 10	RLS:17	Floodplain Trail	E	30.34938	94.23744	xeric oak-pine-hickory forest along river	
2 June 2008	Bait Trap 11	RLS:18	Floodplain Trail	E	30.34934	94.23812	xeric oak-pine-hickory forest along river	
2 June 2008	Bait Trap 12	RLS:19	Floodplain Trail	E	30.35029	94.23755	xeric oak-pine-hickory forest along river	
2 June 2008	Bait Trap 13	RLS:20	Floodplain Trail	E	30.35059	94.23755	xeric oak-pine-hickory forest along river	
2 June 2008	Bait Trap 14	RLS:21	xeric oak-pine-hickory forest near floodplain trail	E	30.35078	94.23721	xeric oak-pine-hickory forest	
2 June 2008	Bait Trap 15	RLS:22	Floodplain Trail	E	30.35059	94.23755	xeric oak-pine-hickory forest on bluff over floodplain forest	
2 June 2008	Bait Trap 16	RLS:23	Floodplain Trail: entrance to trail down to floodplain	E	30.35186	94.23855	xeric oak-pine-hickory forest on bluff over floodplain forest	
2 June 2008	Bait Trap 17	RLS:24	Near pavilion	V	30.35167	94.23511	xeric oak-pine-hickory forest	no specimens
2 June 2008	diurnal site 1	RLS:D1	herb bog/baygall swamp past fork in road	V	30.34938	94.23818	herb bog/baygall swamp	sunny
2 June 2008	diurnal site 2	RLS:D2	floodplain forest	V	30.35186	94.23855	floodplain forest	sunny
3 June 2008	MV Sheet 1	RLS:25	First power line cut through longleaf pine-oak sandhill	E	30.36108	94.24455	open power line cut through longleaf pine-oak sandhill	78.1-73.4F
3 June 2008	UV Trap 5	RLS:26	Floodplain Trail: entrance to trail down to floodplain	E	30.35213	94.23846	overlooking floodplain forest; xeric oak-pine forest behind trap	
3 June 2008	UV Trap 6	RLS:27	herb bog/baygall swamp				herb bog/baygall swamp	
3 June 2008	Bait trap 7	RLS:28	sand hill habitat along main road in the vicinity of 1st P.L. cut	E	30.36237	94.24526	longleaf pine-oak sand hill with <i>Carya nigra</i>	
3 June 2008	Bait Trap 11	RLS:29	Floodplain Trail	E	30.34934	94.23812	xeric oak-pine-hickory forest along river	
3 June 2008	Bait Trap 12	RLS:30	Floodplain Trail	E	30.35029	94.23755	xeric oak-pine-hickory forest along river	
3 June 2008	Bait Trap 13	RLS:31	Floodplain Trail	E	30.35059	94.23755	xeric oak-pine-hickory forest along river	
3 June 2008	Bait Trap 14	RLS:32	xeric oak-pine-hickory forest near floodplain trail	E	30.34078	94.23721	xeric oak-pine-hickory forest	
3 June 2008	Bait Trap 15	RLS:33	Floodplain Trail	V	30.35059	94.23755	xeric oak-pine-hickory forest on bluff over floodplain forest	
3 June 2008	Bait Trap 16	RLS:34	Floodplain Trail: entrance to trail down to floodplain	E	30.35186	94.23855	xeric oak-pine-hickory forest on bluff over floodplain forest	
3 June 2008	Bait Trap 17	RLS:35	near bait trap 14 but farther away from Floodplain Trail	E	30.35083	94.23703	xeric oak-pine-hickory forest	
3 June 2008	Bait Trap 18	RLS:36	Floodplain Trail	E	30.35106	94.23783	xeric oak-pine-hickory forest near bluff over floodplain forest	
3 June 2008	Bait Trap 19	RLS:37	Floodplain Trail	E	30.35147	94.23798	xeric oak-pine-hickory forest near bluff over floodplain forest	
3 June 2008	Bait Trap 20	RLS:38	Floodplain Trail	E	30.35283	94.23888	xeric oak-pine-hickory forest near bluff over floodplain forest	
3 June 2008	diurnal site 3	RLS:D3	upland portion of Floodplain Trail	V	30.35283	94.23888	xeric oak-pine-hickory forest near bluff over floodplain forest	sunny
3 June 2008	diurnal site 4	RLS:D4	vicinity of pavilion	V	30.35167	94.23511	xeric oak-pine-hickory forest/ grassy open areas	sunny
3 June 2008	diurnal site 5	RLS:D5	First power line cut through longleaf pine-oak sandhill	V	30.36108	94.24455	open power line cut through longleaf pine-oak sandhill	sunny



**Table 2: Checklist of Lepidoptera species (from selected families) recorded From the Roy Larsen Sandyland Preserve, including records from 1-3 June 2008 and previous records**

		Total	1-3 June 2008	Bordelon & Knudson (1999)	Hypothesized Habitat Dependency for the Southeast Coastal Plain, based on Kons & Borth (2006) except where noted	1-3 Jun 2008 Unique Species Records
** Not reported from Texas to our knowledge * Not reported from SE TX by Bordelon & Knudson (1999)						
<b>Minimum total for included families</b>		448	297	301		792
<b>PSYCHIDAE</b>		3	1	3		
439	<i>Prochalia pygmaea</i>	X		X	Unknown	0
442	<i>Cryptothelia gloverii</i>	X	X	X	Generalist	8
457	<i>Thyridopteryx ephemeriformis</i>	X		X	Generalist	0
<b>ATTEVIDAE</b>		1	0	1		
2401	<i>Atteva punctella</i>	X		X	Generalist	0
<b>LACTURIDAE</b>		2	1	2		
2405	<i>Lactura pupula</i>	X		X	Generalist	0
2407	<i>Lactura subfervens</i>	X	X	X	Unknown	2
<b>URODIDAE</b>		1	1	1		
2415	<i>Urodus parvula</i>	X	X	X	Generalist	7
<b>SESIIDAE</b>		12	2	10		
2527	<i>Paranthrene simulans</i>	X		X	Unknown	0
2530	<i>Vittacea polistiformes</i>	X		X	Unknown	0
2531	<i>Vittacea scepiformis</i>	X		X	Unknown	0
2550	<i>Synanthedon pictipes</i>	X		X	Unknown	0
2554	<i>Synanthedon acerni</i>	X	X		Hardwood Forest	1
2566	<i>Synanthedon refulgens</i>	X		X	Unknown	0
2567	<i>Synanthedon rubrofascia</i>	X		X	Unknown	0
2571	<i>Synanthedon decipiens</i>	X		X	Unknown	0
2575	<i>Synanthedon arkansasensis</i>	X	X		Generalist	4
2583	<i>Synanthedon exitiosa</i>	X		X	Unknown	0
2588	<i>Podosesia aureocincta</i>	X		X	Unknown	0
2589	<i>Podosesia syringae</i>	X		X	Unknown	0
<b>COSSIDAE</b>		4	2	4		
2659	<i>Inguromorpha basalis</i>	X		X	Generalist	0
2661	<i>Givira arbeloides</i>	X	X	X	Xeric oak-pine savanna	1
2668	<i>Givira anna</i>	X		X	Generalist	0
2693	<i>Prionoxystus robiniae</i>	X	X	X	Generalist	2
<b>ZYGAENOIDEA</b>		15	11	12		
<b>MEGALOPYGIDAE</b>		2	1	2		
4644	<i>Lagoa crispata</i>	X		X	Xeric Oak-Pine Habitats	0
4647	<i>Megalopyge operculalis</i>	X	X	X	Generalist	6
<b>LIMACODIDAE</b>		13	10	10		
4665	<i>Lithacodes fasciola</i>	X	X	X	Generalist	4
4667	<i>Apoda y-inversum</i>	X	X		Generalist	1
4668	<i>Apoda rectilinea</i>	X	X		Generalist	1
** undesc.	<i>Apoda nr. rectilinea</i>	X	X		Xeric oak-pine savanna	2
4671	<i>Prolimacodes badia</i>	X	X	X	Generalist	1
4675	<i>Isochaetes beutenmulleri</i>	X	X	X	Generalist	1
4677	<i>Phobetron pithecium</i>	X	X	X	Generalist	2
4679	<i>Natada nasoni</i>	X	X	X	Generalist	1
4681	<i>Isa textula</i>	X		X	Generalist	0
4685	<i>Adoneta spinuloides</i>	X	X	X	Generalist	3
4691	<i>Monoleuca semifascia</i>	X		X	Intermedialist	0
4697	<i>Euclea delphini</i>	X	X	X	Generalist	1
4698	<i>Parasa chloris</i>	X		X	Hardwood Forest	0
<b>PYRALIDAE</b> [Most unidentified; lit. records not listed]		7	7	6		
4992	<i>Uresiphita reversalis</i>	X	X	X	Xeric oak-pine savanna	2
5040	<i>Pyrausta bicoloralis</i>	X	X	X	Generalist	3

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		Total	1-3 June 2008	Bordelon & Knudson (1999)	Hypothesized Habitat Dependency for the Southeast Coastal Plain, based on Kons & Borth (2006) except where noted	1-3 Jun 2008 Unique Species Records
** Not reported from Texas to our knowledge						
* Not reported from SE TX by Bordelon & Knudson (1999)						
5069	<i>Pyrausta tyralis</i>	X	X	X	Generalist	3
5070	<i>Pyrausta laticlavata</i>	X	X		Generalist	3
5147	<i>Epipagus huronalis</i>	X	X	X	Unknown	2
5159	<i>Desmia funeralis</i>	X	X	X	Generalist	4
5240	<i>Agathodes designalis</i>	X	X	X	Xeric oak-pine savanna	3
<b>MACROLEPIDOPTERA</b>		403	272	262		
<b>DREPANOIDEA</b>		1	1	0		
<b>DREPANIDAE</b>		1	1	0		
6255	<i>Oreta rosea</i>	X	X		Generalist	1
<b>GEOMETROIDEA</b>		76	59	44		
<b>GEOMETRIDAE</b>		76	59	44		
<b>Ennominae</b>		40	28	32		
6273	<i>Itame pustularia</i>	X		X	Generalist	0
6314	<i>Itame varadaria</i>	X	X		Wetlands	2
6326	<i>Semiothisa aemulataria</i>	X		X	Generalist	0
6335	<i>Semiothisa aequiferaria</i>	X	X	X	mostly in cypress habitats	3
6336	<i>Semiothisa distribuaria</i>	X	X	X	Generalist	3
6339	<i>Semiothisa transitaria</i>	X	X	X	Generalist	3
6341	<i>Semiothisa bicolorata</i>	X	X	X	Generalist	3
6357	<i>Semiothisa eremiata</i>	X	X	X	Xeric oak-pine savanna	3
6405	<i>Semiothisa gnophosaria</i>	X	X	X	Generalist	2
* NA	<i>Hypomecis umbrosaria/gnopharia</i> cpx	X	X		Xeric oak-pine habitats	1
	<i>Hypomecis longipectinaria</i> Blanc. & Knud.	X	X		Generalist	1
6442	<i>Pimaphera sparsaria</i>	X	X	X	Wetlands	2
6443	<i>Glenoides texanaria</i>	X	X	X	Generalist	2
6486	<i>Tornos scolopacinarius</i>	X	X	X	Generalist	5
6580	<i>Iridopsis pergracilis</i>	X	X	X	cypress habitats	2
6582	<i>Iridopsis vellivolata</i>	X	X	X	Generalist	2
6584	<i>Iridopsis humaria</i>	X	X	X	Generalist, most common in xeric sites	2
6586	<i>Iridopsis defectaria</i>	X	X	X	Generalist	3
6590	<i>Anavitrinella pampinaria</i>	X	X		Generalist	4
6594	<i>Cleora sublunaria</i>	X		X	Generalist	0
6620	<i>Melanolophia canadaria</i>	X		X	Generalist	0
6652	<i>Lycia ypsilon</i>	X		X	Generalist	0
6654	<i>Hypagyrtis unipunctata</i>	X	X	X	Generalist	1
6655	<i>Hypagyrtis esther</i>	X		X	Generalist	0
6659	<i>Phigalia denticulata</i>	X		X	Generalist	0
6660	<i>Phigalia strigitaria</i>	X		X	Generalist	0
6711	<i>Thysanopyga intractata</i>	X	X	X	Generalist	5
6735	<i>Euchlaena pectinaria</i>	X	X	X	Generalist	6
6743	<i>Xanthotype sospeta</i>	X	X	X	Generalist	2
6745	<i>Cymatophora approximaria</i>	X		X	Generalist	0
6752	<i>Pero zalissaria</i>	X	X		Wetlands, usually salt marsh	1
6754	<i>Pero hubneraria</i>	X	X	X	Generalist	3
6763	<i>Nacrophora quernaria</i>	X		X	Generalist	0
6780	<i>Ceratonyx satanaria</i>	X		X	Generalist	0
6837.1	<i>Probole nyssaria</i>	X	X		Generalist	1
6858	<i>Lychnosea intermicata</i>	X	X	X	Intermedialist	1
6885	<i>Besma quercivoraria</i>	X		X	Generalist	0
6966	<i>Eutrapela clemataria</i>	X	X	X	Generalist	1
6982	<i>Prochoerodes lineola</i>	X	X		Generalist	9
7009	<i>Nematocampa resistaria</i>	X	X		Generalist	1

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		Total	1-3 June 2008	Bordelon & Knudson (1999)	Hypothesized Habitat Dependency for the Southeast Coastal Plain, based on Kons & Borth (2006) except where noted	1-3 Jun 2008 Unique Species Records
** Not reported from Texas to our knowledge						
* Not reported from SE TX by Bordelon & Knudson (1999)						
<b>Geometrinae</b>		7	6	2		
7029	<i>Nemoria elfa</i>	X	X		Wetlands	2
7033	<i>Nemoria lixiaria</i>	X	X	X	Generalist	4
7034	<i>Nemoria saturiba</i>	X		X	Generalist	0
* 7045	<i>Nemoria bifilata</i>	X	X		Xeric oak-pine savanna	1
7053	<i>Dichorda iridaria</i>	X	X		Generalist	1
7059	<i>Synchlora frondaria</i>	X	X		Generalist	4
7071	<i>Chlorochlamys chloroleucaria</i>	X	X		Generalist	2
<b>Sterrhinae</b>		19	18	5		
7094	<i>Lobocleta ossularia</i>	X	X		Generalist	6
7097	<i>Lobocleta plemyraria</i>	X	X		Xeric oak-pine savanna	6
7100	<i>Lobocleta peralbata</i>	X	X		Xeric oak-pine savanna	3
7108	<i>Idaea furciferata</i>	X	X		Generalist	4
7114	<i>Idaea demissaria</i>	X	X		Generalist	9
7119	<i>Idaea micropterata</i>	X	X		Generalist	2
7120	<i>Idaea violacearia</i>	X	X		Generalist, most common in xeric sites	4
7122	<i>Idaea taturata</i>	X	X	X	Generalist	2
7132	<i>Pleuroprucha insulsaria</i>	X	X		Generalist	5
7136	<i>Cyclophora packardi</i>	X	X		Generalist	1
7137	<i>Cyclophora myrtaria</i>	X	X		Generalist	2
7147	<i>Timandra amaturaria</i>	X	X		Hydric Hardwood Forest	2
7149	<i>Scopula lautaria</i>	X	X		Generalist	4
7151	<i>Scopula aemulata</i>	X	X		Generalist	3
7152	<i>Scopula compensata</i>	X		X	Generalist	0
7159	<i>Scopula limboundata</i>	X	X	X	Generalist	3
7173	<i>Leptostales pannaria</i>	X	X	X	Generalist	1
7177	<i>Leptostales laevitaria</i>	X	X		Generalist	1
7181	<i>Lophosis labeculata</i>	X	X	X	Generalist	1
<b>Larentiinae</b>		10	7	5		
7196	<i>Eulithis diversilineata</i>	X	X		Generalist	7
7197	<i>Eulithis gracilineata</i>	X	X		Generalist	1
7414	<i>Orthonama obstipata</i>	X	X		Generalist	2
7416	<i>Orthonama centrostrigaria</i>	X	X	X	Generalist	9
7417	<i>Disclisioprocta stellata</i>	X		X	Generalist	0
7440	<i>Eubaphe mendica</i>	X	X		Generalist	3
7441	<i>Eubaphe meridiana</i>	X	X		Generalist	5
7444	<i>Eubaphe unicolor</i>	X		X	Probably a stray from farther west	0
7453	<i>Eipithecia peckorum</i>	X		X	Unknown	0
7474	<i>Eupithecia miserulata</i>	X	X	X	Generalist	1
<b>RHOPALOCERA</b>		23	22	2		
<b>HESPERIOIDEA</b>		6	5	2		
<b>HESPERIIDAE</b>		6	5	2		
<b>Pyrginae</b>		2	2	0		
3952	<i>Erynnis horatius</i>	X	X		Generalist of open areas	1
3966	<i>Pyrgus communis</i>	X	X		Generalist of open areas	1
<b>Hesperiinae</b>		4	3	2		
3998	<i>Lerema accius</i>	X	X	X		1
4010	<i>Copaeodes minima</i>	X		X		0
4013	<i>Hylephila phyleus</i>	X	X		Generalist of open areas	1
4045	<i>Polites vibex</i>	X	X		Generalist of open areas	1
<b>PAPILIONOIDEA</b>		17	17	0		
<b>PAPILIONIDAE</b>		4	4	0		

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4157	<i>Battus philenor</i>	X	X		Generalist	2
4176	<i>Papilio glaucus</i>	X	X		Generalist	1
4182	<i>Papilio palamedes</i>	X	X		Generalist	1
4184	<i>Eurytides marcellus</i>	X	X		Generalist	1
<b>PIERIDAE</b>		2	2	0		
4237	<i>Eurema lisa</i>	X	X		Generalist of open areas	1
4242	<i>Eurema nicippe</i>	X	X		Generalist of open areas	1
<b>LYCAENIDAE</b>		2	2	0		
4299	<i>Calycopis cecrops</i>	X	X		Generalist	1
4359	<i>Hemiargus ceraunus</i>	X	X		Generalist of open areas	1
<b>NYPHALIDAE</b>		9	9	0		
4420	<i>Polygonia interrogationis</i>	X	X		Generalist	1
4481	<i>Phyciodes tharos</i>	X	X		Generalist of open areas	1
4554	<i>Anaea andria</i>	X	X		Xeric oak-pine habitats	1
4557	<i>Astereocampa celtis</i>	X	X		Generalist	1
4562.1	<i>Astereocampa clyton</i>	X	X		Generalist	1
4573	<i>Cyllopsis gemma</i>	X	X		Generalist	1
4574	<i>Hermeuptychia hermes</i>	X	X		Generalist	4
4576	<i>Neonympha aerolata</i>	X	X		low wetlands	1
4578	<i>Megisto cymela</i>	X	X		Generalist	2
<b>BOMBYCOIDEA</b>		12	8	8		
<b>APATELODIDAE</b>		1	0	1		
7663	<i>Apatelodes torrefacta</i>	X		X	Generalist	0
<b>LASIOCAMPIDAE</b>		4	1	4		
<b>Macromphaliinae</b>		3	1	3		
7674	<i>Tolype notialis</i>	X	X	X	Generalist	1
7675	<i>Tolype minta</i>	X		X	Wetlands	0
7683	<i>Artace cibraria</i>	X		X	Generalist	0
<b>Lasiocampinae</b>		1	0	1		
7698	<i>Malacosoma disstria</i>	X		X	Generalist	0
<b>SATURNIIDAE</b>		7	7	3		
<b>Citheroniinae</b>		4	4	1		
7704	<i>Eacles imperialis</i>	X	X	X	Generalist	2
7706	<i>Citheronia regalis</i>	X	X		Generalist	1
7715	<i>Dryocampa rubicunda</i>	X	X		Generalist	2
7723	<i>Anisota virginiensis</i>	X	X		Generalist	1
<b>Hemileucinae</b>		1	1	1		
7746	<i>Automeris io</i>	X	X	X	Generalist	1
<b>Saturniinae</b>		2	2	1		
7757	<i>Antheraea polyphemus</i>	X	X		Generalist	1
7758	<i>Actias luna</i>	X	X	X	Generalist	1
<b>SPHINGOIDEA</b>		12	10	5		
<b>SPHINGIDAE</b>		12	10	5		
<b>Sphinginae</b>		6	6	1		
7775	<i>Manduca sexta</i>	X	X		Generalist	1
7784	<i>Dolba hyloeus</i>	X	X		Xeric oak-pine habitats	2
7787	<i>Ceratonia undulosa</i>	X	X		Generalist	1
7789	<i>Ceratonia catalpae</i>	X	X	X	riparian hydric hardwood forest	2
7821	<i>Smerinthus jamaicensis</i>	X	X		Generalist	1
7827	<i>Lathoe juglandis</i>	X	X		Hardwood Forest	1
<b>Macroglossinae</b>		6	4	4		
7865	<i>Eumorpha fasciata</i>	X	X	X	Wetlands	2

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7873	<i>Amphion floridensis</i>	X	X		Generalist	1
7885	<i>Darapsa myron</i>	X	X	X	Generalist	4
7886	<i>Darapsa pholus</i>	X		X	Generalist	0
7890	<i>Xylophanes tersa</i>	X	X		Generalist	1
7894	<i>Hyles lineata</i>	X		X	Generalist	0
<b>NOCTUOIDEA</b>		279	172	203		
<b>NOTODONTIDAE</b>		16	11	10		
7896	<i>Clostera inclusa</i>	X		X	Generalist where Salix occurs	0
7903	<i>Datana angusii</i>	X	X	X	Generalist	6
7904	<i>Datana drexelii</i>	X	X		Generalist	6
7907	<i>Datana integerrima</i>	X	X	X	Generalist	1
7921	<i>Peridea ferruginea</i>	X		X	Unknown	0
7936	<i>Furcula borealis</i>	X		X	Hardwood Forest	0
7951	<i>Symmerista albifrons</i>	X		X	Generalist	0
7983	<i>Heterocampa obliqua</i>	X	X		Generalist	3
7990	<i>Heterocampa umbrata</i>	X	X		Generalist	2
7994	<i>Heterocampa guttivitta</i>	X	X	X	Generalist	1
7995	<i>Heterocampa biundata</i>	X	X		Generalist	1
7999	<i>Lochmaeus bilineata</i>	X		X	Generalist	0
8005	<i>Schizura ipomoeae</i>	X	X	X	Generalist	5
8007	<i>Schizura unicornis</i>	X	X	X	Generalist	2
8010	<i>Schizura concinna</i>	X	X		Generalist	1
8022	<i>Hyparpax aurora</i>	X	X		Xeric oak-pine savanna	2
<b>NOCTUIDAE</b>		263	161	193		
<b>Arctiinae</b>		21	13	15		
<b>Lithosiini</b>		7	5	4		
8045.1	<i>Crambidia pallida</i>	X	X		Generalist	2
undesc.	<i>Crambidia nr. pallida</i>	X	X		Generalist	3
8066	<i>Cisthene tenuifascia</i>	X	X		Generalist	1
8067	<i>Cisthene plumbea</i>	X	X	X	Generalist	1
8072	<i>Cisthene packardii</i>	X	X	X	Generalist	3
8090	<i>Hypoprepia fucosa</i>	X		X	Generalist	0
8098	<i>Clemensia albata</i>	X		X	Generalist	0
<b>Arctiini</b>		12	6	9		
8108	<i>Haploa colona</i>	X		X	Unknown	0
8114	<i>Virbia laeta</i>	X	X	X	Generalist, most often in xeric sites	9
8818	<i>Holomelina opella</i>	X		X	Generalist	0
8121	<i>Holomelina aurantiaca</i>	X		X	Generalist	0
8129	<i>Pyrrharctia isabella</i>	X	X		Generalist	2
8131	<i>Estigmene acrea</i>	X	X	X	Generalist	1
8137	<i>Spilosoma virginica</i>	X	X		Generalist	4
8140	<i>Hyphantria cunea</i>	X		X	Generalist	0
8146	<i>Ecpantheria scribbonia</i>	X		X	Generalist	0
8171	<i>Apantesis nais</i>	X	X		Generalist	1
8203	<i>Halysidota tessellaris</i>	X		X	Generalist	0
8255	<i>Pygarcia abdominalis</i>	X	X	X	Xeric oak-pine habitat, usually savanna	1
<b>Ctenuchini</b>		2	2	2		
8267	<i>Cisseps fulvicollis</i>	X	X	X	Generalist	7
8280	<i>Cosmosoma myodora</i>	X	X	X	Generalist	1
<b>Lymantriinae</b>		4	4	1		
8299	<i>Dasychira atrivenosa</i>	X		X	Hardwood Forest	0
8307	<i>Dasychira manto</i>	X	X		Generalist, most often in xeric sites	1



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8313	<i>Orgyia detrita</i>	X	X		Generalist	2
8316	<i>Orgyia leucostigma</i>	X	X		Generalist	4
<b>Herminiinae</b>		23	15	17		
8322	<i>Idia americalis</i>	X	X	X	Generalist	13
8323	<i>Idia aemula</i>	X	X	X	Generalist	19
8326	<i>Idia rotundalis</i>	X	X	X	Generalist	3
8329	<i>Idia dimminuendis</i>	X		X	Generalist	
8333	<i>Idia denticulalis</i>	X	X		Generalist	0
8334	<i>Idia lubricalis</i>	X	X		Generalist	11
undesc.	<i>Zanclognatha</i> sp. nr. <i>lituralis</i>	X	X		Generalist	1
8346	<i>Zanclognatha atrilineella</i>	X		X	Hardwood Forest	0
8356	<i>Chylotita petrealis</i>	X		X	Hardwood Forest	0
8357.1	<i>Macrochilo hypocriticalis</i> Fgn.	X	X	X	Generalist	4
8360	<i>Macrochilo orciferalis</i>	X		X	Generalist	0
8366	<i>Tetanolita mynesalis</i>	X	X	X	Generalist	3
8368	<i>Tetanolita floridana</i>	X	X	X	Generalist	5
8370	<i>Bleptina caradrinalis</i>	X	X	X	Generalist	4
8371	<i>Bleptina inferior</i>	X		X	Generalist	0
8372	<i>Bleptina sangamonia</i>	X	X	X	Generalist	1
8381	<i>Renia discoloralis</i>	X	X		Generalist	1
8386	<i>Renia adspergillus</i>	X	X		Generalist	2
undesc.	<i>Renia</i> sp. nr. <i>adspergillus</i>	X	X		Generalist	1
8397	<i>Palthis angulalis</i>	X		X	Generalist	0
8398	<i>Palthis asopialis</i>	X	X	X	Generalist	4
8401	<i>Redectis vitrea</i>	X		X	Generalist	0
8403	<i>Macristis schausi</i>	X		X	Probably a stray from farther west	0
<b>Rivulinae</b>		2	2	1		
8404	<i>Rivula propinqualis</i>	X	X		Generalist	1
8411	<i>Colobochyla interpuncta</i>	X	X	X	Generalist	2
<b>Hypenodinae</b>		8	5	4		
undesc.	<i>Hypenodes</i> nr. <i>franclemonti</i>	X	X		Generalist	1
undesc.	<i>Dyspyralis</i> new species	X	X		Generalist	1
8430	<i>Parahypenodes quadralis</i>	X	X		Generalist	1
8431	<i>Schrankia macula</i>	X	X	X	Generalist	4
8432	<i>Quandara brauneata</i>	X		X	Generalist	0
undesc.	<i>Sigella</i> nr. <i>basipunctaria</i>	X	X		Generalist	3
8437	<i>Abablemma brimleyana</i>	X		X	Generalist	0
8440	<i>Nigetia formosalis</i>	X		X	Generalist	0
<b>Hypeninae</b>		8	5	8		
8441	<i>Hypena manalis</i>	X		X	Hardwood Forest	0
8442	<i>Hypena baltimoralis</i>	X	X	X	Generalist	2
8444	<i>Hypena palparia</i>	X	X	X	Generalist	1
8459	<i>Hypena degasalis</i>	X		X	Generalist; an ephemeral migrant	0
8465	<i>Hypena scabra</i>	X		X	Generalist	0
8467	<i>Hemeroplanis scopulepes</i>	X	X	X	Generalist	1
8471	<i>Hemeroplanis habitalis</i>	X	X	X	Generalist	9
8481	<i>Phytometra rhodarialis</i> sp. 1	X	X	X	Intermedialist	3
<b>Catocalinae</b>		60	44	40		
8490	<i>Pangrapta decoralis</i>	X	X	X	Generalist	3
8491	<i>Ledaea perditalis</i>	X		X	Generalist	0
8499	<i>Metalectra discalis</i>	X	X	X	Generalist	4
8500	<i>Metalectra quadrisignata</i>	X	X		Generalist	1

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8502	<i>Metalectra tantillus</i>	X	X		Generalist	2
8505	<i>Metalectra richardsi</i>	X		X	Generalist	0
8509	<i>Arugisa latiorella</i>	X		X	Generalist	0
8514	<i>Scolecocampa liburna</i>	X	X		Generalist	1
8525	<i>Phyprosoropus callitrichoides</i>	X	X	X	Generalist	2
8528	<i>Hyposoropha hormos</i>	X	X	X	Generalist	1
8534	<i>Plusiodonta compressipalpis</i>	X	X		Generalist	1
8574	<i>Anticarsia gemmatalis</i>	X		X	Generalist	0
8587	<i>Panopoda rufimargo</i>	X	X	X	Generalist	1
8588	<i>Panopoda carneicosta</i>	X		X	Generalist	0
8591	<i>Phoberia atomaris</i>	X		X	Generalist	0
8600	<i>Melipotis indomita</i>	X		X	Generalist, but possibly a stray from the west	0
8601	<i>Melipotis cellaris</i>	X	X		Unknown, possibly a stray, generalist in C/S TX, few E TX records from xeric grasslands	1
8620	<i>Drasteria ingeniculata</i>	X		X	Stray from farther west	0
8641	<i>Drasteria grandirena</i>	X	X		Mesic Hardwood Forest	1
8651	<i>Lesmone detrahens</i>	X	X	X	Generalist	2
8653	<i>Lesmone hinna</i>	X	X	X	Generalist	1
8666	<i>Metria amella</i>	X	X	X	Generalist	4
8683	<i>Zale coracias</i>	X	X	X	Xeric oak-pine habitats	4
8689	<i>Zale lunata</i>	X		X	Generalist	0
8697	<i>Zale minerea</i>	X		X	Generalist	0
8699	<i>Zale obliqua</i>	X		X	Generalist	0
8717	<i>Zale horrida</i>	X	X		Generalist	4
8721	<i>Allotria elonympha</i>	X		X	Generalist	0
	<i>Dysgonia telma</i> Sullivan	X	X	?	Hydric Hardwood Forest	1
8727	<i>Parallelia bistriaris</i>	X	X	X	Generalist	2
8728	<i>Cutina albopunctella</i>	X	X	X	Cypress habitats	2
8729	<i>Cutina distincta</i>	X	X	X	Cypress habitats	2
none	<i>Cutina arcuata</i> Pogue & Fgn.	X	X	X	Cypress habitats	5
none	<i>Cutina aluticolor</i> Pogue & Fgn.	X	X	X	Cypress habitats	4
8733	<i>Caenurgia chloropha</i>	X	X	X	Generalist	6
8743	<i>Mocis latipes</i>	X		X	Generalist	0
8744	<i>Mocis marcida</i>	X	X	X	Generalist	7
8747	<i>Celiptera frustulum</i>	X	X	X	Hardwood Forest	1
8749	<i>Ptichodis vinculum</i>	X	X	X	Generalist	6
8750	<i>Ptichodis herbarum</i>	X		X	Generalist	0
8759	<i>Argyrostromis flavistriaria</i> (=carolina)	X	X	X	wetlands (more widespread in FL)	9
8760	<i>Argyrostromis sylvorum</i>	X	X	X	Bogs (more widespread in FL)	3
8763	<i>Argyrostromis deleta</i>	X	X	X	Bogs (more widespread in FL)	5
8772	<i>Catocala consors</i>	X	X	X	Xeric oak-pine habitats	13
8773	<i>Catocala epione</i>	X	X	X	mesic hardwood forest, xeric oak-hickory savanna	4
8774	<i>Catocala muliercula</i>	X	X		Generalist	1
8787	<i>Catocala agrippina</i>	X		X	Hydric Hardwood Forest	0
8801	<i>Catocala ilia</i>	X		X	Generalist	0
8847	<i>Catocala gracilis</i>	X	X		Generalist	4
8857	<i>Catocala ultronia</i>	X	X		Generalist	5
8858	<i>Catocala crataegi</i> cpx.	X	X		Hydric Hardwood Forest	1
8868	<i>Catocala titania</i>	X	X		Hardwood Forest	1
8873	<i>Catocala similis</i>	X	X		Generalist	6
8876	<i>Catocala micronympha</i>	X	X	X	Generalist	1
8877	<i>Catocala connubialis</i>	X	X		Generalist	1

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	<i>Catocala amica</i> sp. 1	X	X		Hardwood Forest	2
	<i>Catocala amica</i> sp. 2	X	X		Xeric oak-pine habitats	5
	<i>Catocala lineella</i> sp. 1	X	X		Generalist	3
	<i>Catocala lineella</i> sp. 2	X	X		Generalist	1
*	8879 <i>Catocala jair</i>	X	X		Xeric oak-pine habitats	3
<b>Euteliinae</b>		5	3	4		
	8955 <i>Marathyssa inficita</i>	X	X	X	Generalist	1
	8959 <i>Paectes pygmaea</i>	X	X		Intermedialist	1
	8962 <i>Paectes abrostoloides</i>	X	X	X	Generalist	3
	8974 <i>Characoma nilotica</i>	X		X	Generalist	0
	<i>Nycteola</i> sp.	X		X	Unknown	0
<b>Sarrothripinae</b>		3	3	2		
	8102 <i>Afrida ydatodes</i>	X	X	X	Generalist	3
	8970 <i>Baileya ophthalmica</i>	X	X	X	Generalist	3
	8971 <i>Baileya dormitans</i>	X	X		Generalist	2
<b>Nolinae</b>		2	2	2		
	8983.1 <i>Meganola phylla</i>	X	X	X	Generalist	5
	8991 <i>Nola cereella</i>	X	X	X	Generalist	4
<b>Eustrotinae</b>		15	10	12		
	undesc. <i>Tripudia</i> nr. <i>inquaesita</i>	X	X		Intermedialist	1
	9003 <i>Tripudia quadrifera</i>	X		X	Generalist	0
	9009 <i>Tripudia flavofasciata</i>	X	X	X	Generalist	2
	9025 <i>Oruza albocostaliata</i>	X		X	Generalist	0
	9030 <i>Ozarba aerea</i>	X	X	X	Hardwood Forest	1
	9033 <i>Ozarba nebula</i>	X	X	X	Generalist	2
	9035 <i>Hyperstrotia nana</i>	X	X	X	Xeric oak-pine savanna	1
	9038 <i>Hyperstrotia villificans</i>	X	X		Generalist	1
	9039 <i>Hyperstrotia flaviguttata</i>	X	X		Xeric oak-pine habitats	8
	9040 <i>Hyperstrotia secta</i>	X	X	X	Generalist	3
	9044 <i>Thioptera nigrofimbria</i>	X	X	X	Generalist	6
	9047 <i>Lithacodia muscosula</i>	X		X	Generalist	0
	9054 <i>Lithacodia indeterminata</i>	X		X	Hydric Hardwood Forest	0
	9069 <i>Amyna bullula</i>	X	X	X	Probably a stray from subtropical TX	1
	9070 <i>Amyna octo</i>	X		X	Generalist	0
<b>Condicinae</b>		9	7	7		
	9644 <i>Micrathetis triplex</i>	X		X	Probably a stray from further west	0
	9690 <i>Condica videns</i>	X	X	X	Generalist	3
	9693 <i>Condica mobilis</i>	X	X	X	Generalist	1
	9696 <i>Condica vecors</i>	X	X		Generalist	2
	9699 <i>Condica sutor</i>	X	X	X	Generalist	3
**	9700 <i>Condica cervina</i>	X	X		Generalist in FL, two TX records from RLS	2
	9714 <i>Condica confederata</i>	X		X	Generalist	0
	9720 <i>Ogdoconta cinereola</i>	X	X	X	Generalist	3
	9057 <i>Homophoberia apicosa</i>	X	X	X	Generalist	5
<b>Plusiinae</b>		6	2	6		
	8885 <i>Argyrogramma verruca</i>	X		X	Generalist	0
	8886 <i>Enigmogramma basigera</i>	X	X	X	Generalist	2
	8887 <i>Trichoplusia ni</i>	X		X	Generalist	0
	8889 <i>Ctenoplusia oxygramma</i>	X	X	X	Generalist	1
	8890 <i>Pseudoplusia includens</i>	X		X	Generalist	0
	8907 <i>Megalographa biloba</i>	X		X	Generalist	0
<b>Acontinae</b>		8	6	8		

**Table 2: Checklist of Lepidoptera species (from selected families) recorded From the Roy Larsen Sandyland Preserve, including records from 1-3 June 2008 and previous records**

		Total	1-3 June 2008	Bordelon & Knudson (1999)	Hypothesized Habitat Dependency for the Southeast Coastal Plain, based on Kons & Borth (2006) except where noted	1-3 Jun 2008 Unique Species Records
**	Not reported from Texas to our knowledge					
*	Not reported from SE TX by Bordelon & Knudson (1999)					
9076	<i>Eumicremma minima</i>	X	X	X	Generalist	4
9078	<i>Eumestleta recta</i>	X		X	Generalist	0
9085	<i>Tarachidia semiflava</i>	X	X	X	Generalist	8
9090	<i>Tarachidia candefacta</i>	X	X	X	Generalist	6
9122	<i>Spragueia dama</i>	X		X	Generalist	0
9127	<i>Spragueia leo</i>	X	X	X	Generalist	1
9131	<i>Spragueia apicalis</i>	X	X	X	Generalist	1
9136	<i>Acontia aprica</i>	X	X	X	Generalist	1
<b>Amphipyridae</b>		2	1	1		
9618	<i>Phosphila turbulenta</i>	X		X	Generalist	
9619	<i>Phosphila miseloides</i>	X	X		Generalist	3
<b>Stiriinae</b>		1	0	1		
9766	<i>Cirrhophanus triangulifer</i>	X		X	Unknown	
<b>Eriopinae</b>		3	3	0		
9631	<i>Callopietria mollissima</i>	X	X		Generalist	5
**	9632	<i>Callopietria granitosa</i>	X	X	Xeric oak-pine savanna (E TX & W LA); more widespread (FL)	4
	9633	<i>Callopietria cordata</i>	X	X	Xeric oak-pine habitats	2
<b>Psaphidinae</b>		4	0	4		
10007	<i>Feralia major</i>	X		X	Unknown	0
10016	<i>Psaphida styracis</i>	X		X	Generalist	0
10019	<i>Psaphida resumens</i>	X		X	Generalist	0
10021	<i>Copivaleria grotei</i>	X		X	Generalist	0
<b>Azeninae</b>		1	1	1		
9725	<i>Azenia obtusa</i>	X	X	X	Generalist	3
<b>Heliothinae</b>		16	1	16		
11068	<i>Helicoverpa zea</i>	X	X	X	Generalist	1
11071	<i>Heliothis virescens</i>	X		X	Generalist	0
11112	<i>Schinia sordida</i>	X		X	Xeric grasslands	0
11113	<i>Schinia petulans</i>	X		X	Xeric oak-pine savanna	0
11115	<i>Schinia siren</i>	X		X	Intermedialist	0
11116	<i>Schinia turberculum</i>	X		X	Xeric oak-pine savanna	0
11118	<i>Schinia obscurata</i>	X		X	Xeric grasslands (TX/OK)	0
11128	<i>Schinia arcigera</i>	X		X	Generalist	0
11135	<i>Schinia rivulosa</i>	X		X	Generalist	0
11137	<i>Schinia nubila</i>	X		X	Xeric grasslands	0
11140	<i>Schinia saturata</i>	X		X	Generalist	0
11141	<i>Schinia thoreau</i>	X		X	Open areas with abundant ragweed (IN)	0
11147	<i>Schinia gracilentia</i>	X		X	Unknown, mesic-hydric open fields in S IN	0
11149	<i>Schinia trifascia</i>	X		X	Generalist	0
11166	<i>Schinia regia</i>	X		X	Unknown	0
none	<i>Schinia varix</i> Knud., Bord. & Pog.	X		X	Unknown	0
<b>Agaristinae</b>		1	1	1		
9299	<i>Eudryas unio</i>	X	X	X	Generalist	1
<b>Pantheinae</b>		2	0	2		
9182	<i>Panthea furcilla</i>	X		X	Generalist	0
9192	<i>Raphia abrupta</i>	X		X	Generalist	0
<b>Acronictinae</b>		15	6	10		
8104	<i>Comochara cadburyi</i>	X		X	Hardwood Forest	0
9200	<i>Acronicta americana</i>	X		X	Hardwood Forest	0
9208	<i>Acronicta betulae</i>	X	X		Hydric Hardwood Forest	1
9219	<i>Acronicta connecta</i>	X		X	Generalist	0

**Table 2: Checklist of Lepidoptera species (from selected families) recorded From the Roy Larsen Sandyland Preserve, including records from 1-3 June 2008 and previous records**

		Total	1-3 June 2008	Bordelon & Knudson (1999)	Hypothesized Habitat Dependency for the Southeast Coastal Plain, based on Kons & Borth (2006) except where noted	1-3 Jun 2008 Unique Species Records
** Not reported from Texas to our knowledge						
* Not reported from SE TX by Bordelon & Knudson (1999)						
9225	<i>Acronicta vinnula</i>	X		X	Generalist	0
9236	<i>Acronicta morula</i>	X		X	Hardwood Forest	0
9242	<i>Acronicta exilis</i>	X		X	Hardwood Forest	0
9254	<i>Acronicta afflicta</i>	X		X	Generalist	0
9255	<i>Acronicta brumosa</i>	X	X		Xeric oak-pine habitats	1
9257	<i>Acronicta impleta</i>	X		X	Generalist	0
9264	<i>Acronicta longa</i>	X	X		Generalist	1
9272	<i>Acronicta oblinata</i>	X	X		Wetlands	2
9280a	<i>Simyra henrici</i> cpx. sp. A	X	X		Wetlands with <i>Typha</i>	4
9285	<i>Polygrammate hebraeicum</i>	X	X	X	Generalist	6
9286	<i>Harrisimemna trisignata</i>	X		X	Generalist	0
<b>Noctuidae</b>		44	27	30		
* undesc.	Apameini new sp. 3	X	X		Hardwood forest with <i>Arundinaria</i>	1
9522	<i>Iodopepla u-album</i>	X	X	X	Generalist	8
9556	<i>Chytonix palliatricula</i>	X	X	X	Generalist	1
9582	<i>Nedra ramosula</i>	X	X	X	Generalist	1
9629	<i>Fagitana littera</i>	X	X		Wetlands	3
9637	<i>Magusa orbifera</i>	X		X	Generalist	0
9665	<i>Spodoptera exigua</i>	X	X		Generalist	1
9666	<i>Spodoptera frugiperda</i>	X	X	X	Generalist	1
9669	<i>Spodoptera ornithogalli</i>	X	X	X	Generalist	3
9670	<i>Spodoptera latifascia</i>	X	X		Generalist	1
9672	<i>Spodoptera eridania</i>	X		X	Generalist	0
9676	<i>Elaphria nucicolora</i>	X	X		Generalist	1
9678	<i>Elaphria versicolor</i>	X		X	Generalist	0
9679	<i>Elaphria chalcedonia</i>	X	X	X	Generalist	3
9681a	<i>Elaphria festivooides</i>	X		X	Generalist	0
9682	<i>Elaphria exesa</i>	X	X	X	Generalist	1
9684	<i>Elaphria grata</i>	X		X	Generalist	0
9688	<i>Galgula partita</i>	X	X		Generalist	4
9689	<i>Perigea xanthioides</i>	X	X	X	Generalist	2
9818	<i>Amolita fessa</i>	X	X		Generalist	2
9821	<i>Amolita roseola</i>	X		X	Wetlands	0
9941	<i>Sericaglaea signata</i>	X		X	Hardwood Forest	0
9944	<i>Metaxaglaea viatica</i>	X		X	Hardwood Forest	0
none	<i>Metaxaglaea violacea</i> Schweitz.	X		X	Unknown	0
10033	<i>Catabena lineolata</i>	X	X		Generalist	1
10257	<i>Trichoclea florida</i>	X		X	Unknown	0
10438	<i>Pseudaletia unipuncta</i>	X		X	Generalist	0
10439	<i>Leucania extincta</i>	X	X		Xeric oak-pine habitats	4
10440	<i>Leucania linita</i> sp. 1 [dark]	X	X		Wetlands	1
10454	<i>Leucania latiuscula</i>	X	X	X	Generalist	1
none	<i>Leucania subpuncta</i> (Harv.)	X	X		Generalist	3
10455	<i>Leucania scirpicola</i>	X	X		Generalist	3
10456	<i>Leucania adjuta</i>	X	X		Generalist	3
10517	<i>Egira alternans</i>	X		X	Generalist	0
10585	<i>Orthodes crenulata</i>	X	X	X	Generalist	1
10663	<i>Agrotis ipsilon</i>	X		X	Generalist	0
10664	<i>Agrotis subterranea</i>	X	X	X	Generalist	2
10694	<i>Eucoptocnemis fimbriaris</i>	X		X	Xeric oak-pine habitats	0
	<i>Euagrotis lubricans</i> complex	X	X	X	Unknown	5
*	<i>Euagrotis</i> sp.	X	X		Xeric oak-pine savanna	1

<b>Table 2: Checklist of Lepidoptera species (from selected families) recorded From the Roy Larsen Sandyland Preserve, including records from 1-3 June 2008 and previous records</b>						
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** Not reported from Texas to our knowledge * Not reported from SE TX by Bordelon & Knudson (1999)						
10911	<i>Anicla infecta</i>	X	X	X	Generalist	2
10915	<i>Peridroma saucia</i>	X		X	Generalist	0
10967	<i>Xestia elimiata</i>	X		X	Unknown	0
10994	<i>Cerastis tenebrifera</i>	X		X	Unknown	0

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS
		1 08	1 08	1 08	2 08	2 08	2 08	3 08	3 08	3 08	2 08	2 08	3 08	3 08	3 08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
<b>Minimum total for included families</b>		125	24	57	120	76	56	108	75	37	4	4	9	2	2
<b>PSYCHIDAE</b>		1	0	1	1	1	1	1	1	1	0	0	0	0	0
442	<i>Cryptothelia gloverii</i>	X		X	X	X	X	X	X	X					
<b>LACTURIDAE</b>		0	0	0	1	1	0	0	0	0	0	0	0	0	0
2407	<i>Lactura subfervens</i>				X	X									
<b>URODIDAE</b>		1	1	1	1	1	0	0	1	1	0	0	0	0	0
2415	<i>Urodus parvula</i>	X	X	X	X	X			X	X					
<b>SESIIDAE</b>		0	0	0	1	0	0	0	0	0	0	0	0	0	0
2554	<i>Synanthedon acerni</i>				X										
<b>COSSIDAE</b>		1	0	0	0	1	0	1	0	0	0	0	0	0	0
2661	<i>Givira arbeloides</i>							X							
2693	<i>Prionoxystus robiniae</i>	X				X									
<b>ZYGAENOIDEA</b>		6	0	0	3	3	3	2	2	4	0	0	0	0	0
<b>MEGALOPYGIDAE</b>		1	0	0	1	0	1	1	1	1	0	0	0	0	0
4647	<i>Megalopyge opercularis</i>	X			X		X	X	X	X					
<b>LIMACODIDAE</b>		5	0	0	2	3	2	1	1	3	0	0	0	0	0
4665	<i>Lithacodes fasciola</i>				X	X	X			X					
4667	<i>Apoda y-inversum</i>				X										
4668	<i>Apoda rectilinea</i>	X													
	<i>Apoda nr. rectilinea</i>							X		X					
4671	<i>Prolimacodes badia</i>									X					
4675	<i>Isochaetes beutenmulleri</i>					X									
4677	<i>Phobetron pithecium</i>	X				X									
4679	<i>Natada nasoni</i>	X													
4685	<i>Adoneta spinuloides</i>	X					X		X						
4697	<i>Euclea delphini</i>	X													
<b>PYRALIDAE [Most unidentified]</b>		5	2	1	5	0	0	5	2	0	0	0	0	0	0
4992	<i>Uresiphita reversalis</i>	X						X							
5040	<i>Pyrausta bicoloralis</i>			X	X				X						
5069	<i>Pyrausta tyralis</i>	X						X	X						
5070	<i>Pyrausta laticlavia</i>	X	X		X										
5147	<i>Epipagus huronalis</i>				X			X							
5159	<i>Desmia funeralis</i>	X	X		X			X							
5240	<i>Agathodes designalis</i>	X			X			X							
<b>MACROLEPIDOPTERA</b>		111	21	54	108	69	52	99	69	31	4	4	9	2	2
<b>DREPANOIDEA</b>		0	0	0	0	1	0	0	0	0	0	0	0	0	0
<b>DREPANIDAE</b>		0	0	0	0	1	0	0	0	0	0	0	0	0	0
6255	<i>Oreta rosea</i>					X									
<b>GEOMETROIDEA</b>		31	8	16	25	21	11	22	27	7	0	0	0	0	0
<b>GEOMETRIDAE</b>		31	8	16	25	21	11	22	27	7	0	0	0	0	0
<b>Ennominae</b>		12	3	7	12	11	5	7	12	2	0	0	0	0	0
6314	<i>Itame varadaria</i>					X	X								
6335	<i>Semiothisa aequiferaria</i>	X				X			X						
6336	<i>Semiothisa distribuaria</i>	X			X			X							
6339	<i>Semiothisa transitaria</i>	X			X			X							
6341	<i>Semiothisa bicolorata</i>	X			X				X						
6357	<i>Semiothisa eremiata</i>	X			X			X							
6405	<i>Semiothisa gnophosaria</i>					X				X					
	<i>Hypomecis umbrosaria/gnopharia cpx.</i>									X					
	<i>Hypomecis longipectinaria</i>									X					
6442	<i>Pimaphera sparsaria</i>			X		X									
6443	<i>Glenoides texanaria</i>			X		X									
6486	<i>Tornos scolopacinarius</i>	X	X		X	X			X						
6580	<i>Iridopsis pergracilis</i>				X				X						
6582	<i>Iridopsis vellivolata</i>		X	X											

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
		RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
6584	<i>Iridopsis humaria</i>				X			X							
6586	<i>Iridopsis defectaria</i>				X			X	X						
6590	<i>Anavitrinella pampinaria</i>	X		X	X	X									
6654	<i>Hypagyrtis unipunctata</i>						X								
6711	<i>Thysanopyga intractata</i>	X			X	X	X		X						
6735	<i>Euchlaena pectinaria</i>			X		X			X						
6743	<i>Xanthotype sospeta</i>					X			X						
6752	<i>Pero zalissaria</i>	X													
6754	<i>Pero hubneraria</i>			X				X		X					
6837.1	<i>Probole nyssaria</i>				X										
6858	<i>Lychnosea intermicata</i>	X													
6966	<i>Eutrapela clemataria</i>	X													
6982	<i>Prochoerodes lineola</i>	X	X	X	X	X	X	X	X	X					
7009	<i>Nematocampa resistaria</i>						X								
<b>Geometrinae</b>		5	0	1	3	1	1	1	1	1	0	0	0	0	0
7029	<i>Nemoria elfa</i>	X							X						
7033	<i>Nemoria lixiaria</i>	X		X	X	X									
7045	<i>Nemoria bifilata</i>	X													
7053	<i>Dichorda iridaria</i>									X					
7059	<i>Synchlora frondaria</i>	X			X		X	X							
7071	<i>Chlorochlamys chloroleucaria</i>	X			X										
<b>Sterrhinae</b>		8	4	5	7	6	3	10	10	2	0	0	0	0	0
7094	<i>Lobocleta ossularia</i>	X	X	X	X	X		X							
7097	<i>Lobocleta plemyraria</i>	X	X	X	X			X	X						
7100	<i>Lobocleta peralbata</i>	X	X			X									
7108	<i>Idaea furciferata</i>	X			X	X			X						
7114	<i>Idaea demissaria</i>	X		X		X	X		X	X					
7119	<i>Idaea micropterata</i>					X									
7120	<i>Idaea violacearia</i>	X		X				X	X						
7122	<i>Idaea tacturata</i>			X	X										
7132	<i>Pleuroprucha insulsaria</i>	X			X	X		X	X						
7136	<i>Cyclophora packardi</i>							X							
	<i>Cyclophora myrtaria</i>							X	X						
7147	<i>Timandra amaturaria</i>						X		X						
7149	<i>Scopula lautaria</i>		X		X		X	X							
7151	<i>Scopula aemulata</i>	X						X	X						
7159	<i>Scopula limboundata</i>				X			X	X						
7173	<i>Leptostales pannaria</i>							X							
7177	<i>Leptostales laevitaria</i>								X						
7181	<i>Lophosis laberculata</i>									X					
<b>Larentiinae</b>		6	1	3	3	3	2	4	4	2	0	0	0	0	0
7196	<i>Eulithis diversilineata</i>	X		X	X	X	X	X	X						
7197	<i>Eulithis gracilineata</i>					X									
7414	<i>Orthonama obstipata</i>	X							X						
7416	<i>Orthonama centrostrigaria</i>	X	X	X	X	X	X	X	X	X					
7440	<i>Eubaphe mendica</i>	X						X	X						
7441	<i>Eubaphe meridiana</i>	X		X	X			X		X					
7474	<i>Eupithecia miserulata</i>	X													
<b>RHOPALOCERA</b>		0	0	0	0	0	0	0	0	0	4	4	9	2	2
<b>HESPERIOIDEA</b>		0	0	0	0	0	0	0	0	0	1	0	4	0	0
<b>HESPERIIDAE</b>		0	0	0	0	0	0	0	0	0	1	0	4	0	0
<b>Pyrginae</b>		0	0	0	0	0	0	0	0	0	0	0	2	0	0
3952	<i>Erynnis horatius</i>												X		
3966	<i>Pyrgus communis</i>												X		
<b>Hesperiinae</b>		0	0	0	0	0	0	0	0	0	1	0	2	0	0



1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
		RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
3998	<i>Lerema accius</i>										X				
4013	<i>Hylephila phyleus</i>												X		
4045	<i>Polites vibex</i>												X		
<b>PAPILIONOIDEA</b>		0	0	0	0	0	0	0	0	0	3	4	5	2	2
<b>PAPLIONIDAE</b>		0	0	0	0	0	0	0	0	0	2	0	0	1	2
4157	<i>Battus philenor</i>													X	X
4176	<i>Papilio glaucus</i>														X
4182	<i>Papilio palamedes</i>										X				
4184	<i>Eurytides marcellus</i>										X				
<b>PIERIDAE</b>		0	0	0	0	0	0	0	0	0	0	0	2	0	0
4237	<i>Eurema lisa</i>												X		
4242	<i>Eurema nicippe</i>												X		
<b>LYCAENIDAE</b>		0	0	0	0	0	0	0	0	0	0	1	1	0	0
4299	<i>Calycopis cecrops</i>											X			
4359	<i>Hemiargus ceraunus</i>												X		
<b>NYMPHALIDAE</b>		0	0	0	0	0	0	0	0	0	1	3	2	1	0
4481	<i>Phyciodes tharos</i>												X		
4573	<i>Cyllopsis gemma</i>											X			
4574	<i>Hermeuptychia hermes</i>											X	X	X	
4576	<i>Neonympha aerolata</i>										X				
4578	<i>Megisto cymela</i>											X			
<b>BOMBYCOIDEA</b>		0	0	2	5	0	0	2	0	1	0	0	0	0	0
<b>LASIOCAMPIDAE</b>		0	0	0	0	0	0	0	0	1	0	0	0	0	0
<b>Macromphaliinae</b>		0	0	0	0	0	0	0	0	1	0	0	0	0	0
7674	<i>Tolype notialis</i>									X					
<b>SATURNIIDAE</b>		0	0	2	5	0	0	2	0	0	0	0	0	0	0
<b>Citheroniinae</b>		0	0	2	2	0	0	2	0	0	0	0	0	0	0
7704	<i>Eacles imperialis</i>			X	X										
7706	<i>Citheronia regalis</i>							X							
7715	<i>Dryocampa rubicunda</i>			X	X										
7723	<i>Anisota virginensis</i>							X							
<b>Hemileucinae</b>		0	0	0	1	0	0	0	0	0	0	0	0	0	0
7746	<i>Automeris io</i>				X										
<b>Saturniinae</b>		0	0	0	2	0	0	0	0	0	0	0	0	0	0
7757	<i>Antheraea polyphemus</i>				X										
7758	<i>Actias luna</i>				X										
<b>SPHINGOIDEA</b>		5	0	0	4	2	0	1	1	0	0	0	0	0	0
<b>SPHINGIDAE</b>		5	0	0	4	2	0	1	1	0	0	0	0	0	0
<b>Sphinginae</b>		2	0	0	2	2	0	1	1	0	0	0	0	0	0
7775	<i>Manduca sexta</i>	X													
7784	<i>Dolba hylaeus</i>				X			X							
7787	<i>Ceratonia undulosa</i>					X									
7789	<i>Ceratonia catalpae</i>					X			X						
7821	<i>Smerinthus jamaicensis</i>	X													
7827	<i>Lathoe juglandis</i>				X										
<b>Macroglossinae</b>		3	0	0	2	0	0	0	0	0	0	0	0	0	0
7865	<i>Eumorpha fasciata</i>	X			X										
7885	<i>Darapsa myron</i>	X			X										
7890	<i>Xylophanes tersa</i>	X													
<b>NOCTUOIDEA</b>		75	13	36	74	45	41	74	41	23	0	0	0	0	0
<b>NOTODONTIDAE</b>		6	1	2	6	5	3	5	2	0	0	0	0	0	0
7903	<i>Datana angusii</i>	X		X	X	X	X	X	X						
7904	<i>Datana drexelii</i>	X			X	X	X	X	X						
7907	<i>Datana integerrima</i>						X								
7983	<i>Heterocampa obliqua</i>	X			X			X							

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
		RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
7990	<i>Heterocampa umbrata</i>	X			X										
7994	<i>Heterocampa guttivitta</i>							X							
7995	<i>Heterocampa biundata</i>					X									
8005	<i>Schizura ipomoeae</i>	X		X	X	X		X							
8007	<i>Schizura unicornis</i>	X				X									
8010	<i>Schizura concinna</i>							X							
8022	<i>Hyparpax aurora</i>		X		X										
<b>NOCTUIDAE</b>		69	12	34	68	40	38	69	39	23	0	0	0	0	0
<b>Arctiinae</b>		4	2	4	4	3	5	6	5	3	0	0	0	0	0
<b>Lithosiini</b>		1	0	2	0	1	2	1	2	1	0	0	0	0	0
8045.1	<i>Crambidia pallida</i>	X		X											
	<i>Crambidia nr. pallida</i>						X	X	X						
8066	<i>Cisthene tenuifascia</i>									X					
8067	<i>Cisthene plumbea</i>								X						
8072	<i>Cisthene packardii</i>			X		X	X								
<b>Arctiini</b>		2	1	2	3	2	2	3	2	1	0	0	0	0	0
8114	<i>Virbia laeta</i>	X	X	X	X	X	X	X	X	X					
8129	<i>Pyrrharctia isabella</i>	X						X							
8131	<i>Estigmene acrea</i>				X										
8137	<i>Spilosoma virginica</i>				X		X	X	X						
	<i>Apantesis nais</i>					X									
	<i>Pygarctia abdominalis</i>			X											
<b>Ctenuchini</b>		1	1	0	1	0	1	2	1	1	0	0	0	0	0
8267	<i>Ciseps fulvicollis</i>	X	X		X		X	X	X	X					
8280	<i>Cosmosoma myodora</i>							X							
<b>Lymantriinae</b>		2	0	1	1	0	1	1	1	0	0	0	0	0	0
8307	<i>Dasychira manto</i>	X													
8313	<i>Orgyia detrita</i>						X		X						
8316	<i>Orgyia leucostigma</i>	X		X	X			X							
<b>Herminiinae</b>		8	1	5	8	4	5	4	3	1	0	0	0	0	0
8322	<i>Idia americalis</i>	X			X	X		X	X						
8323	<i>Idia aemula</i>	X			X			X	X						
8326	<i>Idia rotundalis</i>			X			X								
8334	<i>Idia lubricalis</i>				X	X									
	<i>Zanclognatha sp. nr. lituralis</i>						X								
8357.1	<i>Macrochilo hypocritialis</i> Fgn.	X		X			X		X						
8366	<i>Tetanolita mynesalis</i>	X	X	X											
8368	<i>Tetanolita floridana</i>	X		X	X	X				X					
8370	<i>Bleptina caradrinalis</i>	X			X	X	X								
	<i>Bleptina sangamonica</i>				X										
8381	<i>Renia discoloralis</i>			X											
8386	<i>Renia adspersgillus</i>	X			X										
	<i>Renia sp. nr. adspersgillus</i>							X							
8398	<i>Palthis asopialis</i>	X			X		X	X							
<b>Rivulinae</b>		1	0	0	0	0	1	0	1	0	0	0	0	0	0
8404	<i>Rivula propinqualis</i>	X													
8411	<i>Colobochyla interpuncta</i>						X		X						
<b>Hypenodinae</b>		0	0	1	1	1	2	2	1	2	0	0	0	0	0
	<i>Hypenodes nr. franclemonti</i>						X								
	<i>Dyspyralis new species</i>						X								
8430	<i>Parahypenodes quadralis</i>					X									
8431	<i>Schrankia macula</i>			X				X	X	X					
	<i>Sigella nr. basipunctaria</i>				X			X		X					
<b>Hypeninae</b>		3	1	2	2	1	2	2	1	2	0	0	0	0	0
8442	<i>Hypena baltimoralis</i>	X						X							

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
8444	<i>Hypena palparia</i>				X										
8467	<i>Hemeroplanis scopulepes</i>	X													
8471	<i>Hemeroplanis habitalis</i>	X	X	X	X	X	X	X	X	X					
8481	<i>Phytometra rhodarialis</i> sp. 1			X			X			X					
<b>Catocalinae</b>		18	4	6	17	9	13	19	11	6	0	0	0	0	0
8490	<i>Pangrapta decoralis</i>						X	X		X					
8499	<i>Metalectra discalis</i>	X			X		X	X							
8500	<i>Metalectra quadrisignata</i>						X								
8502	<i>Metalectra tantillus</i>			X			X								
8514	<i>Scolecocampa liburna</i>							X							
8525	<i>Phyprosoropus callitrichoides</i>							X		X					
8528	<i>Hyposoropha hormos</i>								X						
8534	<i>Plusiodonta compressipalpis</i>	X													
8587	<i>Panopoda rufimargo</i>	X													
8601	<i>Melipotis cellaris</i>							X							
8641	<i>Drasteria grandirena</i>							X							
8651	<i>Lesmone detrahens</i>			X	X										
8653	<i>Lesmone hinna</i>					X									
8666	<i>Metria amella</i>		X	X				X							
	<i>Zale coracias</i>	X			X			X							
8717	<i>Zale horrida</i>							X							
	<i>Dysgonia telma</i>				X										
8727	<i>Parallelia bistriaris</i>	X			X										
8728	<i>Cutina albopunctella</i>				X				X						
8729	<i>Cutina distincta</i>								X						
	<i>Cutina arcuata</i> Pogue & Fgn.					X			X						
8733	<i>Caenurgia chloropha</i>	X	X		X	X		X	X						
8744	<i>Mocis marcida</i>	X	X	X	X		X	X							
8747	<i>Celiptera frustulum</i>							X							
8749	<i>Ptichodis vinculum</i>	X				X	X	X		X					
8759	<i>Argyrostroma flavistriaria</i> (=carolina)	X	X	X	X	X	X	X	X	X					
8760	<i>Argyrostroma sylvarum</i>				X		X				X				
8763	<i>Argyrostroma deleta</i>	X			X		X		X	X					
8772	<i>Catocala consors</i>	X			X			X							
8773	<i>Catocala epione</i>	X						X							
8774	<i>Catocala muliercula</i>							X							
8847	<i>Catocala gracilis</i>	X			X		X		X						
8857	<i>Catocala ultronia</i>	X			X		X		X						
8873	<i>Catocala similis</i>	X		X	X	X	X	X		X					
8876	<i>Catocala micronympha</i>								X						
8877	<i>Catocala connubialis</i>	X													
	<i>Catocala amica</i> sp. 1					X									
	<i>Catocala amica</i> sp. 3	X			X										
	<i>Catocala lineella</i> sp. 1					X	X	X							
	<i>Catocala lineella</i> sp. 2								X						
8879	<i>Catocala jair</i>	X			X	X									
<b>Euteliinae</b>		1	0	0	2	0	0	2	0	0	0	0	0	0	0
8955	<i>Marathyssa inficita</i>				X										
8959	<i>Paectes pygmaea</i>							X							
8962	<i>Paectes abrostoloides</i>	X			X			X							
<b>Sarrothripinae</b>		2	0	0	1	3	0	0	2	0	0	0	0	0	0
8102	<i>Afrida ydatodes</i>	X			X	X									
8970	<i>Baileya ophthalmica</i>	X				X			X						
8971	<i>Baileya dormitans</i>					X			X						
<b>Nolinae</b>		1	0	1	0	1	1	0	1	1	0	0	0	0	0

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
		RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
8983.1	<i>Meganola phylla</i>							X	X						
8991	<i>Nola cereella</i>	X		X		X	X								
<b>Eustrotinae</b>		2	1	3	5	3	2	3	5	2	0	0	0	0	
	<i>Tripudia nr. inquaesita</i>								X						
9009	<i>Tripudia flavofasciata</i>				X				X						
9030	<i>Ozarba aerea</i>	X													
9033	<i>Ozarba nebula</i>				X				X						
9035?	<i>Hyperstrotia nana</i>						X								
9038	<i>Hyperstrotia villificans</i>					X									
9039	<i>Hyperstrotia flaviguttata</i>		X	X	X	X	X	X	X	X					
9040	<i>Hyperstrotia secta</i>				X			X		X					
9044	<i>Thioptera nigrofimbria</i>	X		X	X	X		X	X						
9069	<i>Amyna bullula</i>			X											
<b>Condicinae</b>		4	1	1	5	0	1	3	1	1	0	0	0	0	
9690	<i>Condica videns</i>		X	X	X										
9693	<i>Condica mobilis</i>				X										
9696	<i>Condica vecors</i>	X						X							
9699	<i>Condica sutor</i>	X			X			X							
9700	<i>Condica cervina</i>	X			X										
9720	<i>Ogdoconta cinereola</i>	X			X			X							
9057	<i>Homophoberia apicosa</i>						X		X	X					
<b>Plusiinae</b>		2	0	0	1	0	0	0	0	0	0	0	0	0	
8886	<i>Enigmogramma basigera</i>	X			X										
8889	<i>Ctenoplusia oxygramma</i>	X													
<b>Acontiinae</b>		2	2	3	3	3	2	4	2	0	0	0	0	0	
9076	<i>Eumicremma minima</i>			X	X		X	X							
9085	<i>Tarachidia semiflava</i>	X	X	X	X	X	X	X	X						
9090	<i>Tarachidia candefacta</i>	X	X	X	X			X	X						
9127	<i>Spragueia leo</i>					X									
9131	<i>Spragueia apicalis</i>					X									
9136	<i>Acontia aprica</i>							X							
<b>Amphipyriinae</b>		1	0	0	1	0	0	1	0	0	0	0	0	0	
9619	<i>Phosphila miselioides</i>	X			X			X							
<b>Eriopinae</b>		2	0	1	2	0	0	3	1	1	0	0	0	0	
9631	<i>Callopietria mollissima</i>				X			X	X	X					
9632	<i>Callopietria granitosa</i>	X		X	X			X							
9633	<i>Callopietria cordata</i>	X						X							
<b>Azeninae</b>		0	0	0	0	1	0	1	0	1	0	0	0	0	
9725	<i>Azenia obtusa</i>					X		X		X					
<b>Heliothinae</b>		0	0	0	0	0	0	1	0	0	0	0	0	0	
11068	<i>Helicoverpa zea</i>							X							
<b>Agaristinae</b>		0	0	0	1	0	0	0	0	0	0	0	0	0	
9299	<i>Eudryas unio</i>				X										
<b>Acronictinae</b>		3	0	1	2	1	0	3	2	2	0	0	0	0	
9208	<i>Acronicta betulae</i>								X						
9255	<i>Acronicta brumosa</i>	X													
9264	<i>Acronicta longa</i>							X							
9272	<i>Acronicta oblinata</i>									X					
9280a	<i>Simyra henrici</i> cpx. sp. A	X			X			X		X					
9285	<i>Polygrammate hebraeicum</i>	X		X	X	X		X	X						
<b>Noctuidae</b>		13	0	5	12	10	3	14	2	1	0	0	0	0	
	Apameini new sp. 3							X							
9522	<i>Iodopepla u-album</i>	X		X	X	X	X	X	X	X					
9556	<i>Chytonix palliatricula</i>					X									
9582	<i>Nedra ramosula</i>							X							

**Table 3: Lepidoptera Species Inventory Data from MV Sheet, UV Trap, and Diurnal Samples**

1-3 June 2008		MV Sheet and UV Trap Records									Diurnal Records				
		TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
		RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS
		1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun
		08	08	08	08	08	08	08	08	08	08	08	08	08	08
		MV1	T1	T2	MV1	T3	T4	MV1	T5	T6	D1	D2	D4	D3	D5
9629	<i>Fagitana littera</i>	X		X			X								
9665	<i>Spodoptera exigua</i>				X										
9666	<i>Spodoptera frugiperda</i>	X													
9669	<i>Spodoptera ornithogalli</i>				X	X		X							
9670	<i>Spodoptera latifascia</i>	X													
9676	<i>Elaphria nucicolora</i>	X													
9679	<i>Elaphria chalcedonia</i>	X			X			X							
9682	<i>Elaphria exesa</i>							X							
9688	<i>Galgula partita</i>	X			X	X		X							
9689	<i>Perigea xanthioides</i>				X	X									
9818	<i>Amolita fessa</i>	X		X											
10033	<i>Catabena lineolata</i>							X							
10439	<i>Leucania extincta</i>	X			X		X	X							
10440	<i>Leucania linita</i> sp. 1 (dark)							X							
10454	<i>Leucania latiuscula</i>				X										
	<i>Leucania subpuncta</i> (Harv.)				X	X		X							
10455	<i>Leucania scirpicola</i>	X			X			X							
10456	<i>Leucania adjuta</i>					X		X	X						
10585	<i>Orthodes crenulata</i>				X										
10664	<i>Agrotis subterranea</i>	X				X									
	<i>Euagrotis lubricans</i> complex	X		X	X	X		X							
	<i>Euagrotis</i> sp.			X											
10911	<i>Anicla infecta</i>	X				X									

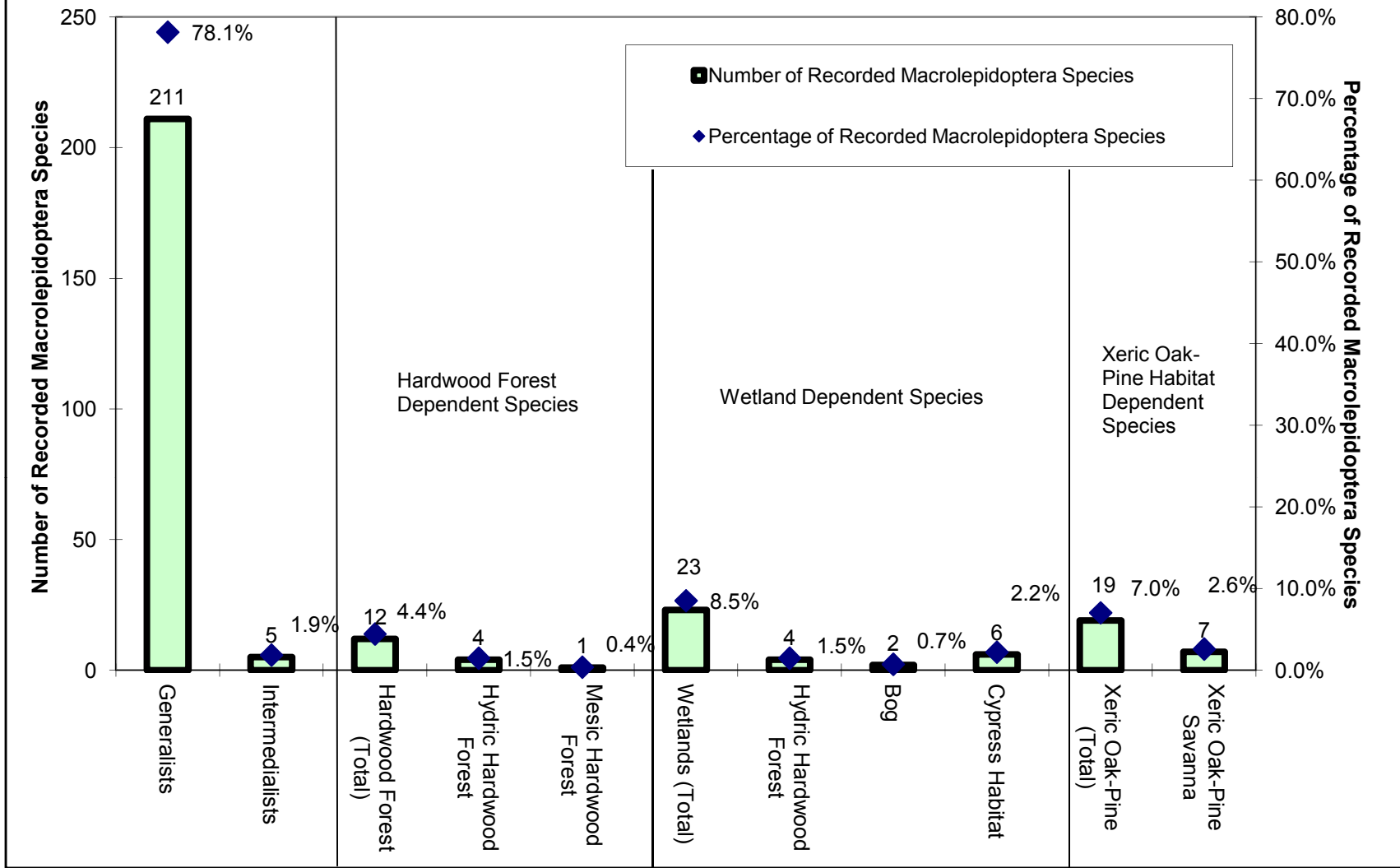
Table 4: Lepidoptera Inventory Data from Bait Trap Samples from 1-3 June 2008 at the Roy Larsen Sandylands Preserve

	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	
	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	RLS	
	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun	3 Jun
	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08
	btp1	btp2	btp3	btp4	btp5	btp6	btp7	btp7	btp8	btp10	btp11	btp12	btp13	btp14	btp16	btp7	btp11	btp12	btp13	btp14	btp15	btp16	btp17	btp18	btp19	btp20		
<b>Minimum total for included families</b>	3	2	1	1	4	2	1	2	1	1	1	12	5	5	5	1	6	4	3	3	7	5	1	6	6	7		
<b>SESIIDAE</b>	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0		
2575 <i>Synanthedon arkansasensis</i>												X		X						X	X							
<b>MACROLEPIDOPTERA</b>	3	2	1	1	4	2	1	2	1	1	1	11	5	4	5	1	6	4	3	2	6	5	1	6	6	7		
<b>GEOMETROIDEA</b>	1	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0		
<b>GEOMETRIDAE</b>	1	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0		
<b>Ennominae</b>	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6735 <i>Euchlaena pectinaria</i>	X			X	X																							
<b>Sterrhinae</b>	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0		
7114 <i>Idaea demissaria</i>												X	X											X				
7118 <i>Idaea hillia</i>																					X							
<b>RHOPALOCERA</b>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0		
<b>PAPILIONOIDEA</b>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0		
<b>NYMPHALIDAE</b>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0		
4420 <i>Polygonia interrogationis</i>																						X						
4554 <i>Anaea andria</i>								X																				
4557 <i>Astereocampa celtis</i>																						X						
4562.1 <i>Astereocampa clyton</i>																						X						
4574 <i>Hermeuptychia hermes</i>																	X											
4578 <i>Megisto cymela</i>																						X						
<b>SPHINGOIDEA</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1		
<b>SPHINGIDAE</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1		
<b>Macroglossinae</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1		
7873 <i>Amphion floridensis</i>																											X	
7885 <i>Darapsa myron</i>		X																				X						
<b>NOCTUOIDEA</b>	2	1	1	0	3	2	1	1	1	1	1	10	4	4	5	1	5	4	3	2	4	1	1	5	6	6		
<b>NOCTUIDAE</b>	2	1	1	0	3	2	1	1	1	1	1	10	4	4	5	1	5	4	3	2	4	1	1	5	6	6		
<b>Hermiinae</b>	2	1	1	0	2	1	0	0	0	1	0	3	2	2	4	0	1	3	1	2	1	1	0	1	3	2		
8322 <i>Idia americalis</i>												X		X	X				X					X	X	X		
8323 <i>Idia aemula</i>	X				X	X				X		X	X	X	X		X	X	X	X	X	X			X			
8326 <i>Idia rotundalis</i>												X																
8333 <i>Idia denticularis</i>																						X						
8334 <i>Idia lubricalis</i>	X	X	X		X								X		X			X							X	X		
<b>Catocalinae</b>	0	0	0	0	1	1	1	1	0	0	1	5	1	2	1	1	4	1	2	0	2	0	1	4	3	2		
8666 <i>Metria amella</i>																								X				
<i>Zale coracias</i>																										X		
8717 <i>Zale horrida</i>												X												X	X			
8729 <i>Cutina distincta</i>												X																
<i>Cutina arcuata</i> Pogue & Fgn.																					X			X	X			
<i>Cutina aluticolor</i> Pogue & Fgn.												X			X						X				X			
8744 <i>Mocis marcida</i>						X																						
8749 <i>Ptichodis vinculum</i>													X															
8772 <i>Catocala consors</i>					X		X	X			X			X		X	X	X	X					X				

Table 4: Lepidoptera Inventory Data from Bait Trap Samples from 1-3 June 2008 at the Roy Larsen Sandylands Preserve

	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS	TX RLS																															
																														1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	1 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun	2 Jun
																														08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08	08
																														btp1	btp2	btp3	btp4	btp5	btp6	btp7	btp7	btp8	btp10	btp11	btp12	btp13	btp14	btp16	btp7	btp11	btp12	btp13	btp14	btp15	btp16	btp17	btp18	btp19	btp20					
8773	<i>Catocala epione</i>																	X											X																															
8857	<i>Catocala ultronia</i>											X																																																
8858	<i>Catocala crataegi</i> cpx.											X																																																
8868	<i>Catocala titania</i>																		X																																									
	<i>Catocala amica</i> sp. 1																	X																																										
	<i>Catocala amica</i> sp. 3													X						X							X																																	
<b>Nolinae</b>		0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1																															
8983.1	<i>Meganola phylla</i>											X	X																X																															
<b>Condicinae</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1																																
9057	<i>Homophoberia apicosa</i>																					X							X																															
<b>Eriopinae</b>		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
9631	<i>Callopietria mollissima</i>											X																																																
<b>Acronictinae</b>		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																
9272	<i>Acronicta oblinata</i>								X																																																			

**Figure 1: Number and Percentage of Macrolepidoptera Species Recorded from 1-3 June 2008 with Different Types of Habitat Dependency**





**Figure 2: Number and Percentage of Total Macrolepidoptera Species Recorded with Different Types of Habitat Dependency**

