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A Survey of the Beetles (Insecta: Coleoptera) in Several Natural Areas Across Indiana, U.S.A.

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Abstract

Over the past decade a survey of the beetle (Insecta: Coleoptera) fauna of several managed parks and natural areas across the state of Indiana, USA, was undertaken. These areas represent many of the habitat types present in Indiana, including forests, grassland, freshwater streams, and wetlands, as well as more unique habitats found in limited areas of the state such as sand dunes and cypress swamps. The specific localities are: Indiana Dunes State Park, Kankakee Sands, Ross Hills Park, Shades State Park, Muscatatuck National Wildlife Refuge, and Twin Swamps Nature Preserve. Beetles were surveyed using a variety of active and passive collecting techniques and specimens were then identified to the lowest possible level, often by world authorities for each group. Results are given as numbers of families, genera, and species for each property, in addition to a total combined species list summarizing all the efforts presented. A total of 1,328 species from these six nature preserves is recorded.

Keywords: Inventory, sampling, species list, biodiversity

Beetles (Insecta: Coleoptera) are found across the globe and are currently considered the most speciose lineage of described life (Stork et al. 2015). This ubiquity and diversity results in beetles operating as ecologically important members of most terrestrial ecosystems (Farrell 1998). Understanding the beetle fauna of a given area, especially over time can have implications for conservation, community ecology, and ecosystem processes. Extensive surveys of this important clade can help form the foundation for this understanding. The first large-scale survey of beetles for Indiana, USA was reported by Blatchley (1910) and recorded 2,535 species of Coleoptera (exclusive of the Curculionoidea) from the state, adding that an additional 777 were likely to occur there. Blatchley and Leng (1916) provided records for 1,084 species of Curculionoidea from the northeastern United States. Of these, 419 were Indiana records, and they stated an additional 146 were likely to be found there. This totals 2,954 species of Coleoptera in 69 families recorded from Indiana, with an additional 923 considered likely to be found in the state. Regionally, Downie and Arnett (1996) provide numbers and coarse state-level presence data for the northeastern United States, presenting 7,356 species in 101 beetle families. Recent surveys for Coleoptera, focused on several natural areas across

the state, have culminated in preliminary species lists for each property and added to historic lists for the state. The specific localities from north to south are: Indiana Dunes State Park, Kankakee Sands, Ross Hills Park, Shades State Park, Muscatatuck National Wildlife Refuge, and Twin Swamps Nature Preserve (Fig. 1). It has been over 100 years since Blatchley's (1910) original list, and it is hoped that this inventory will act as the first step towards an updated checklist of the Coleoptera of Indiana.

Materials and Methods

Sampling techniques. Most field collecting was conducted from April through September, however some focused winter collecting and trapping was also done. Specimens were collected using a variety of active and passive collecting techniques including (approximately ordered from most utilized method to least): mercury vapor and black lights; Lindgren funnel traps (Lindgren 1983); sweeping; beating; visually searching on flowers, foliage, fungi, and feces; fermenting sugar traps (Powell 2015); purple sticky traps (Francese et al. 2005, Petrice and Haack 2015); rock and log flipping; rearing from wood (Ferro and Carlton 2011); Berlese funnels (Berlese 1905); barrier pitfalls (Hansen and New 2005); dung pitfalls;



Figure 1. Map with each sampling site marked with a black diamond. Numbered from North to South the properties are: 1) Indiana Dunes State Park. 2) Kankakee Sands. 3) Ross Hills Park. 4) Shades State Park. 5) Muscatatuck National Wildlife Refuge. 6) Twin Swamps Nature Preserve.

carion pitfalls; aquatic dip netting; vinegar boats (Powell 2015); and yellow sticky cards (Toshova et al. 2017).

Sampling sites. Indiana Dunes State Park (Fig. 2) is located in Porter County, in extreme northwestern Indiana. It was opened in 1925 and consists of 2,182 acres (IDNR 2020a). An additional 15,000 acres belonging to the Indiana Dunes National Park surround Dunes State Park, further providing habitat preservation and connectivity. With significant pressure on natural lands for housing and industrial uses, this preserve provides a refuge for this unique lakeshore environment found nowhere else in the state. With dunes, forests, marshes, and other herbaceous wetlands, the Dunes

host significant plant diversity, containing more than 1,300 species of flowering plants and ferns (Peattie 1930). This diversity provides hosts for many species of beetle, some of which may not be found elsewhere in the state. Surveying of the Dunes State Park began in 2012 and concluded in 2016.

Kankakee Sands is located in Newton County, Indiana, and contains many parcels belonging to both The Nature Conservancy (TNC) and the Indiana Department of Natural Resources (IDNR). Together, these lands preserve over 20,000 acres of unique sand prairies, sand blows, meadows, wetlands, and black oak savannas (Fig. 3). Historically, land that is now the Kankakee Sands was a part of Beaver Lake, the largest lake in Indi-



Figure 2. Habitat of the Indiana Dunes State Park with grassland, mixed deciduous and evergreen forest, open sand, and Lake Michigan in the background.

ana until it was drained. After this lake and marshland were drained, agriculture dominated the area until 1949 when the IDNR began land acquisition for Willow Slough (IDNR 2020d), and in 1996 when The Nature Conservancy purchased and began restoring much of the prairie land (The Nature Conservancy 2020). On July 20–21, 2012 a BioBlitz was conducted to record species occurring in this unique ecosystem, the bulk of species reported here were collected during this event. Additional trapping and active collecting at the site were done by Powell et al. (2017) as part of a survey for beetles associated with pocket gophers, *Geomys bursarius* (Shaw), a species of special concern in Indiana.

Ross Hills Park is a county park located in Tippecanoe County, Indiana and consists of 169 acres. Land that would become the park was bought by David Ross and used as a surveying camp by Purdue University until 1960. It was then used as a 4-H Leadership Center until 1992 when it became a public park (Tippecanoe County Park & Recreation Department 2020). Ross Hills is located in the Wabash River Valley, having springs and significant relief, unusual for the typically flat glacial till of northern Indiana.

Dominant trees include hickory (*Carya* sp.), hackberry (*Celtis occidentalis* Linnaeus), dogwood (*Cornus* sp.), black walnut (*Juglans nigra* Linnaeus), cottonwood (*Populus deltoides* W. Bartram ex Marshall), white oak (*Quercus alba* Linnaeus), and tulip tree (*Liriodendron tulipifera* Linnaeus). Surveying of Ross Hills Park began in 2007 and concluded in 2017.

Shades State Park (Fig. 4) is located in Fountain, Montgomery, and Parke counties, Indiana and was established in 1947. The park consists of 3,541 acres (IDNR 2020b) and contains unique geologic features not seen in most of central Indiana, including steep ravines, slate and sandstone valleys, and waterfalls. This park, along with Turkey Run State Park and the forested corridor along Sugar Creek, is the largest contiguous forest remaining in the Central Till Plain Region of Indiana (Scott 2009). Much of Shades is composed of a mature beech (*Fagus grandifolia* Ehrhart) and sugar maple (*Acer saccharum* Marshall) forest and contains relictual populations of eastern hemlock (*Tsuga canadensis* (Linnaeus) Carrière), eastern white pine (*Pinus strobus* Linnaeus), and Canada yew (*Taxus canadensis*



Figure 3. Habitat at Kankakee Sands illustrating a section of black oak savanna.

Marshall). Other dominant tree and shrub species include: flowering dogwood (*Cornus florida* Linnaeus), leatherwood (*Dirca palustris* Linnaeus), witch-hazel (*Hamamelis virginiana* Linnaeus), spicebush (*Lindera benzoin* (Linnaeus) Blume), tulip tree (*L. tulipifera*), white oak (*Q. alba*), American sycamore (*Platanus occidentalis* Linnaeus), and American elm (*Ulmus americana* Linnaeus) (McCormick 1962). Surveying of Shades State Park began in 2011 and concluded in 2016.

Muscatatuck National Wildlife Refuge is located in Jackson and Jennings Counties, in south-central Indiana. This refuge consists of 7,724 acres and was established in 1966 with the mission to restore forests, wetlands, and grasslands (U.S. Fish & Wildlife Service 2020). Approximately 70% of the Refuge is covered by wet, bottomland forest, with the remainder consisting of wetlands and grasslands. Historically, 86% of wetlands in Indiana have been drained, making the marshes and wetlands of Muscatatuck an important resource for wildlife. Surveying of Muscatatuck began in 2011 and concluded in 2013.

Twin Swamps Nature Preserve is located in Posey County, in extreme south-western Indiana. Land that would become the Preserve was set aside and had a dedication ceremony in 1987 and officially opened in 1996. The site consists of two swamps, one dominated by bald cypress (*Taxodium distichum* (Linnaeus) Richard) and the other overcup oak (*Quercus lyrata* Walter) and contains 568 acres (IDNR 2020c). Both of these tree species reach their northern terminus in southwestern Indiana, making this swamp habitat unique for the state. Surveying of Twin Swamps began in 2015 and concluded in 2017.

Specimen preservation and vouchering. Most specimens were collected into 70% ethanol until they were able to be processed and pinned. Only adults were taken for the purpose of these surveys.

Specimens are deposited in the following collections:

FMNH—Field Museum of Natural History, Chicago, IL, USA

FSCA—Florida State Collection of Arthropods, Gainesville, FL, USA



Figure 4. Habitat along Sugar Creek in Shades State Park.

GSPC—Gareth S. Powell Collection,
Nephi, UT, USA

KESC—Kyle E. Schnepp Collection,
Gainesville, FL, USA

PERC—Purdue Entomological Re-
search Collection, West Lafayette, IN, USA

RMBC—R. Michael Brattain Collection,
Lafayette, IN, USA

Results and Discussion

Final numbers of species, genera, and families for the survey efforts across the state and for each individual site are provided in Table 1, and summarized in Table 2. In total, we report 1,328 species representing 794 genera currently classified into 94 distinct families of Coleoptera from the six properties. These totals fall just under 45% of the total number of species previously reported from the state (Blatchley 1910, Blatchley and Leng 1916). We report a family increase from 69 to 94, although often this is the result of classification changes that have occurred over the last century.

Specific numbers are also provided for each included property (Table 2). Species richness was highest in Shades State Park

(628), followed by Ross Hills Park (494) and Indiana Dunes State Park (490). These three sites represent by far the most sampling effort and, while both Shades and Indiana Dunes are certainly ecologically diverse and include many diverse habitats and flora, comparing these numbers between sites remains limited as sampling efforts were not equal. We report 305 species for Kankakee Sands which were mainly the results of a single weekend BioBlitz and targeted sampling for beetles associated with the Plains Pocket Gopher. Despite significantly less collecting effort, over three hundred species represent a significant amount of biodiversity for the property. The last two sites were sampled for fewer years than the others; we report 180 species from Muscatatuck National Wildlife Refuge and 56 species from Twin Swamps Nature Preserve. Generic diversity followed a very similar pattern to species and is also reported in Table 2. Family numbers are also summarized, although do not follow the exact same pattern as other taxonomic ranks. Shades remains the most diverse with 75 families but is followed closely by Ross Hills Park with 73.

Some interesting patterns emerge when the lists are compared. Only two spe-

Table 1. List of taxa resulting from sampling efforts across the state of Indiana. Presence data is given by locality with an “X” for the six properties surveyed.

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.	
Aderidae	<i>Aderus</i>	<i>brunneipennis</i>	(LeConte, 1875)			X				
	<i>Elonus</i>	<i>basalis</i>	(LeConte, 1855)		X	X				
	<i>Emelinus</i>	<i>melshimeri</i>	(LeConte, 1855)			X				
	<i>Zonantes</i>	<i>subfasciatus</i>	(LeConte, 1875)	X		X				
	<i>Bystus</i>	<i>ulkei</i>	(Crotch, 1873)					X		
	Anamorphidae	<i>Amblyderus</i>	<i>granularius</i>	(LeConte, 1850)		X				
		<i>Amblyderus</i>	<i>pallens</i>	(LeConte, 1850)		X	X	X		
		<i>Anthicus</i>	<i>cervinus</i>	LaFerté-Sénéctère, 1849		X	X			
		<i>Anthicus</i>	<i>ephippium</i>	LaFerté-Sénéctère, 1849		X	X			
		<i>Ischyropalpus</i>	<i>sturmi</i>	(LaFerté-Sénéctère, 1849)		X				
<i>Macratrìa</i>		<i>murina</i>	(Fabricius, 1801)			X				
<i>Malporus</i>		<i>cinctus</i>	(Say, 1823)			X				
<i>Malporus</i>		<i>formicarius</i>	(LaFerté-Sénéctère, 1849)	X	X	X	X			
<i>Mecynotarsus</i>		<i>candidus</i>	LeConte, 1875		X	X	X			
<i>Notoxus</i>		<i>desertus</i>	Casey, 1895		X	X	X			
Anthribidae	<i>Notoxus</i>	<i>murinipennis</i>	LeConte, 1851			X				
	<i>Omonadus</i>	<i>floralis</i>	(Linnaeus, 1758)		X					
	<i>Retocomus</i>	<i>wildii</i>	(LeConte, 1855)	X		X				
	<i>Sapintus</i>	<i>pubescens</i>	(LaFerté-Sénéctère, 1849)	X						
	<i>Stereopalpus</i>	<i>mellyi</i>	LaFerté-Sénéctère, 1846		X					
	<i>Stereopalpus</i>	<i>vestitus</i>	(Say, 1824)		X	X				
	<i>Striticollis</i>	<i>tobias</i>	(Marseul, 1879)	X	X					
	<i>Allandrus</i>	<i>bifasciatus</i>	LeConte, 1876		X	X				
	<i>Euparius</i>	<i>marmoreus</i>	(Olivier, 1795)	X	X	X	X			
	<i>Eurymycter</i>	<i>fasciatus</i>	(Olivier, 1795)	X	X					
Artematopodidae	<i>Megacerus</i>	<i>discoideus</i>	(Say, 1824)	X	X					
	<i>Piesocorynus</i>	<i>mixtus</i>	LeConte, 1876	X	X					
	<i>Piesocorynus</i>	<i>plagifer</i>	Jordon, 1904	X						
	<i>Eurypogon</i>	<i>harrisi</i>	(Westwood, 1862)			X				
	<i>Eurypogon</i>	<i>niger</i>	(Melsheimer, 1846)			X				
	<i>Eugnampthus</i>	<i>angustatus</i>	(Herbst, 1797)			X				
	<i>Synolabus</i>	<i>nigripes</i>	(LeConte, 1824)				X			
	<i>Amphicerus</i>	<i>bicaudatus</i>	(Fabricius, 1787)		X	X				

2021

THE GREAT LAKES ENTOMOLOGIST

149

	<i>Lichenophanes</i>									
	<i>Lichenophanes</i>	<i>bicornis</i>	(Weber, 1801)	X						
	<i>Prostephanus</i>	<i>truncaticollis</i>	(LeConte, 1866)	X						
	<i>Scobicia</i>	<i>punctatus</i>	(Say, 1826)	X						
	<i>Xylobius</i>	<i>bidentata</i>	(Horn, 1878)							
	<i>Bothrideres</i>	<i>basilaris</i>	(Say, 1824)	X					X	
Bothrideridae	<i>Grypus</i>	<i>geminatus</i>	(Say, 1826)	X					X	
Brachyceridae	<i>Notaris</i>	<i>equiseti</i>	(Fabricius, 1775)	X					X	
	<i>Tanyshphynus</i>	<i>puncticollis</i>	(LeConte, 1876)	X					X	X
Brentidae	<i>Arrhenodes</i>	<i>lemnae</i>	(Fabricius, 1792)	X					X	X
	<i>Ithyercus</i>	<i>minutus</i>	(Drury, 1770)	X					X	
Buprestidae	<i>Acmacodera</i>	<i>noveboracensis</i>	(Forster, 1771)	X					X	
	<i>Agriaxia</i>	<i>pulchella</i>	(Herbst, 1801)						X	X
	<i>Agritus</i>	<i>flavimana</i>	(Gory, 1841)		X				X	
	<i>Agritus</i>	<i>bilineatus</i>	(Weber, 1801)		X				X	
	<i>Agritus</i>	<i>celti</i>	(Knull, 1920)		X				X	
	<i>Agritus</i>	<i>crimicomis</i>	(Horn, 1891)	X					X	
	<i>Agritus</i>	<i>defectus</i>	(LeConte, 1860)		X				X	
	<i>Agritus</i>	<i>geminatus</i>	(Say, 1823)		X				X	
	<i>Agritus</i>	<i>masculinus</i>	(Horn, 1891)	X					X	
	<i>Agritus</i>	<i>obsolotoguttata</i>	(Gory, 1841)	X					X	
	<i>Agritus</i>	<i>ohioensis</i>	(Knull, 1951)	X					X	
	<i>Agritus</i>	<i>otiosus</i>	(Say, 1833)	X					X	
	<i>Agritus</i>	<i>planipennis</i>	(Fairmaire, 1888)		X				X	
	<i>Agritus</i>	<i>pseudocoryli</i>	(Fisher, 1928)		X				X	
	<i>Agritus</i>	<i>putillus</i>	(Say, 1833)	X					X	
	<i>Agritus</i>	<i>quadriguttatus</i>	(Gory, 1841)		X				X	
	<i>Agritus</i>	<i>ruficollis</i>	(Fabricius, 1787)		X				X	
	<i>Agritus</i>	<i>subcinctus</i>	(Gory, 1841)		X				X	
	<i>Anthaxia</i>	<i>quercata</i>	(Fabricius, 1801)		X				X	
	<i>Brachys</i>	<i>aerosus</i>	(Melsheimer, 1845)		X				X	
	<i>Brachys</i>	<i>ovatus</i>	(Weber, 1801)		X				X	
	<i>Buprestis</i>	<i>maculipennis</i>	(Gory, 1840)		X				X	
	<i>Buprestis</i>	<i>rufipes</i>	(Olivier, 1790)		X				X	
	<i>Buprestis</i>	<i>striata</i>	(Fabricius, 1775)		X				X	
	<i>Chalcophora</i>	<i>liberta</i>	(Germar, 1824)		X				X	
	<i>Chalcophora</i>	<i>virginiensis</i>	(Drury, 1770)		X				X	
	<i>Chrysobothris</i>	<i>azurea</i>	(LeConte, 1857)		X				X	
	<i>Chrysobothris</i>	<i>rotundicollis</i>	(Gory and Laporte, 1837)		X				X	

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.	
Buprestidae (cont.)	<i>Dicerca</i>	<i>divaricata</i>	(Say, 1823)		X					
	<i>Dicerca</i>	<i>punctulata</i>	(Schönherr, 1817)		X			X	X	
	<i>Pachyschelus</i>	<i>laevigatus</i>	(Say, 1833)			X	X			
	<i>Pachyschelus</i>	<i>purpureus</i>	(Say, 1833)	X						
	<i>Poecilomota</i>	<i>cyanipes</i>	(Say, 1823)		X					
	<i>Poecilomota</i>	<i>ferrea</i>	(Melsheimer, 1845)		X			X	X	
	<i>Taphrocerus</i>	<i>nicolayi</i>	Obenberger, 1924			X				
	<i>Taphrocerus</i>	<i>schaefferi</i>	Nicolay and Weiss, 1920							
	<i>Texania</i>	<i>campestris</i>	(Say, 1823)	X						
	<i>Cytilus</i>	<i>alternatus</i>	(Say, 1825)		X					
	<i>Byturus</i>	<i>unicolor</i>	Say, 1823		X	X		X		
	Callirhipidae	<i>Zenoa</i>	<i>picea</i>	(Beauvois, 1806)	X		X		X	
	Cantharidae	<i>Atalantycha</i>	<i>bilineata</i>	Say, 1823			X		X	
		<i>Atalantycha</i>	<i>neglecta</i>	(Fall, 1919)			X		X	
		<i>Chaulioognathus</i>	<i>marginatus</i>	(Fabricius, 1775)				X	X	X
<i>Chaulioognathus</i>		<i>pennsylvanicus</i>	(DeGeer, 1774)		X		X	X	X	
<i>Ditemnus</i>		<i>latilobus</i>	(Blatchley, 1910)					X		
<i>Podabrus</i>		<i>flavicollis</i>	LeConte, 1851			X		X		
<i>Podabrus</i>		<i>rugulosus</i>	LeConte, 1850			X		X		
<i>Podabrus</i>		<i>tomentosus</i>	(Say, 1825)	X						
<i>Polematus</i>		<i>limbatus</i>	LeConte, 1851				X			
<i>Acupalpus</i>		<i>testaceus</i>	Dejean, 1829		X			X		
<i>Agonoleptus</i>		<i>conjunctus</i>	(Say, 1823)		X					
<i>Agonum</i>		<i>extensicolle</i>	(Say, 1823)	X				X		
<i>Agonum</i>		<i>harrisii</i>	LeConte, 1846							
<i>Amara</i>		<i>angustata</i>	(Say, 1823)		X					
<i>Amara</i>		<i>cupreolata</i>	Putzeys, 1866		X					
<i>Amara</i>	<i>exarata</i>	Dejean, 1828	X							
<i>Amara</i>	<i>laticor</i>	(Kirby, 1837)		X						
<i>Amara</i>	<i>musculis</i>	(Say, 1823)		X						
<i>Amara</i>	<i>pennsylvanica</i>	Hayward, 1908	X	X						
<i>Amphasia</i>	<i>interstitialis</i>	(Say, 1823)	X	X	X					
<i>Amphasia</i>	<i>sericea</i>	(Harris, 1828)		X	X			X		
<i>Anisodactylus</i>	<i>discoideus</i>	Dejean, 1831	X	X	X					

<i>Anisodactylus kirbyi</i>	Lindroth, 1953	X							
<i>Anisodactylus merula</i>	(Germar, 1824)	X							
<i>Anisodactylus ovularis</i>	(Casey, 1914)	X							
<i>Anisodactylus sanctaerucis</i>	(Fabricius, 1798)	X							X
<i>Apenes lucidula</i>	(Dejean, 1831)	X							
<i>Apristus latens</i>	(LeConte, 1846)	X							
<i>Badister maculatus</i>	LeConte, 1853	X							
<i>Badister neopulchellus</i>	Lindroth, 1954	X							
<i>Bembidion affine</i>	Say, 1823	X							
<i>Bembidion carinula</i>	Chaudoir, 1868	X							
<i>Bembidion confusum</i>	Hayward, 1897	X							
<i>Bembidion impotens</i>	Casey, 1918	X							
<i>Bembidion lacunarium</i>	(Zimmermann, 1869)	X							
<i>Brachinus alternans</i>	Dejean, 1825								X
<i>Brachinus fumans</i>	(Fabricius, 1781)								X
<i>Bradycellus badipennis</i>	(Haldeman, 1843)	X							
<i>Bradycellus rupestris</i>	(Say, 1823)	X							
<i>Callaida punctata</i>	LeConte, 1846	X							
<i>Calosoma scrutator</i>	(Fabricius, 1775)	X							
<i>Calosoma calidum</i>	(Fabricius, 1775)	X							
<i>Calosoma externum</i>	(Say, 1825)	X							
<i>Calosoma wilcoxi</i>	LeConte, 1847	X							
<i>Carabus serratus</i>	Say, 1823	X							
<i>Chlaenius erythropus</i>	Germar, 1824	X							X
<i>Chlaenius lithophilus</i>	Say, 1823	X							
<i>Chlaenius nemoralis</i>	Say, 1823	X							
<i>Chlaenius pennsylvanicus</i>	Say, 1823	X							X
<i>Chlaenius platyderus</i>	Chaudoir, 1856	X							
<i>Chlaenius pusillus</i>	Say, 1823	X							
<i>Chlaenius sericeus</i>	(Forster, 1771)	X							
<i>Chlaenius tomentosus</i>	(Say, 1823)	X							
<i>Chlaenius tricolor</i>	Dejean, 1826	X							X
<i>Cicindela formosa</i>	Say, 1817	X							X
<i>Cicindela formosa generosa</i>	Dejean, 1831	X							X
<i>Cicindela hirticollis</i>	Say, 1817	X							X
<i>Cicindela punctulata</i>	(Olivier, 1790)	X							X
<i>Cicindela repanda</i>	Dejean, 1825	X							X
<i>Cicindela scutellaris</i>	Say, 1823	X							X

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatuck N.W.R.	Twin Swamps N.P.
Carabidae (cont.)	<i>Cicindela</i>	<i>sexguttata</i>	Fabricius, 1775	X	X	X		X	X
	<i>Cicindela</i>	<i>unipunctata</i>	(Fabricius, 1775)						X
	<i>Cicindelidia</i>	<i>punctulata</i>	(Olivier, 1790)	X	X	X			
	<i>Cicindelidia</i>	<i>rufiventris</i>	(Dejean, 1825)					X	
	<i>Clivina</i>	<i>americana</i>	Dejean, 1831		X	X		X	
	<i>Clivina</i>	<i>dentipes</i>	Dejean, 1825		X	X		X	
	<i>Clivina</i>	<i>impressifrons</i>	LeConte, 1844	X					
	<i>Clivina</i>	<i>pallida</i>	Say, 1823	X					
	<i>Clivina</i>	<i>punctigera</i>	LeConte, 1857	X		X		X	
	<i>Colliuris</i>	<i>pensylvanicus</i>	(Linnaeus, 1758)						
	<i>Coptodera</i>	<i>aerata</i>	Dejean, 1825				X		
	<i>Crataeanthus</i>	<i>dubius</i>	(Beauvois, 1811)		X		X		
	<i>Cyclotrachelus</i>	<i>sodalis</i>	(LeConte, 1846)	X					
	<i>Cymindis</i>	<i>limbata</i>	Dejean, 1831	X	X		X		
	<i>Cymindis</i>	<i>platicollis</i>	(Say, 1823)	X					
	<i>Dicaelus</i>	<i>alternans</i>	Dejean, 1826		X	X			
	<i>Dicaelus</i>	<i>ambiguus</i>	LaFerté-Sénectère, 1841	X					
	<i>Dicaelus</i>	<i>elongatus</i>	Bonelli, 1813						X
	<i>Dicaelus</i>	<i>politius</i>	Dejean, 1826	X					
	<i>Dicaelus</i>	<i>purpuratus</i>	Bonelli, 1813	X					
	<i>Dicaelus</i>	<i>teter</i>	Bonelli, 1813	X					
	<i>Diplocheila</i>	<i>major</i>	(LeConte, 1848)		X			X	
	<i>Diplocheila</i>	<i>striatopunctata</i>	(LeConte, 1844)		X				
	<i>Dromius</i>	<i>piceus</i>	Dejean, 1831		X			X	
	<i>Elaphrus</i>	<i>californicus</i>	Mannerheim, 1843		X				
	<i>Elaphrus</i>	<i>olivaceus</i>	LeConte, 1863	X	X			X	
	<i>Elaphrus</i>	<i>ruscarius</i>	Say, 1834		X				
<i>Ellipsoptera</i>	<i>lepida</i>	(Dejean, 1831)		X			X		
<i>Ellipsoptera</i>	<i>macra</i>	(LeConte, 1857)		X					
<i>Euryderus</i>	<i>grossus</i>	(Say, 1830)		X			X		
<i>Eurythrus</i>	<i>sigillatus</i>	(Say, 1823)	X						
<i>Galerita</i>	<i>bicolor</i>	Drury, 1773			X	X		X	
<i>Galerita</i>	<i>janus</i>	(Fabricius, 1792)					X		
<i>Gastrellarius</i>	<i>honestus</i>	(Say, 1823)	X						

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatuck N.W.R.	Twin Swamps N.P.	
Carabidae (cont.)	<i>Pterostichus</i>	<i>femoralis</i>	(Kirby, 1837)		X	X				
	<i>Pterostichus</i>	<i>stygica</i>	(Say, 1823)	X						
	<i>Pterostichus</i>	<i>tristis</i>	(Dejean, 1828)	X						
	<i>Scarites</i>	<i>quadriceps</i>	Chaudior, 1843		X					
	<i>Scarites</i>	<i>substriatus</i>	Chaudior, 1843		X					
	<i>Schizogenius</i>	<i>amphibius</i>	(Haldeman, 1843)	X						
	<i>Schizogenius</i>	<i>lineolatus</i>	(Say, 1823)	X			X			
	<i>Selenophorus</i>	<i>ellipticus</i>	Dejean, 1829		X					
	<i>Selenophorus</i>	<i>opalinus</i>	(LeConte, 1863)	X						
	<i>Semiaridistomis</i>	<i>viridis</i>	(Say, 1823)	X						
	<i>Sphaeroderus</i>	<i>indianae</i>	(Blatchley, 1910)	X						
	<i>Sphaeroderus</i>	<i>stenostomus</i>	(Weber, 1801)	X		X				
	<i>Stenolophus</i>	<i>comma</i>	(Fabricius, 1775)	X		X		X		
	<i>Stenolophus</i>	<i>lecontei</i>	(Chaudior, 1868)	X		X		X		
	<i>Stenolophus</i>	<i>lineola</i>	(Fabricius, 1775)	X		X		X		
	<i>Stenolophus</i>	<i>ochropezius</i>	(Say, 1823)	X		X				
	<i>Tachyta</i>	<i>inornata</i>	(Say, 1823)	X		X				
	<i>Tetragonoderus</i>	<i>fasciatus</i>	(Haldeman, 1843)	X		X				
	<i>Trichotichnus</i>	<i>autumnalis</i>	(Say, 1823)	X					X	
	<i>Trichotichnus</i>	<i>vulpeculus</i>	(Say, 1823)	X					X	
	<i>Zuphium</i>	<i>americanum</i>	Dejean, 1831					X		
	Cerambycidae	<i>Acanthocinus</i>	<i>pusillus</i>	Kirby, 1837						
		<i>Aegomorphus</i>	<i>modestus</i>	(Gyllenhal, 1817)	X					
		<i>Analeptura</i>	<i>lineola</i>	(Say, 1824)	X	X				
		<i>Anelaphus</i>	<i>parallelus</i>	(Newman, 1840)	X	X	X			
		<i>Anelaphus</i>	<i>pumilus</i>	(Newman, 1840)	X	X	X			
		<i>Anelaphus</i>	<i>villosus</i>	(Fabricius, 1792)	X	X	X			
<i>Asemum</i>		<i>striatum</i>	(Linnaeus, 1758)	X	X	X		X		
<i>Astyletopus</i>		<i>variegatus</i>	(Haldeman, 1847)	X	X	X		X		
<i>Astyleopsis</i>		<i>macula</i>	(Say, 1826)	X	X	X				
<i>Astyleopsis</i>		<i>sexguttata</i>	(Say, 1826)	X	X	X				
<i>Batyte</i>		<i>suturalis</i>	(Say, 1823)	X		X			X	
<i>Bellamira</i>		<i>scalaris</i>	(Say, 1827)	X	X	X				
<i>Brachyleptura</i>		<i>rubrica</i>	(Say, 1824)	X	X	X				

<i>Callimoxys sanguinicollis</i>	(Olivier, 1795)					X
<i>Centrodera decolorata</i>	(Harris, 1841)	X				
<i>Charisalia americana</i>	(Haldeman, 1847)	X				
<i>Clytoleptus albofasciatus</i>	(Laporte and Gory, 1835)	X	X			
<i>Clytus ruficola</i>	(Olivier, 1795)	X				
<i>Cyrtophorus verrucosus</i>	(Olivier, 1795)	X				
<i>Desmocerus palliatus</i>	(Forster, 1771)	X	X			
<i>Distenia undata</i>	(Fabricius, 1775)	X				
<i>Dorcaschema cinereum</i>	(Olivier, 1795)	X				
<i>Dryobius sexnotatus</i>	Linsley, 1957	X				
<i>Eburia quadrigeminata</i>	(Say, 1827)	X				X
<i>Ecyrus dasyceus</i>	(Say, 1826)	X				X
<i>Euclyptus mucronatum</i>	(Say, 1823)	X				X
<i>Encyclops caerulea</i>	(Say, 1826)	X				X
<i>Eudercus picipes</i>	(Fabricius, 1787)	X				X
<i>Eudercus pini</i>	(Olivier, 1795)	X				X
<i>Eupogonius pauper</i>	LeConte, 1852	X				X
<i>Eupogonius subarmatus</i>	(LeConte, 1859)	X				X
<i>Eupogonius tomentosus</i>	(Haldeman, 1847)	X				X
<i>Gaurotes cyanipennis</i>	(Say, 1824)	X				X
<i>Glycobius speciosus</i>	Say, 1828	X				X
<i>Goes tigrinus</i>	(DeGeer, 1775)	X				X
<i>Graphisurus despectus</i>	(LeConte, 1850)	X				X
<i>Graphisurus fasciatus</i>	(DeGeer, 1775)	X				X
<i>Graphisurus triangulifer</i>	(Haldeman, 1847)	X				X
<i>Hemierana marginata</i>	(Fabricius, 1798)	X				X
<i>Hesperophanes pubescens</i>	(Haldeman, 1847)	X				X
<i>Heterachthes quadrimaculatus</i>	Haldeman, 1847	X				X
<i>Hyperplatys maculata</i>	Haldeman, 1847	X				X
<i>Knulliana cincta</i>	(Drury, 1773)	X				X
<i>Leptostylus transverus</i>	(Gyllenhal, 1817)	X				X
<i>Leptura subhamata</i>	(Randall, 1838)	X				X
<i>Lepturges confluens</i>	(Haldeman, 1847)	X				X
<i>Lepturges pictus</i>	(LeConte, 1852)	X				X
<i>Lepturges symmetricus</i>	(Haldeman, 1847)	X				X
<i>Liopinus alpha</i>	(Say, 1827)	X				X
<i>Liopinus misellus</i>	(LeConte, 1852)	X				X
<i>Megacyllene caryae</i>	(Gahan, 1908)	X				X

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Musca-tatuck N.W.R.	Twin Swamps N.P.
Cerambycidae (cont.)	<i>Megacyllene</i>	<i>decora</i>	(Olivier, 1795)						X
	<i>Megacyllene</i>	<i>robiniae</i>	(Forster, 1771)	X					X
	<i>Molorchus</i>	<i>bimaculatus</i>	Say, 1824	X		X		X	
	<i>Monochamus</i>	<i>carolinensis</i>	(Olivier, 1792)	X	X				
	<i>Neandra</i>	<i>brunnea</i>	(Fabricius, 1798)	X	X		X		
	<i>Necydalis</i>	<i>mellita</i>	(Say, 1835)	X	X				
	<i>Nealosterna</i>	<i>capitata</i>	(Newman, 1840)	X					
	<i>Neoclytus</i>	<i>acuminatus</i>	(Fabricius, 1775)	X	X			X	
	<i>Obera</i>	<i>affinis</i>	Dejean, 1835	X					
	<i>Obera</i>	<i>deficiens</i>	Casey, 1924	X					
	<i>Obera</i>	<i>delongi</i>	Knoll, 1928		X				
	<i>Obera</i>	<i>pruinosa</i>	Casey, 1913		X				
	<i>Obera</i>	<i>ruficollis</i>	(Fabricius, 1792)	X			X		
	<i>Obera</i>	<i>schaumii</i>	LeConte, 1852		X			X	
	<i>Obera</i>	<i>tripunctata</i>	(Swederus, 1787)						
	<i>Obrium</i>	<i>maculatum</i>	(Olivier, 1797)	X					
	<i>Obrium</i>	<i>rufulum</i>	Gahan, 1908	X	X				
	<i>Oncideres</i>	<i>cingulata</i>	(Say, 1826)						X
	<i>Oplosia</i>	<i>nubila</i>	(LeConte, 1862)	X		X			
	<i>Orthosoma</i>	<i>brunneum</i>	(Forster, 1771)	X		X			
	<i>Parelaphidion</i>	<i>incertum</i>	(Newman, 1840)					X	
	<i>Parelaphidion</i>	<i>asperum</i>	(Haldeman, 1847)		X				X
	<i>Phaea</i>	<i>monostigma</i>	(Haldeman, 1847)						X
	<i>Phymatodes</i>	<i>aereus</i>	(Newman, 1838)			X			
	<i>Phymatodes</i>	<i>amoenus</i>	(Say, 1825)		X			X	
	<i>Plectrodera</i>	<i>scalatra</i>	(Fabricius, 1792)		X				
	<i>Psenocerus</i>	<i>supernotatus</i>	(Say, 1824)		X				
	<i>Pseudotrangalia</i>	<i>cruentata</i>	(Haldeman, 1847)		X				
	<i>Purpuricenus</i>	<i>paraxillaris</i>	MacRae, 2000						
	<i>Rhopalophora</i>	<i>longipes</i>	(Say, 1825)				X		X
	<i>Saperda</i>	<i>calcarata</i>	Say, 1824				X		X
	<i>Saperda</i>	<i>discoidea</i>	Fabricius, 1798	X					
	<i>Saperda</i>	<i>imitans</i>	Felt and Joutel, 1904	X					X
<i>Saperda</i>	<i>puncticollis</i>	Say, 1824	X					X	

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Musca-tatuck N.W.R.	Twin Swamps N.P.
Chrysomelidae (cont.)	<i>Bassareus</i>	<i>mammifer</i>	(Newman, 1840)				X		
	<i>Blepharida</i>	<i>rhois</i>	(Forster, 1771)		X				
	<i>Brachypnoea</i>	<i>clypealis</i>	(Horn, 1892)				X		
	<i>Calligrapha</i>	<i>bidenticola</i>	Brown, 1945		X		X	X	
	<i>Calligrapha</i>	<i>californica</i>	(Linell, 1896)		X				
	<i>Capraita</i>	<i>sexmaculata</i>	(Illiger, 1807)			X		X	
	<i>Capraita</i>	<i>subvittata</i>	(Horn, 1889)				X		
	<i>Capraita</i>	<i>thyamoides</i>	(Crotch, 1873)		X		X	X	
	<i>Cassida</i>	<i>rubiginosa</i>	Muller, 1776						
	<i>Ceratoma</i>	<i>trifurcata</i>	(Forster, 1771)			X		X	
	<i>Charidotella</i>	<i>sexpunctata</i>	(Fabricius, 1781)		X	X	X	X	
	<i>Chelymorphism</i>	<i>cassidea</i>	(Fabricius, 1775)		X			X	
	<i>Chrysochus</i>	<i>auratus</i>	(Fabricius, 1775)		X			X	
	<i>Chrysolina</i>	<i>auripennis</i>	(Say, 1824)		X			X	
	<i>Chrysolina</i>	<i>quadrigemina</i>	Suffrian, 1851		X				
	<i>Chrysolina</i>	<i>knabi</i>	(Brown, 1956)					X	X
	<i>Chrysomela</i>	<i>scripta</i>	Fabricius, 1801		X		X		
	<i>Chrysomela</i>	<i>asparagi</i>	(Linnaeus, 1758)					X	
	<i>Crioceris</i>	<i>duodecimpunctata</i>	(Linnaeus, 1758)		X			X	
	<i>Crioceris</i>	<i>calidus</i>	Suffrian, 1852					X	
	<i>Cryptocephalus</i>	<i>guttulatus</i>	Olivier, 1808			X		X	
	<i>Cryptocephalus</i>	<i>leucomelas</i>	Suffrian, 1852		X			X	
	<i>Cryptocephalus</i>	<i>mutabilis</i>	Melsheimer, 1847		X			X	
	<i>Cryptocephalus</i>	<i>schreibersii</i>	Suffrian, 1852		X			X	
	<i>Cryptocephalus</i>	<i>tinctus</i>	LeConte, 1880		X			X	
	<i>Cryptocephalus</i>	<i>venustus</i>	Fabricius, 1787					X	X
	<i>Deloyala</i>	<i>guttata</i>	(Olivier, 1790)						
<i>Diabrotica</i>	<i>cristata</i>	(Harris, 1837)					X		
<i>Diabrotica</i>	<i>longicornis</i>	(Say, 1824)		X			X		
<i>Diabrotica</i>	<i>undecimpunctata</i>	Mannerheim, 1843					X		
<i>Diabrotica</i>	<i>vingifera</i>	LeConte, 1868		X			X		
<i>Diachus</i>	<i>auratus</i>	(Fabricius, 1801)		X			X		
<i>Disonycha</i>	<i>alternata</i>	(Illiger, 1807)		X			X	X	
<i>Disonycha</i>	<i>triangularis</i>	(Say, 1824)		X			X		

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Musca-tatuck N.W.R.	Twin Swamps N.P.	
Chrysomelidae (cont.)	<i>Trirhabda</i>	<i>canadensis</i>	(Kirby, 1837)				X			
	<i>Tymnes</i>	<i>tricolor</i>	(Fabricius, 1792)	X		X				
	<i>Xanthonia</i>	<i>decemnotata</i>	(Say, 1824)			X				
	<i>Zabrotas</i>	<i>stephani</i>	Kingsolver, 1990				X	X		
	<i>Zygogramma</i>	<i>suturalis</i>	(Fabricius, 1775)				X			
	<i>Ceracis</i>	<i>sallei</i>	(Mellié, 1848)		X					
	<i>Cis</i>	<i>fuscipes</i>	Mellié, 1848					X		
	Cleridae	<i>Chariessa</i>	<i>pilosa</i>	(Forster, 1781)	X	X	X	X		
		<i>Cregya</i>	<i>mixta</i>	LeConte, 1866	X					
		<i>Cregya</i>	<i>oculata</i>	(Say, 1835)	X	X	X	X		
		<i>Cymatodera</i>	<i>bicolor</i>	(Say, 1825)	X			X		
		<i>Cymatodera</i>	<i>undulata</i>	(Say, 1825)	X			X		
		<i>Enoclerus</i>	<i>ichneumonaeus</i>	(Fabricius, 1776)			X			X
<i>Enoclerus</i>		<i>nigripes</i>	(Say, 1823)	X	X	X				
<i>Enoclerus</i>		<i>rosmarus</i>	(Say, 1823)		X	X				
<i>Isolydnocera</i>		<i>curtipennis</i>	(Newman, 1840)		X	X				
<i>Lebasiella</i>		<i>pallipes</i>	(Klug, 1842)	X						
<i>Madoniella</i>		<i>dislocata</i>	(Say, 1825)		X	X		X	X	
<i>Necrobia</i>		<i>violacea</i>	(Linnaeus, 1758)		X	X				
<i>Neorthoppleura</i>		<i>thoracica</i>	(Say, 1823)	X	X	X	X			
<i>Phyllobaenus</i>	<i>humeralis</i>	(Say, 1823)				X				
<i>Phyllobaenus</i>	<i>pallipennis</i>	(Say, 1825)		X		X				
<i>Phyllobaenus</i>	<i>pubescens</i>	(LeConte, 1849)		X						
<i>Phyllobaenus</i>	<i>unifasciatus</i>	(Say, 1825)			X			X		
<i>Placopterus</i>	<i>thoracicus</i>	(Olivier, 1795)	X		X					
<i>Priocera</i>	<i>castanea</i>	(Newman, 1838)	X	X	X	X				
<i>Pyticroides</i>	<i>laticornis</i>	(Say, 1835)	X	X	X		X			
<i>Thanasimus</i>	<i>dubius</i>	(Fabricius, 1776)		X	X					
<i>Anatis</i>	<i>labiculata</i>	(Say, 1824)		X	X					
<i>Anatis</i>	<i>mali</i>	(Say, 1825)		X	X					
<i>Axion</i>	<i>tripustulatum</i>	(DeGeer, 1775)		X						
<i>Brachiacantha</i>	<i>decempustulata</i>	(Melsheimer, 1847)	X							
<i>Brachiacantha</i>	<i>ursina</i>	(Fabricius, 1787)	X							
<i>Chilocorus</i>	<i>stigma</i>	(Say, 1835)	X	X			X			

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Curculionidae (cont.)	<i>Apteronechus</i>	<i>ferratus</i>	(Say, 1831)			X	X		
	<i>Barypeithes</i>	<i>pellucidus</i>	(Boheman, 1834)			X			
	<i>Calomycterus</i>	<i>setarius</i>	Roelofs, 1873				X		
	<i>Chramesus</i>	<i>chapuisii</i>	LeConte, 1876		X				
	<i>Cleonis</i>	<i>piger</i>	(Scopoli, 1763)		X		X		
	<i>Chesinus</i>	<i>strigicollis</i>	LeConte, 1868				X		
	<i>Conotrachelus</i>	<i>affinis</i>	Boheman, 1837	X					
	<i>Conotrachelus</i>	<i>anaglypticus</i>	(Say, 1831)		X	X			
	<i>Conotrachelus</i>	<i>aratus</i>	Germar, 1824			X			
	<i>Conotrachelus</i>	<i>elegans</i>	(Say, 1831)	X					
	<i>Conotrachelus</i>	<i>hicoloriae</i>	Schoof, 1942	X		X			
	<i>Conotrachelus</i>	<i>iowensis</i>	Schoof, 1942	X		X			
	<i>Conotrachelus</i>	<i>nenuphar</i>	(Herbst, 1797)			X			
	<i>Conotrachelus</i>	<i>posticatus</i>	Boheman, 1837		X				X
	<i>Conotrachelus</i>	<i>recessus</i>	(Casey, 1910)			X			
	<i>Conotrachelus</i>	<i>seniculus</i>	LeConte, 1876		X				
	<i>Cophes</i>	<i>fallax</i>	(LeConte, 1876)		X				
	<i>Corthylus</i>	<i>columbianus</i>	Hopkins, 1894			X			X
	<i>Corthylus</i>	<i>punctatissimus</i>	(Zimmermann, 1868)			X			
	<i>Cossonus</i>	<i>impressifrons</i>	Boheman, 1838		X	X		X	
	<i>Cryptorhynchus</i>	<i>obliquus</i>	Say, 1831			X			
	<i>Curculio</i>	<i>proboscideus</i>	Fabricius, 1775		X				
	<i>Cyclorhipidion</i>	<i>bodoanum</i>	(Reiter, 1913)		X	X		X	
	<i>Cyclorhipidion</i>	<i>pelliculosum</i>	(Eichhoff, 1878)		X				
	<i>Cyrtipistomus</i>	<i>castaneus</i>	(Roelofs, 1873)		X			X	
	<i>Dendroctonus</i>	<i>valens</i>	LeConte, 1860		X				
	<i>Dorytomus</i>	<i>mucidus</i>	(Say, 1831)					X	
	<i>Dorytomus</i>	<i>vagenotatus</i>	Casey, 1892			X			
	<i>Dryophthorus</i>	<i>americanus</i>	Bedel, 1885		X	X			X
	<i>Dryoxylon</i>	<i>onoharcanse</i>	(Murayama, 1933)						
	<i>Ellescus</i>	<i>ephippiatus</i>	(Say, 1831)		X	X			
	<i>Eubulus</i>	<i>bisignatus</i>	(Say, 1831)		X	X			
	<i>Euwallacea</i>	<i>validus</i>	(Eichhoff, 1875)		X	X			
<i>Glyptobaris</i>	<i>lecontei</i>	Champion, 1909			X				

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatuck N.W.R.	Twin Swamps N.P.
Curculionidae (cont.)	<i>Plocamus</i>	<i>echidna</i>	(LeConte, 1876)	X		X			
	<i>Polydrusus</i>	<i>formosus</i>	(Mayer, 1779)		X				
	<i>Pseudanthrenomus</i>	<i>helvolicus</i>	(Boheman, 1843)		X				
	<i>Pseudodrophys</i>	<i>hilleri</i>	(Faust, 1889)	X		X			
	<i>Pseudopityophthorus</i>	<i>minutissimus</i>	(Zimmermann, 1868)	X			X		
	<i>Rhinoncus</i>	<i>longulus</i>	(LeConte, 1876)					X	
	<i>Rhinusa</i>	<i>tetra</i>	(Fabricius, 1792)						
	<i>Rhodoabaenus</i>	<i>quinquepunctatus</i>	(Say, 1824)						
	<i>Rhyncolus</i>	<i>minor</i>	(Horn, 1873)	X				X	
	<i>Rhyssomatus</i>	<i>lineaticollis</i>	(Say, 1824)				X		
	<i>Scolytus</i>	<i>multistriatus</i>	(Marsham, 1802)				X		
	<i>Scolytus</i>	<i>muticus</i>	Say, 1824	X		X			
	<i>Scolytus</i>	<i>quadriripinosus</i>	Say, 1824	X					
	<i>Scolytus</i>	<i>rugulosus</i>	(Muller, 1818)				X		
	<i>Sphenophorus</i>	<i>australis</i>	Chittenden, 1905						
	<i>Sphenophorus</i>	<i>callosus</i>	(Olivier, 1807)						
	<i>Sphenophorus</i>	<i>inaequalis</i>	(Say, 1831)						
	<i>Sphenophorus</i>	<i>melanocephalus</i>	(Fabricius, 1801)					X	
	<i>Sphenophorus</i>	<i>minimus</i>	Hart, 1890						
	<i>Sphenophorus</i>	<i>parvulus</i>	Gyllenhal, 1838						
	<i>Sphenophorus</i>	<i>per-tinax</i>	(Olivier, 1807)	X					
	<i>Sphenophorus</i>	<i>venatus</i>	(Say, 1831)						
	<i>Sphenophorus</i>	<i>zeae</i>	Walsh, 1867						
	<i>Stenoscelis</i>	<i>brevis</i>	(Boheman, 1845)			X			
	<i>Xyleborinus</i>	<i>saxseni</i>	(Ratzeburg, 1837)	X		X		X	
	<i>Xyleborus</i>	<i>celsus</i>	Eichhoff, 1868	X		X			
	<i>Xyleborus</i>	<i>planicollis</i>	Zimmermann, 1868					X	
	<i>Xylosandrus</i>	<i>crassiusculus</i>	(Motschulsky, 1866)	X		X		X	
	<i>Xylosterinus</i>	<i>politus</i>	(Say, 1826)			X			
	<i>Dermestes</i>	<i>lardarius</i>	Linnaeus, 1758					X	
	<i>Dermestes</i>	<i>talpinus</i>	Mannerheim, 1843					X	
	<i>Dermestes</i>	<i>caninus</i>	Germer, 1824			X		X	
	<i>Dermestes</i>	<i>maculatus</i>	DeGeer, 1774			X			
<i>Orphilus</i>	<i>ater</i>	Erichson, 1846					X		

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Elateridae (cont.)	<i>Anachastus</i>	<i>binus</i>	(Say, 1839)	X		X			
	<i>Anostirus</i>	<i>vernalis</i>	(Hentz, 1827)	X					
	<i>Athous</i>	<i>acanthus</i>	(Say, 1839)	X		X			
	<i>Athous</i>	<i>brightwelli</i>	(Kirby, 1837)	X	X	X			
	<i>Athous</i>	<i>cucullatus</i>	(Say, 1825)	X	X		X		
	<i>Athous</i>	<i>equestris</i>	(LeConte, 1853)	X				X	
	<i>Athous</i>	<i>neacanthus</i>	Beker, 1974			X			
	<i>Athous</i>	<i>posticus</i>	(Melsheimer, 1844)	X					
	<i>Athous</i>	<i>ruffrons</i>	(Randall, 1838)	X		X			
	<i>Athous</i>	<i>scapularis</i>	(Say, 1839)	X	X				
	<i>Athous</i>	<i>convexus</i>	(Say, 1823)	X	X				
	<i>Cardiophorus</i>	<i>gagates</i>	Erichson, 1840	X					
	<i>Cardiophorus</i>	<i>viridipilis</i>	Say, 1825	X					
	<i>Chalcolepidius</i>	<i>bellus</i>	(Say, 1824)	X		X			
	<i>Conoderus</i>	<i>lividus</i>	(DeGeer, 1774)	X		X	X		
	<i>Conoderus</i>	<i>vespertinus</i>	(Fabricius, 1801)	X		X	X		
	<i>Corymbitodes</i>	<i>tarsalis</i>	(Melsheimer, 1846)	X					
	<i>Ctenicera</i>	<i>signaticollis</i>	(Melsheimer, 1845)						X
	<i>Dalopius</i>	<i>pennsylvanicus</i>	Brown, 1934	X					
	<i>Dalopius</i>	<i>vagus</i>	Brown, 1934	X					
	<i>Denticollis</i>	<i>denticornis</i>	(Kirby, 1837)			X			
	<i>Dipropus</i>	<i>fuscus</i>	(Say, 1834)				X		
	<i>Dolerosomus</i>	<i>silaceus</i>	(Say, 1825)	X	X				
	<i>Drapetes</i>	<i>exstriatus</i>	(Say, 1834)	X					
	<i>Drapetes</i>	<i>geminatus</i>	(Say, 1834)	X			X		
	<i>Drapetes</i>	<i>quadripustulatus</i>	Bonvouloir, 1859	X					
	<i>Elater</i>	<i>abruptus</i>	Say, 1825	X					
	<i>Elathous</i>	<i>bicolor</i>	(LeConte, 1853)			X			
	<i>Glyphonyx</i>	<i>brevistylus</i>	Smith and Balsbaugh, 1984				X		
	<i>Glyphonyx</i>	<i>inquinatus</i>	(Say, 1834)			X		X	
	<i>Glyphonyx</i>	<i>quietus</i>	(Say, 1839)			X			
	<i>Glyphonyx</i>	<i>testaceus</i>	(Melsheimer, 1845)			X			
<i>Hemicrepidius</i>	<i>decoloratus</i>	(Say, 1836)	X					X	
<i>Hemicrepidius</i>	<i>hemipodius</i>	(Say, 1825)	X					X	

<i>Hemicrepidius memnonius</i>	(Herbst, 1806)								X
<i>Hemicrepidius ruficornis</i>	(Kirby, 1837)								X
<i>Horistonotus curiatus</i>	(Say, 1839)		X						X
<i>Horistonotus uhleri</i>	Horn, 1871		X						
<i>Hypnoidus abbreviatus</i>	(Say, 1823)		X						
<i>Hypogonius sulcicollis</i>	(Say, 1833)		X						
<i>Lacon avitus</i>	Say, 1836		X						X
<i>Lacon discoidea</i>	(Weber, 1801)		X						X
<i>Lacon impressicollis</i>	(Say, 1825)		X						X
<i>Lacon marmoratus</i>	(Fabricius, 1801)		X						
<i>Limonius aurifer</i>	LeConte, 1853			X					
<i>Limonius griseus</i>	(Beauvois, 1805)		X						
<i>Limonius quercinus</i>	(Say, 1825)		X						
<i>Limonius rudis</i>	Brown, 1933		X						X
<i>Limonius stigma</i>	(Herbst, 1806)		X						
<i>Megapenthes angularis</i>	LeConte, 1866		X						
<i>Megapenthes illinoiensis</i>	Van Dyke, 1932		X						
<i>Megapenthes rufilabris</i>	(Germar, 1844)			X					
<i>Melanactes piceus</i>	(DeGeer, 1775)	X							
<i>Melanactes puncticollis</i>	(LeConte, 1852)	X							
<i>Melanotus americanus</i>	Herbst, 1806	X							
<i>Melanotus corticinus</i>	(Say, 1823)	X							
<i>Melanotus dietrichi</i>	Quate, 1967	X							
<i>Melanotus gradatus</i>	LeConte, 1866	X							X
<i>Melanotus hystlopi</i>	Zwahlenwenberg, 1921	X							
<i>Melanotus ignobilis</i>	Melshheimer, 1846	X							
<i>Melanotus miscellus</i>	Quate, 1967	X							
<i>Melanotus morosus</i>	Candeze, 1860	X							X
<i>Melanotus opacicollis</i>	LeConte, 1866	X							
<i>Melanotus similis</i>	(Kirby, 1837)	X							X
<i>Melanotus spadix</i>	(Erichson, 1841)	X							X
<i>Microhypnus striatulus</i>	(LeConte, 1853)	X							
<i>Negastrius arnetti</i>	Stibick, 1990	X							
<i>Negastrius exiguus</i>	Randall, 1838	X							
<i>Neohypdonus aestivus</i>	Stibick, 1971	X							X
<i>Paracardiophorus cardisce</i>	(Say, 1834)	X							
<i>Paradonus obliquatus</i>	Melshheimer, 1845	X							X
<i>Paradonus pectoralis</i>	(Say, 1839)	X							X

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Musca-tatuck N.W.R.	Twin Swamps N.P.
Elateridae (cont.)	<i>Paralloeostethus</i>	<i>attenuatus</i>	(Say, 1825)	X		X	X		
	<i>Pseudanosotirus</i>	<i>hamatus</i>	(Say, 1839)	X					
	<i>Pseudanosotirus</i>	<i>hieroglyphicus</i>	(Say, 1839)		X				
	<i>Sericus</i>	<i>viridanus</i>	(Say, 1825)	X					
	<i>Sylvaenelater</i>	<i>cylindriciformis</i>	(Herbst, 1806)	X		X			
	<i>Zorochores</i>	<i>melsheimeri</i>	(Horn, 1891)	X					
	<i>Stenelmis</i>	<i>bicarinata</i>	LeConte, 1852			X			
	<i>Stenelmis</i>	<i>crenata</i>	(Say, 1824)			X			
	<i>Stenelmis</i>	<i>sexlineata</i>	Sanderson, 1938	X		X			
	<i>Endomychus</i>	<i>biguttatus</i>	Say, 1824	X	X				
Endomychidae	<i>Lycoperdina</i>	<i>ferruginea</i>	LeConte, 1824	X	X				
	<i>Mycetina</i>	<i>perpulchra</i>	(Newman, 1838)	X	X				
	<i>Phymaphora</i>	<i>pulchella</i>	Newman, 1838	X	X				
	<i>Rhanidea</i>	<i>unicolor</i>	(Ziegler, 1845)	X		X		X	
	<i>Acropteroxys</i>	<i>gracilis</i>	(Newman, 1838)	X	X			X	
	<i>Dacne</i>	<i>quadrinaculata</i>	(Say, 1835)	X	X			X	
	<i>Ischyurus</i>	<i>quadripunctatus</i>	(Olivier, 1791)	X					X
	<i>Megalodacne</i>	<i>fasciata</i>	(Fabricius, 1777)	X					X
	<i>Megalodacne</i>	<i>heros</i>	(Say, 1823)	X		X			
	<i>Microsternus</i>	<i>ulhei</i>	(Crotch, 1873)	X				X	
Erotylidae	<i>Triplax</i>	<i>festiva</i>	Lacordaire, 1842	X					
	<i>Triplax</i>	<i>flavicollis</i>	Lacordaire, 1842	X	X				
	<i>Triplax</i>	<i>thoracica</i>	Say, 1825	X	X				
	<i>Tritoma</i>	<i>biguttata</i>	(Say, 1825)	X	X				
	<i>Tritoma</i>	<i>humeralis</i>	Fabricius, 1801	X	X				
	<i>Tritoma</i>	<i>mimetica</i>	(Crotch, 1873)	X		X			
	<i>Tritoma</i>	<i>pulchra</i>	Say, 1826	X					
	<i>Tritoma</i>	<i>sanguinipennis</i>	(Say, 1825)	X					
	<i>Tritoma</i>	<i>unicolor</i>	Say, 1826	X					
	<i>Eucinetus</i>	<i>morio</i>	LeConte, 1853	X					
Eucinetidae	<i>Eucinetus</i>	<i>haemorrhoidalis</i>	(Germer, 1818)					X	
	<i>Eucinetus</i>	<i>amoenicornis</i>	(Say, 1839)	X				X	
Eucnemidae	<i>Deltometopus</i>		Otto, Muona, and McClarin, 2014	X	X				
	<i>Dirrhagofarsus</i>	<i>ernae</i>	(Say, 1839)			X			
		<i>heryptychus</i>					X		

	<i>terminalis</i>		X		(LeConte, 1865)				
	<i>calceatus</i>		X		(Say, 1839)		X		
	<i>obliqua</i>		X		(Say, 1836)		X		
	<i>ruficornis</i>		X		(Say, 1823)		X		
	<i>pectinicornis</i>		X		Melsheimer, 1846		X		
	<i>breviangularis</i>		X		Otto, 2015		X		
	<i>carinicollis</i>		X		Otto, 2015		X		
	<i>lecontei</i>		X		Otto, 2015		X		
	<i>triangularis</i>		X		(Say, 1823)				
	<i>atropis</i>		X		(Say, 1839)				
	<i>muscidus</i>		X		(Gyllenhal, 1817)				
	<i>humeralis</i>		X		(Say, 1839)		X		
	<i>scabrosus</i>		X		Bonvouloir, 1870		X		
	<i>pectorosus</i>		X		LeConte, 1866				X
	<i>horni</i>		X		Muona, 2000				X
	<i>punctata</i>		X		LeConte, 1875				X
	<i>bruneri</i>		X		Dawson and Mccolloch, 1924				X
	<i>blackburnii</i>		X		(Fabricius, 1781)				X
	<i>opacus</i>		X		Haldeman, 1853		X		
	<i>splendidus</i>		X		(Fabricius, 1775)		X		
	<i>thoracicornis</i>		X		Wallis, 1928				X
	<i>inducta</i>		X		Horn, 1885				X
	<i>assimilis</i>		X		(Kirby, 1837)				X
	<i>tumidus</i>		X		LeConte, 1880				X
	<i>edentulus</i>		X		(LeConte, 1863)				X
	<i>lengi</i>		X		Roberts, 1913				X
	<i>muticus</i>		X		(LeConte, 1853)				X
	<i>sexmaculatus</i>		X		Roberts, 1913				X
	<i>auromicans</i>		X		(Kiesenwetter, 1851)				X
	<i>pusillus</i>		X		(Say, 1823)				X
	<i>exiguus</i>		X		(Erichson, 1834)				X
	<i>floridae</i>		X		(Marseul, 1856)				X
	<i>politus</i>		X		(LeConte, 1853)			X	
	<i>simplex</i>		X		(LeConte, 1844)				X
	<i>minutus</i>		X		Ross, 1940				X
	<i>perplexus</i>		X		(LeConte, 1863)				X
	<i>aeneomicans</i>		X		(Horn, 1873)				X
	<i>americanus</i>		X		(LeConte, 1844)				X
Euxestidae									
Geotrupidae									
	<i>Hylis</i>								
	<i>Isarthrus</i>								
	<i>Isorhipis</i>								
	<i>Isorhipis</i>								
	<i>Melasis</i>								
	<i>Microrhagus</i>								
	<i>Microrhagus</i>								
	<i>Microrhagus</i>								
	<i>Microrhagus</i>								
	<i>Nematodes</i>								
	<i>Perolithus</i>								
	<i>Rhagonomicrus</i>								
	<i>Sarpedon</i>								
	<i>Stelthos</i>								
	<i>Thambus</i>								
	<i>Hypodacne</i>								
	<i>Bolboerosoma</i>								
	<i>Geotrupes</i>								
	<i>Geotrupes</i>								
	<i>Geotrupes</i>								
	<i>Odoniteus</i>								
Glareidae									
Gyrinidae									
Halipidae									
	<i>Halipilus</i>								
	<i>Peltochytes</i>								
	<i>Peltochytes</i>								
	<i>Peltochytes</i>								
	<i>Peltochytes</i>								
Heteroceridae									
	<i>Augyles</i>								
	<i>Tropicus</i>								
Histeridae									
	<i>Acritus</i>								
	<i>Aelates</i>								
	<i>Aelates</i>								
	<i>Aelates</i>								
	<i>Atholus</i>								
	<i>Atholus</i>								
	<i>Baenicia</i>								
	<i>Caerosternus</i>								

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Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Muscatuck N.W.R.	Twin Swamps N.P.
Histeridae (cont.)	<i>Ebbisia</i>	<i>nigra</i>	Bousquet and Laplante, 2006					X	
	<i>Epiervus</i>	<i>pubicarius</i>	Erichson, 1834			X			
	<i>Eurylyster</i>	<i>carolinus</i>	(Paykull, 1811)	X		X			X
	<i>Euspilotus</i>	<i>assimilis</i>	(Paykull, 1811)	X	X				X
	<i>Euspilotus</i>	<i>conformis</i>	(LeConte, 1845)	X					
	<i>Geomyasaprinus</i>	<i>rugosifrons</i>	(Fall, 1919)				X		
	<i>Gnathonus</i>	<i>communis</i>	(Marseul, 1862)	X					
	<i>Hister</i>	<i>abbreviatus</i>	Fabricius, 1775	X					X
	<i>Hister</i>	<i>coenosus</i>	Erichson, 1834						X
	<i>Hister</i>	<i>depurator</i>	Say, 1825	X	X				
	<i>Hister</i>	<i>indistinctus</i>	Say, 1825	X					
	<i>Hister</i>	<i>servus</i>	Erichson, 1834	X	X	X	X	X	
	<i>Hololepta</i>	<i>aequalis</i>	Say, 1825	X					
	<i>Hololepta</i>	<i>fossularis</i>	Say, 1825	X					
	<i>Hololepta</i>	<i>lucida</i>	LeConte, 1845	X		X			
	<i>Hypocaccus</i>	<i>bigemmus</i>	(LeConte, 1851)		X				
	<i>Hypocaccus</i>	<i>bigener</i>	(LeConte, 1844)		X				
	<i>Hypocaccus</i>	<i>fitchi</i>	(Marseul, 1862)	X					
	<i>Hypocaccus</i>	<i>fraternus</i>	(Say, 1825)	X					
	<i>Hypocaccus</i>	<i>iris</i>	(Fall, 1919)		X				
	<i>Hypocaccus</i>	<i>patruelis</i>	(LeConte, 1845)		X				
	<i>Margarinotus</i>	<i>confusus</i>	Wenzel, 1944		X				
	<i>Margarinotus</i>	<i>egregius</i>	(Casey, 1916)			X			
	<i>Margarinotus</i>	<i>harrisi</i>	(Kirby, 1837)		X				
	<i>Margarinotus</i>	<i>hudsonicus</i>	(Casey, 1893)	X					
	<i>Margarinotus</i>	<i>immunis</i>	(Erichson, 1834)		X				
	<i>Margarinotus</i>	<i>lecontei</i>	Wenzel, 1944					X	
	<i>Margarinotus</i>	<i>pluto</i>	(Casey, 1893)			X			
	<i>Merohister</i>	<i>arboricavi</i>	Wenzel, 1991	X					
	<i>Paromalus</i>	<i>bistriatus</i>	Erichson, 1834	X	X	X			X
	<i>Paromalus</i>	<i>seeveri</i>	Wenzel, 1936	X					X
	<i>Paromalus</i>	<i>seminulum</i>	Erichson, 1834						X
	<i>Phelister</i>	<i>subrotundus</i>	(Say, 1825)	X	X	X			
<i>Phelister</i>	<i>vernus</i>	(Say, 1825)	X	X					

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Laemophloeidae (cont.)	<i>Laemophloeus</i>	<i>fervidus</i>	Casey, 1916	X		X			
	<i>Laemophloeus</i>	<i>megacephalus</i>	Grouvelle, 1876	X					
	<i>Placonotus</i>	<i>modestus</i>	(Say, 1827)		X	X			
	<i>Ellychnia</i>	<i>corrusca</i>	(Linnaeus, 1767)		X				
	<i>Lucidota</i>	<i>atra</i>	Olivier, 1790		X				
	<i>Photinus</i>	<i>indictus</i>	(LeConte, 1881)			X		X	
	<i>Photinus</i>	<i>pyralis</i>	(Linnaeus, 1767)			X	X		
	<i>Pyropyga</i>	<i>decipiens</i>	(Harris, 1836)	X		X			
	<i>Pyropyga</i>	<i>modesta</i>	Green, 1961	X		X			
	<i>Stephostethus</i>	<i>liratus</i>	(LeConte, 1863)			X			
Latridiidae	<i>Agathidium</i>	<i>oniscoides</i>	Beauvois, 1805	X					
	<i>Agathidium</i>	<i>politum</i>	LeConte, 1866	X					
	<i>Anisotoma</i>	<i>basalis</i>	(LeConte, 1853)	X		X			
	<i>Anisotoma</i>	<i>expolita</i>	Brown, 1937	X		X			
	<i>Anisotoma</i>	<i>obsolata</i>	(Horn, 1880)			X			
	<i>Catops</i>	<i>americanus</i>	Hatch, 1928	X					
	<i>Catops</i>	<i>simplex</i>	Say, 1825		X				
	<i>Colenis</i>	<i>impunctata</i>	LeConte, 1853	X					
	<i>Colenis</i>	<i>dentatum</i>	LeConte, 1853	X		X			
	<i>Dissochaetus</i>	<i>oblitus</i>	Peck, 1982	X					
Leiodidae	<i>Leptinus</i>	<i>orientamericanus</i>		X					
	<i>Platysyllus</i>	<i>castoris</i>	Ritsemma, 1869	X		X	X		
	<i>Prionochaeta</i>	<i>opaca</i>	(Say, 1825)	X	X	X			
	<i>Plomaphagus</i>	<i>brevior</i>	Jeannel, 1949	X					
	<i>Sciodrepoides</i>	<i>latinotum</i>	Peck and Cook, 2002	X				X	
	<i>Sciodrepoides</i>	<i>terminans</i>	(LeConte, 1850)		X	X			
	<i>Ceruchus</i>	<i>piceus</i>	(Weber, 1801)	X		X			
	<i>Dorcus</i>	<i>parallelus</i>	(Say, 1824)	X					
	<i>Lucanus</i>	<i>capreolus</i>	(Linnaeus, 1763)				X		X
	<i>Lucanus</i>	<i>elephus</i>	Fabricius, 1775				X		
Lucanidae	<i>Lucanus</i>	<i>placidus</i>	Say, 1825	X	X				
	<i>Nicagus</i>	<i>obscurus</i>	(LeConte, 1848)	X					
	<i>Platycerus</i>	<i>quercus</i>	(Weber, 1801)	X		X			X
	<i>Caenia</i>	<i>dimidiata</i>	(Fabricius, 1801)	X					

<i>Calopteron</i>	<i>reticulatum</i>	(Fabricius, 1775)	X					
<i>Calopteron</i>	<i>terminale</i>	(Say, 1823)	X	X				
<i>Dictyoptera</i>	<i>aurora</i>	(Herbst, 1784)	X	X				
<i>Greenarus</i>	<i>thoracicus</i>	(Randall, 1838)	X	X				
<i>Lycus</i>	<i>lateralis</i>	(Melsheimer, 1846)	X					
<i>Plateros</i>	<i>carinulatus</i>	Green, 1953	X					
<i>Plateros</i>	<i>centralis</i>	Green, 1953		X				
<i>Plateros</i>	<i>modestus</i>	Say, 1825	X					
<i>Platycis</i>	<i>sculptilis</i>	(Say, 1835)	X					
<i>Hylecoetus</i>	<i>lugubris</i>	Say, 1835	X		X			
<i>Melittomma</i>	<i>sericeum</i>	(Harris, 1838)	X					
<i>Amblyctis</i>	<i>praeses</i>	LeConte, 1879	X		X			
<i>Dircaea</i>	<i>liturata</i>	LeConte, 1866	X		X			
<i>Hypulus</i>	<i>simulator</i>	(Newman, 1838)	X		X			X
<i>Melandrya</i>	<i>striata</i>	Say, 1824	X					
<i>Prothalphia</i>	<i>undata</i>	LeConte, 1862	X					
<i>Rushia</i>	<i>longula</i>	(LeConte, 1862)	X		X			
<i>Spilolus</i>	<i>quadripustulatus</i>	(Melsheimer, 1846)	X		X			
<i>Symphora</i>	<i>flavicollis</i>	(Haldeman, 1848)	X		X			
<i>Symphora</i>	<i>rugosa</i>	(Haldeman, 1848)	X		X			
<i>Epicauta</i>	<i>atrata</i>	(Fabricius, 1775)			X			X
<i>Epicauta</i>	<i>cinerea</i>	(Forster, 1771)			X			X
<i>Epicauta</i>	<i>funebris</i>	Horn, 1873			X			X
<i>Epicauta</i>	<i>pennsylvanica</i>	(DeGeer, 1775)	X		X			X
<i>Epicauta</i>	<i>vittata</i>	(Fabricius, 1775)			X			X
<i>Lytta</i>	<i>aenea</i>	Say, 1824						
<i>Meloe</i>	<i>americanus</i>	Leach, 1815	X		X			
<i>Meloe</i>	<i>impressus</i>	Kirby, 1837	X		X			
<i>Tricrania</i>	<i>sanguinipennis</i>	Say, 1824	X		X			
<i>Zonitis</i>	<i>bilineata</i>	Say, 1817						
<i>Zonitis</i>	<i>vittigera</i>	(LeConte, 1853)						X
<i>Attalus</i>	<i>humeralis</i>	LeConte, 1866	X		X			X
<i>Attalus</i>	<i>terminalis</i>	(Say, 1825)						
<i>Collops</i>	<i>quadrimaculatus</i>	(Fabricius, 1798)			X			X
<i>Collops</i>	<i>tricolor</i>	(Say, 1823)			X			X
<i>Melyrodes</i>	<i>cribrata</i>	(LeConte, 1852)	X		X			X
<i>Micromalthus</i>	<i>debilis</i>	LeConte, 1878						
<i>Boctridium</i>	<i>ephippigerum</i>	(Guerin-Meneville, 1829)	X					

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan-akee Sands	Musca-tatuck N.W.R.	Twin Swamps N.P.
Monotomidae (cont.)	<i>Euryps</i>	<i>pallipennis</i>	(LeConte, 1861)	X			X		
	<i>Monotoma</i>	<i>emarginata</i>	Bousquet and LaPlante, 1999				X		
Mordellidae	<i>Pycnotomina</i>	<i>cavitcolle</i>	(Horn, 1879)	X	X	X			
	<i>Rhizophagus</i>	<i>sayi</i>	Schaeffer, 1913				X	X	
	<i>Conalia</i>	<i>helva</i>	(LeConte, 1862)						
	<i>Falsomordellistena</i>	<i>pubescens</i>	(Fabricius, 1798)	X		X			
	<i>Glipa</i>	<i>oculata</i>	(Say, 1835)						
	<i>Glipodes</i>	<i>sericans</i>	(Melsheimer, 1845)	X					
	<i>Glipostenoda</i>	<i>ambusta</i>	(LeConte, 1862)	X					
	<i>Hoshihanonomia</i>	<i>octopunctata</i>	(Fabricius, 1775)	X			X	X	
	<i>Mordella</i>	<i>atrata</i>	Melsheimer, 1845	X			X	X	
	<i>Mordella</i>	<i>marginata</i>	Melsheimer, 1845				X	X	
	<i>Mordella</i>	<i>melaena</i>	Melsheimer, 1845				X	X	
	<i>Mordellaria</i>	<i>seval</i>	Germer, 1824						
	<i>Mordellaria</i>	<i>undulata</i>	(Say, 1835)	X					
	<i>Mordellaria</i>	<i>Mordellaria</i>	(Melsheimer, 1845)	X					
	<i>Mordellina</i>	<i>ancilla</i>	(LeConte, 1862)	X					
	<i>Mordellistena</i>	<i>andreae</i>	LeConte, 1862			X		X	
	<i>Mordellistena</i>	<i>aspersa</i>	Melsheimer, 1846	X					
<i>Mordellistena</i>	<i>fuscipennis</i>	(Melsheimer, 1845)	X						
<i>Mordellistena</i>	<i>herbraica</i>	LeConte, 1862	X						
<i>Mordellistena</i>	<i>limbalis</i>	Melsheimer, 1845	X			X	X		
<i>Mordellistena</i>	<i>liturata</i>	(Melsheimer, 1845)	X			X	X		
<i>Mordellistena</i>	<i>synaenia</i>	Liljeblad, 1921	X		X				
<i>Mordellistena</i>	<i>trifasciata</i>	(Say, 1862)	X						
<i>Mordellistena</i>	<i>vapida</i>	LeConte, 1862	X			X	X		
<i>Mordellistena</i>	<i>vera</i>	Liljeblad, 1945				X	X		
<i>Mordellochroa</i>	<i>scapularis</i>	(Say, 1824)	X		X				
<i>Paramordellaria</i>	<i>triloba</i>	(Say, 1824)					X		
<i>Tomoxia</i>	<i>lineella</i>	LeConte, 1862	X		X				
<i>Yakuhananomia</i>	<i>bidentata</i>	(Say, 1824)	X					X	
Mycetophagidae	<i>Litaragus</i>	<i>balteatus</i>	LeConte, 1856	X					
	<i>Litaragus</i>	<i>sexpunctatus</i>	(Say, 1826)	X					
	<i>Litaragus</i>	<i>tetraspilotus</i>	LeConte, 1856	X		X	X	X	
	<i>Mycetophagus</i>	<i>flexuosus</i>	Say, 1826	X		X	X	X	

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Nitidulidae (cont.)	<i>Psilopyga</i>	<i>nigripennis</i>	LeConte, 1863						X
	<i>Stelidota</i>	<i>geminata</i>	(Say, 1825)	X	X	X	X	X	
Nosodendridae	<i>Stelidota</i>	<i>octomaculata</i>	(Say, 1825)	X	X				
	<i>Nosodendron</i>	<i>unicolor</i>	Say, 1824	X					
Ochodaeidae	<i>Xenochodaeus</i>	<i>musculus</i>	(Say, 1835)	X					
	<i>Asclera</i>	<i>puncticollis</i>	(Say, 1823)	X					
Oedemeridae	<i>Asclera</i>	<i>ruficollis</i>	(Say, 1823)	X					
	<i>Nacardes</i>	<i>melanura</i>	(Linnaeus, 1758)		X				
Omethidae	<i>Xanthochroa</i>	<i>erythrocephala</i>	(Germar, 1824)						X
	<i>Xanthochroa</i>	<i>trinitata</i>	LeConte, 1866						X
Orsodacnidae	<i>Blatchleya</i>	<i>gracilis</i>	Blatchley, 1910	X					
	<i>Omethes</i>	<i>marginatus</i>	LeConte, 1861	X					
Passandridae	<i>Orsodacne</i>	<i>atra</i>	(Ahrens, 1810)	X		X			
	<i>Odontotaenius</i>	<i>disjunctus</i>	(Illiger, 1800)	X	X	X		X	
Phengodidae	<i>Catogenus</i>	<i>ruftus</i>	(Fabricius, 1798)	X	X	X	X	X	
	<i>Phengodes</i>	<i>fusciceps</i>	LeConte, 1861	X					X
Ptilodactylidae	<i>Ptilodactyla</i>	<i>carinata</i>	Johnson and Freytag, 1978						
	<i>Ptilodactyla</i>	<i>serricollis</i>	(Say, 1823)			X			
Ptinidae	<i>Byrrhodes</i>	<i>intermedius</i>	(LeConte, 1878)		X				
	<i>Calymmaderus</i>	<i>nitidus</i>	(LeConte, 1865)	X					
Pyrochroidae	<i>Euvrilletta</i>	<i>harrisi</i>	(Fall, 1905)		X				
	<i>Euvrilletta</i>	<i>peltatum</i>	(Harris, 1836)		X				
Pyrochroidae	<i>Hadrobregmus</i>	<i>notatus</i>	(Say, 1825)		X	X			
	<i>Mesocoleopus</i>	<i>collaris</i>	Mulsant and Rey, 1864		X	X			
Pyrochroidae	<i>Oligomerus</i>	<i>alternans</i>	LeConte, 1865	X					
	<i>Oligomerus</i>	<i>obtusus</i>	LeConte, 1865			X			
Pyrochroidae	<i>Oligomerus</i>	<i>sericans</i>	(Melsheimer, 1846)	X		X			
	<i>Protheca</i>	<i>hispidata</i>	LeConte, 1865	X					
Pyrochroidae	<i>Ptilinus</i>	<i>ruficornis</i>	Say, 1823	X					
	<i>Trichodesma</i>	<i>gibbosa</i>	(Say, 1825)	X	X			X	
Pyrochroidae	<i>Trichodesma</i>	<i>klagesi</i>	(Fall, 1905)	X		X			
	<i>Dendroides</i>	<i>canadensis</i>	Latreille, 1810	X		X			
Pyrochroidae	<i>Neopyrochroa</i>	<i>femoratis</i>	(LeConte, 1855)	X					
	<i>Neopyrochroa</i>	<i>flabellata</i>	(Fabricius, 1787)	X	X		X		

Rhipiceridae	<i>Sandalus</i>									
	<i>Sandalus</i>	<i>niger</i>	Knoch, 1801	X						
Rhysodidae	<i>Sandalus</i>	<i>petrophya</i>	Knoch, 1801	X						
	<i>Clinidium</i>	<i>baldufi</i>	Bell, 1970	X						
	<i>Clinidium</i>	<i>rosenbergi</i>	Bell, 1970	X						
Ripiphoridae	<i>Omoglymmius</i>	<i>americus</i>	(Laporte, 1836)	X						X
	<i>Macrostagon</i>	<i>dimidiata</i>	(Fabricius, 1781)	X						X
	<i>Macrostagon</i>	<i>limbata</i>	(Fabricius, 1792)	X						
	<i>Macrostagon</i>	<i>pectinata</i>	(Fabricius, 1775)	X						
	<i>Macrostagon</i>	<i>sayi</i>	(LeConte, 1858)	X						
	<i>Pelecotoma</i>	<i>flavipes</i>	Melsheimer, 1846	X						
	<i>Ripiphorus</i>	<i>fasciatus</i>	(Say, 1823)	X						
Salpingidae	<i>Rhinosimus</i>	<i>viridanaeus</i>	Randall, 1838	X						
Scarabaeidae	<i>Aegialia</i>	<i>conferta</i>	Horn, 1871	X						
	<i>Aegialia</i>	<i>opifex</i>	Horn, 1887	X						
	<i>Aidophus</i>	<i>parvus</i>	Horn, 1887	X						
	<i>Alloblackburneus</i>	<i>lenuis</i>	Horn, 1887	X						X
	<i>Alloblackburneus</i>	<i>rubeolus</i>	Horn, 1870	X						X
	<i>Amphimallon</i>	<i>majalis</i>	Beauvois, 1805	X						
	<i>Anomala</i>	<i>binotata</i>	(Razoumowsky, 1789)	X						
	<i>Anomala</i>	<i>lucicola</i>	(Gyllenhal, 1817)	X						
	<i>Aphodius</i>	<i>fimularius</i>	(Fabricius, 1798)	X						X
	<i>Ataenius</i>	<i>abditus</i>	(Linnaeus, 1758)	X						X
	<i>Ataenius</i>	<i>gracilis</i>	(Haldeman, 1848)	X						X
	<i>Ataenius</i>	<i>imbricatus</i>	(Melsheimer, 1844)	X						
	<i>Ataenius</i>	<i>miamii</i>	(Melsheimer, 1846)	X						
	<i>Ataenius</i>	<i>spretulus</i>	Cartwright, 1934	X						
	<i>Ataenius</i>	<i>strigatus</i>	(Haldeman, 1848)	X						X
	<i>Ataenius</i>	<i>histeroides</i>	(Say, 1823)	X						X
	<i>Blackburneus</i>	<i>stercorosus</i>	Weber, 1801	X						X
	<i>Calamosternus</i>	<i>granarius</i>	Melsheimer, 1844	X						
	<i>Callistethus</i>	<i>marginatus</i>	Linnaeus, 1767	X						
	<i>Chilothorax</i>	<i>distinctus</i>	(Fabricius, 1792)	X						X
	<i>Copris</i>	<i>fricator</i>	(Müller, 1776)	X						
	<i>Copris</i>	<i>minutus</i>	(Fabricius, 1787)	X						X
	<i>Cotalpa</i>	<i>lanigera</i>	(Drury, 1770)	X						X
	<i>Cotinis</i>	<i>nitida</i>	(Linnaeus, 1758)	X						X
	<i>Cremastochilus</i>	<i>harrisii</i>	(Linnaeus, 1764)	X						X
	<i>Cryptocatantomer</i>	<i>iowensis</i>	Kirby, 1827	X						
			(Wickham, 1913)	X						

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Scarabaeidae (cont.)	<i>Cryptoscotomaseter</i>	<i>magnificens</i>	(Robinson, 1940)				X		
	<i>Cryptoscotomaseter</i>	<i>punctissimus</i>	(Brown, 1928)				X	X	
	<i>Cyclocephala</i>	<i>borealis</i>	Arrow, 1911			X			
	<i>Cyclocephala</i>	<i>lurida</i>	Bland, 1863	X			X		
	<i>Dellacasiellus</i>	<i>kirni</i>	(Cartwright, 1944)				X		
	<i>Dialytes</i>	<i>striatulus</i>	(Say, 1825)		X				
	<i>Dialytes</i>	<i>truncatus</i>	(Melsheimer, 1845)		X				
	<i>Dichelonyx</i>	<i>albicollis</i>	Burmeister, 1855		X				
	<i>Diplostaxis</i>	<i>frondicola</i>	Say, 1825			X			
	<i>Dyscinetus</i>	<i>morator</i>	(Fabricius, 1789)					X	
	<i>Euphoria</i>	<i>herbacea</i>	(Olivier, 1790)		X				
	<i>Euphoria</i>	<i>inda</i>	(Linnaeus, 1758)		X			X	
	<i>Euphoria</i>	<i>sepulcralis</i>	(Fabricius, 1801)		X	X			X
	<i>Euphoria</i>	<i>humilis</i>	(Burmeister, 1847)		X				
	<i>Geomyphilus</i>	<i>insolitus</i>	(Brown, 1928)					X	
	<i>Gnorimella</i>	<i>maculosa</i>	(Knoch, 1801)		X				X
	<i>Hornietus</i>	<i>ventralis</i>	(Horn, 1887)		X		X		
	<i>Labarrus</i>	<i>pseudolivinus</i>	Balthasar, 1941					X	
	<i>Macrodactylus</i>	<i>subspinosus</i>	(Fabricius, 1775)		X				X
	<i>Melanocanthon</i>	<i>bispinatus</i>	(Robinson, 1941)					X	
	<i>Melinopterus</i>	<i>femoralis</i>	(Say, 1823)			X	X		
	<i>Melinopterus</i>	<i>prodromus</i>	Brahm, 1790				X		
	<i>Nipponoserica</i>	<i>peregrina</i>	(Chapin, 1938)		X				
	<i>Onthophagus</i>	<i>hecate</i>	(Panzer, 1794)				X		
	<i>Onthophagus</i>	<i>nuchicornis</i>	(Linnaeus, 1758)			X			
	<i>Onthophagus</i>	<i>orpheus</i>	(Panzer, 1794)			X			
	<i>Onthophagus</i>	<i>striatulus</i>	(Beauvois, 1809)		X				
	<i>Onthophagus</i>	<i>taurus</i>	(Schreber, 1759)				X		
	<i>Onthophagus</i>	<i>tuberculifrons</i>	(Harold, 1871)			X			
	<i>Oscarinus</i>	<i>rusicola</i>	(Melsheimer, 1845)		X	X		X	X
	<i>Osmoderma</i>	<i>eremicola</i>	(Knoch, 1801)			X	X	X	
	<i>Osmoderma</i>	<i>scabra</i>	(Beauvois, 1805)		X		X		
<i>Parastasia</i>	<i>brevipes</i>	(LeConte, 1856)					X		
<i>Pardalosus</i>	<i>serval</i>	(Say, 1835)				X			
<i>Phanaeus</i>	<i>triangularis</i>	(Say, 1823)				X		X	

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatus N.W.R.	Twin Swamps N.P.
Scirtidae	<i>Prionocyphon</i>	<i>discoideus</i>	(Say, 1825)			X			
	<i>Sacodes</i>	<i>fuscipennis</i>	(Guerin-Meneville, 1843)	X					
	<i>Sacodes</i>	<i>pulchella</i>	(Guerin-Meneville, 1843)	X					
	<i>Sacodes</i>	<i>thoracica</i>	(Guerin-Meneville, 1843)		X				
Scraptiidae	<i>Anaspis</i>	<i>rufa</i>	Say, 1825		X				
	<i>Canifa</i>	<i>pallipennis</i>	LeConte, 1878		X		X		X
Silphidae	<i>Necrodes</i>	<i>surinamensis</i>	(Fabricius, 1775)		X				
	<i>Necrophila</i>	<i>americana</i>	(Linnaeus, 1758)	X	X		X		
	<i>Nicrophorus</i>	<i>marginatus</i>	Fabricius, 1801		X		X		X
	<i>Nicrophorus</i>	<i>orbicollis</i>	Say, 1825	X	X		X		
	<i>Nicrophorus</i>	<i>pustulatus</i>	Herschel, 1807			X	X	X	
	<i>Nicrophorus</i>	<i>sayi</i>	Laporte, 1840	X		X			
	<i>Nicrophorus</i>	<i>tomentosus</i>	Weber, 1801	X	X		X		X
	<i>Oiceoptoma</i>	<i>noveboracense</i>	(Forster, 1771)	X		X			
	<i>Thanatophilus</i>	<i>lapponica</i>	(Herbst, 1793)		X				
	<i>Ahasverus</i>	<i>advena</i>	(Waltl, 1834)				X	X	
Silvanidae	<i>Cathartosilvanus</i>	<i>imbellis</i>	LeConte, 1854				X	X	
	<i>Nausibius</i>	<i>major</i>	Zimmermann, 1869			X	X	X	
	<i>Silvanus</i>	<i>muticus</i>	Sharp, 1899	X				X	
	<i>Telephanus</i>	<i>atricapillus</i>	Erichson, 1846	X		X	X	X	
	<i>Uletota</i>	<i>debilis</i>	(LeConte, 1854)		X			X	
	<i>Uleiota</i>	<i>dubia</i>	(Fabricius, 1801)	X		X	X	X	
	<i>Sphindus</i>	<i>americanus</i>	LeConte, 1866	X		X	X	X	
	<i>Achenomorpha</i>	<i>corticinus</i>	(Gravenhorst, 1802)	X					
	<i>Aleodorus</i>	<i>bilobatus</i>	(Say, 1830)	X					
	<i>Anaquedius</i>	<i>vernix</i>	(LeConte, 1878)		X				
Sphindidae	<i>Batrissodes</i>	<i>ionae</i>	(LeConte, 1849)			X			
	<i>Batrissodes</i>	<i>lineaticollis</i>	(Aube, 1833)		X				
	<i>Batrissodes</i>	<i>scabriceps</i>	(LeConte, 1849)	X					
	<i>Batrissodes</i>	<i>schaumi</i>	(Aube, 1844)		X				
	<i>Belonuchus</i>	<i>formosus</i>	(Gravenhorst, 1806)	X					
	<i>Belonuchus</i>	<i>rufipennis</i>	(Fabricius, 1801)	X		X			X
	<i>Bisnius</i>	<i>blandus</i>	(Gravenhorst, 1806)	X		X			X
	<i>Bledius</i>	<i>semiferrugineus</i>	LeConte, 1863	X					

<i>Brachygluta</i>	<i>corniventris</i>	(Motschulsky, 1856)	X				
<i>Cephenmodes</i>	<i>corporosus</i>	(LeConte, 1852)	X				
<i>Conosoma</i>	<i>crassus</i>	(Gravenhorst, 1802)	X				
<i>Coproporus</i>	<i>ventriculus</i>	(Say, 1834)	X	X			
<i>Creophilus</i>	<i>maxillosus</i>	(Linnaeus, 1758)	X				
<i>Cyparium</i>	<i>concolor</i>	(Fabricius, 1801)	X				
<i>Edaphus</i>	<i>nitidus</i>	Motschulsky, 1857	X				
<i>Geodromicus</i>	<i>brunneus</i>	(Say, 1823)	X				
<i>Hapalaraea</i>	<i>hamata</i>	(Fauvel, 1878)	X				
<i>Hesperus</i>	<i>apicalis</i>	(Say, 1830)	X				
<i>Hesperus</i>	<i>stehri</i>	Moore, 1958	X				
<i>Homaeotarsus</i>	<i>bicolor</i>	(Gravenhorst, 1802)	X				
<i>Homaeotarsus</i>	<i>pallipes</i>	(Gravenhorst, 1802)	X	X			
<i>Laetolonthus</i>	<i>laetulus</i>	(Say, 1834)	X				
<i>Lobrathium</i>	<i>longiusculum</i>	(Gravenhorst, 1802)	X				
<i>Lordithon</i>	<i>axillaris</i>	(Gravenhorst, 1806)	X				
<i>Lordithon</i>	<i>cinctus</i>	(Gravenhorst, 1802)	X				
<i>Lordithon</i>	<i>fungicola</i>	Campbell, 1982	X				
<i>Lordithon</i>	<i>niger</i>	(Gravenhorst, 1802)	X				
<i>Lordithon</i>	<i>notabilis</i>	Campbell, 1982	X				
<i>Lordithon</i>	<i>quaesitor</i>	(Horn, 1877)	X				
<i>Lordithon</i>	<i>thoracicus</i>	(Fabricius, 1777)	X				
<i>Megarathrus</i>	<i>americanus</i>	Sachse, 1852	X				
<i>Melba</i>	<i>parvula</i>	(LeConte, 1849)	X				
<i>Myrmecocephalus</i>	<i>cingulatus</i>	(LeConte, 1866)	X				
<i>Neohypmus</i>	<i>emmesus</i>	(Gravenhorst, 1802)	X				
<i>Olophrum</i>	<i>obtectum</i>	Erichson, 1840	X				
<i>Omalium</i>	<i>repandum</i>	Erichson, 1840	X				
<i>Omalium</i>	<i>riivulare</i>	(Paykull, 1789)	X				
<i>Ontholestes</i>	<i>cingulatus</i>	(Gravenhorst, 1802)	X				
<i>Oxyporus</i>	<i>major</i>	(Gravenhorst, 1806)	X				
<i>Oxyporus</i>	<i>occipitalis</i>	Fauvel, 1864	X				
<i>Oxyporus</i>	<i>quinquemaculatus</i>	LeConte, 1863	X				
<i>Oxyporus</i>	<i>rufipennis</i>	LeConte, 1863	X				
<i>Oxyporus</i>	<i>stygicus</i>	Say, 1831	X				
<i>Oxyporus</i>	<i>vitatus</i>	Gravenhorst, 1802	X				
<i>Philonthus</i>	<i>cyanipennis</i>	Fabricius, 1793	X				
<i>Philonthus</i>	<i>longicornis</i>	Stephens, 1832	X				

X

(Continued on next page)

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Staphylinidae (cont.)	<i>Philonthus</i>	<i>politus</i>	(Linnaeus, 1758)	X					
	<i>Phyllodrepa</i>	<i>punctiventris</i>	Fauvel, 1878	X	X	X			
	<i>Pinophilus</i>	<i>latipes</i>	Gravenhorst, 1802		X	X		X	
	<i>Platydracus</i>	<i>cinnamopteris</i>	(Gravenhorst, 1802)	X	X	X		X	
	<i>Platydracus</i>	<i>exulans</i>	(Erichson, 1839)	X					
	<i>Platydracus</i>	<i>fossator</i>	(Gravenhorst, 1802)	X	X				
	<i>Platydracus</i>	<i>immaculatus</i>	(Mannerheim, 1830)	X	X				
	<i>Platydracus</i>	<i>maculosus</i>	(Gravenhorst, 1802)	X	X				
	<i>Platydracus</i>	<i>mysticus</i>	(Erichson, 1840)	X	X				
	<i>Platydracus</i>	<i>tomentosus</i>	(Gravenhorst, 1802)	X	X				
	<i>Platydracus</i>	<i>violaceus</i>	(Gravenhorst, 1802)	X	X				
	<i>Proteinus</i>	<i>parvulus</i>	(Gravenhorst, 1802)	X	X	X			
	<i>Quedius</i>	<i>fulgidus</i>	LeConte, 1863		X				
	<i>Rugilus</i>	<i>dentatus</i>	(Fabricius, 1792)	X					
	<i>Scaphidium</i>	<i>piceum</i>	Say, 1831	X					
	<i>Scaphidium</i>	<i>quadriguttatum</i>	Melsheimer, 1844	X					
	<i>Siagonium</i>	<i>americanum</i>	Say, 1823	X					
	<i>Tachinus</i>	<i>fimbriatus</i>	(Melsheimer, 1844)	X		X			
	<i>Tachinus</i>	<i>luridus</i>	Gravenhorst, 1802	X		X			
	<i>Tachinus</i>	<i>memnonius</i>	Erichson, 1840	X					
	<i>Tachinus</i>	<i>pallipes</i>	Gravenhorst, 1802	X					
	<i>Tachinus</i>	<i>schwarzi</i>	(Gravenhorst, 1806)	X					
	<i>Tasgius</i>	<i>ater</i>	Horn, 1877	X					
	<i>Thoracophorus</i>	<i>costalis</i>	(Gravenhorst, 1802)	X	X	X			X
	<i>Typanophorus</i>	<i>puncticollis</i>	(Erichson, 1840)	X	X				
	<i>Cephaloon</i>	<i>leptoides</i>	Erichson, 1840	X	X				
	<i>Synchroa</i>	<i>punctata</i>	Newman, 1838	X				X	
<i>Alaetrinus</i>	<i>minimus</i>	Newman, 1838	X				X		
<i>Allobates</i>	<i>pennsylvanica</i>	(Beauvois, 1817)	X				X		
<i>Anaëdonus</i>	<i>fossor</i>	(DeGeer, 1775)	X	X			X		
<i>Anaëdonus</i>	<i>brunneus</i>	(LeConte, 1847)	X	X			X		
<i>Androchirus</i>	<i>erythropus</i>	(Ziegler, 1844)	X						
<i>Blapstinus</i>	<i>metallicus</i>	(Kirby, 1837)	X		X			X	
<i>Bolitotherus</i>	<i>cornutus</i>	(Fabricius, 1801)	X	X					
		(Panzer, 1794)	X		X				

Table 1. (Continued).

Family	Genus	Species	Author/Year	Shades S.P.	Dunes S.P.	Ross Hills Park	Kan- kakee Sands	Musca- tatusk N.W.R.	Twin Swamps N.P.
Tetratomidae (cont.)	<i>Pisenus</i>	<i>humeralis</i>	(Kirby, 1837)	X		X		X	
	<i>Synstrophus</i>	<i>repandus</i>	(Horn, 1888)			X			
	<i>Tetratoma</i>	<i>tessellata</i>	Melsheimer, 1844		X				
	<i>Tetratoma</i>	<i>truncorum</i>	LeConte, 1866	X					
Thanerocleridae	<i>Zenodosus</i>	<i>sanguineus</i>	(Say, 1835)	X		X			
	<i>Aulonothroscus</i>	<i>punctatus</i>	(Bonvouloir, 1859)		X			X	
	<i>Trixagus</i>	<i>carinicolis</i>	(Schaeffer, 1916)						
	<i>Trixagus</i>	<i>chevrolati</i>	(Bonvouloir, 1859)				X		
Trogidae	<i>Omorgus</i>	<i>monachus</i>	(Herbst, 1790)	X					X
	<i>Trox</i>	<i>aequalis</i>	Say, 1831			X			
	<i>Trox</i>	<i>foveicollis</i>	Harold, 1872			X			
	<i>Trox</i>	<i>hamatus</i>	Robinson, 1940	X		X	X		
	<i>Trox</i>	<i>laticollis</i>	LeConte, 1854			X			
	<i>Trox</i>	<i>striatus</i>	Melsheimer, 1846	X		X			
	<i>Trox</i>	<i>unistriatus</i>	Beauvois, 1818	X		X			
	<i>Trox</i>	<i>variolatus</i>	Melsheimer, 1846	X		X			
	<i>Trox</i>	<i>cylindrica</i>	(Serville, 1828)	X		X		X	
	<i>Trox</i>	<i>quadrilineata</i>	(Melsheimer, 1844)	X		X		X	
Trogossitidae	<i>Grynocharis</i>	<i>americana</i>	(Motschulsky, 1863)	X					
	<i>Lycoptis</i>	<i>americana</i>	Horn, 1862	X		X			
	<i>Tenebroides</i>	<i>bimaculatus</i>	Melsheimer, 1844	X		X			
	<i>Tenebroides</i>	<i>corticalis</i>	(Melsheimer, 1844)				X		
	<i>Thymalus</i>	<i>marginicollis</i>	Chevrolat, 1842					X	
	<i>Autonitium</i>	<i>parallelopedum</i>	(Say, 1825)	X		X		X	
	<i>Bitoma</i>	<i>quadrigitata</i>	(Say, 1825)	X		X		X	
	<i>Colydium</i>	<i>lineola</i>	Say, 1826			X	X		
	<i>Eucicones</i>	<i>marginalis</i>	(Melsheimer, 1846)			X			
	<i>Eudesma</i>	<i>undulata</i>	(Melsheimer, 1846)			X			
Zopheridae	<i>Microsticus</i>	<i>parvulus</i>	(Guerin-Meneville, 1844)	X		X		X	
	<i>Paha</i>	<i>laticollis</i>	(LeConte, 1863)			X			
	<i>Pycnomerus</i>	<i>reflexus</i>	(Say, 1826)			X			
	<i>Synchita</i>	<i>fuliginosa</i>	Melsheimer, 1846	X		X		X	

Table 2. Summary of family, genus, and species richness reported for six sites across Indiana.

Site	Families	Genera	Species
Indiana Dunes State Park	62	348	490
Kankakee Sands	56	241	305
Ross Hills Park	73	355	494
Shades State Park	75	430	628
Muscatatuck National Wildlife Refuge	44	158	180
Twin Swamps Nature Preserve	21	48	56
Total	94	794	1328

cies, *Oscarinus rusicola* (Melsheimer) and *Xylobiops basilaris* (Say), were confirmed from all six sites in this study. Additionally, only seven species, *Ataenius strigatus* (Say), *Catogenus rufus* (Fabricius), *Cicindela sexguttata* Fabricius, *Hololepta aequalis* Say, *Platysoma lecontei* Marseul, *Stelidota geminata* (Say), and *Xyleborinus saxesenii* (Ratzeburg), were reported from five properties. These low numbers represent 0.69% of the total diversity reported in the study, pointing to the need for much more sampling across the state of Indiana to confirm just how widespread or common many of these species are. Additionally, 54 species were found at four properties, 136 at three, and 351 confirmed from two sites. This leaves 778 species, almost 60% of the total reported, that were from a single sampling site. The vast majority of these species are certainly more widespread than these numbers would suggest, it is likely that more targeted sampling or additional efforts at the least sampled sites would remedy this.

The species numbers can also be assessed from a taxonomic perspective and those statistics are given in Table 3. Fifteen families were included with more than 20 confirmed species present. Carabidae lead the list with 144 species, Cerambycidae and Curculionidae also surpassed a hundred species with a confirmed total of 111 and 110, respectively. Scarabaeidae (99) and Elateridae (97) round out the top five. Many additional species could be added with not only increased collecting efforts but also continued identification by world authorities, especially in groups that are difficult to attain species-level determinations on (*i.e.* Staphylinidae, Carabidae, Curculionidae). Unsurprisingly, if all specimens of previously collected morphospecies were identified, it is likely that these three families would be found to have the highest numbers at these properties.

Many of the species reported here certainly represent new state records or range extensions; however, without a thorough literature review for each family, confirmation

is needed on an individual basis and these species are simply included within the general list. A survey of this scale also resulted in the collection of several putative new species. Of specific note, specimens of the following species collected as part of these surveys represent designated type material; *Orchestomerus eisemani* Yoshitake and Anderson, 2015 (Curculionidae), *Microrhagus carinicollis* Otto, 2015, and *Microrhagus lecontei* Otto, 2015 (Eucnemidae).

The species list presented here is a direct result of the sampling effort summarized by this work. It is clear from these efforts that the number of species known from the state of Indiana is much greater than reported over 100 years ago. Many of these additional records are likely already in museums like the Purdue Entomological Research Collection (PERC) and the Field Museum of Natural History (FMNH). A concerted effort to combine field surveys like the ones presented here, vast museum holdings, and published records from the last century would likely result in greater than 4,000 species recorded from Indiana.

Table 3. Total species numbers reported for the 15 families with the highest species richness.

Family	# of species
Carabidae	144
Cerambycidae	111
Curculionidae	110
Scarabaeidae	99
Elateridae	97
Chrysomelidae	85
Staphylinidae	74
Histeridae	53
Tenebrionidae	40
Buprestidae	36
Nitidulidae	36
Mordellidae	26
Coccinellidae	25
Cleridae	21
Hydrophilidae	20

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