
Annotated List of Ants in Illinois (Hymenoptera: Formicidae)

Mark B. DuBois and Wallace E. LaBerge

Abstract

This preliminary list of ants which occur in Illinois is based upon field collections by the senior author, examination of the Illinois Natural History Survey collection, and examination of pertinent literature. Eight species have been described from Illinois. This publication lists a total of 122 species as present within the state boundaries. Of these, 98 species were confirmed; the remainder are known from recent literature records only. Distribution of confirmed species by Illinois counties, brief notes concerning their habitat, and a citation of the most recent revision for each species are included.

Introduction

The first preliminary list of ants found in Illinois was provided by Tanquary (1911), but distributions of most species were not provided. Records of ants from Tanquary's personal collection (a total of 51 taxa – presumably collected in the vicinity of Urbana), plus records from the Illinois State Laboratory of Natural History (now known as the Illinois Natural History Survey), form the bulk of the records in this list. An additional 13 taxa were provided by W. M. Wheeler (and included by Tanquary in his list), bringing the total known taxa to 73. This list remains the only comprehensive listing of species found within the state. Talbot (1934) and Gregg (1944) concentrated on the ants found near Chicago. Several revisions of ant genera have reported distributions of species within the state (Weber, 1947, 1948, 1950; Smith, 1957; Brown, 1953; Wilson, 1955; Wing, 1968; and DuBois, 1986). These records have been based primarily upon material housed in the Illinois Natural History Survey collection.

The most recent publication on Illinois ants was provided by Ross et al. (1971). This work provided useful keys to the genera of ants and included those which could only survive in heated buildings in Illinois. However, it concentrated upon genera and did not include sig-

nificant comments regarding species found within the state. It is hoped this current publication will be used in conjunction with Ross et al. (1971) and will provide an introduction to aid those working on ants within Illinois. Seventeen years have passed since the above keys were published and several name changes have occurred. Anyone using the keys should be aware of the following changes. *Ponera* was revised by Taylor (1968) with most species placed in *Hypoconera*. The only species of *Ponera* which occurs in Illinois is *Ponera pennsylvanica*. *Sysphincta* has been considered a synonym of *Proceratium* (Brown, 1958). All North American species of *Dorymyrmex* were transferred to *Conomyrma* by Snelling (1973). Snelling and George (1979) transferred *Iridomyrmex pruinosus* into the genus *Forelius*. *Wasmannia* is considered a synonym of *Ochetomyrmex* (Brown, 1973).

There have been no ant studies of nearby states in recent times. Buren (1941, 1944) provided a preliminary list of Iowa ants. Burrill and Smith (1919) provided a key to the species of Wisconsin ants. Nomenclatural changes have reduced the value of these studies to some extent.

The following taxa were originally described from Illinois. Where possible, type localities are listed (or inferred from previous literature). The following list is arranged in chronological order since some of the described taxa have been transferred to other genera by later revisions.

Formica aphidicola Walsh (1862), Proc. Entomol. Soc. Philadelphia 1:310.

By inference Rock Island, Rock Island Co., Illinois (Creighton, 1950). This species is now regarded as a synonym of *Lasius umbratus* (Nylander) (Wilson, 1955).

Formica latipes Walsh (1862), Proc. Entomol. Soc. Philadelphia 1:311. By inference Rock Island, Rock Island Co., Illinois (Creighton, 1950).

This species is now placed in *Acanthomyops* (Wing, 1968).

Hypoclinea plagiata Mayr (1870), Verh. Zool.-bot. Ges. Wien 20: 960. Illinois. This species is now placed in *Dolichoderus* (Creighton, 1950).

Pheidole bicarinata Mayr (1870), Verh. Zool.-bot. Ges. Wien 20: 989. Illinois.

Formica ferocula Wheeler (1913), Bull. Mus. Comp. Zool. 53: 461. Rockford, Winnebago Co., Illinois.

Leptothorax foveata Smith (1934), Psyche 41: 211. Plainfield, Will Co., Illinois. This species is now placed as subspecies of *Leptothorax ambiguus* (Creighton (1950)).

Lasius (Acanthomyops) parvula Smith (1934), Psyche 41: 213. Herrin, Williamson Co., Illinois. This species is now placed in *Acanthomyops* (Wing, 1968).

Strumigenys (Cephaloxys) talpa Weber (1934), Psyche 41: 63. Herod, Pope Co., Illinois. This species is now placed in *Smithistruma* (Brown, 1953).

In an effort to present distributions in as meaningful a format as possible, they are listed by counties. These records have been gleaned from the senior author's personal collection and the Illinois Natural History Survey collection. Specific habitats are discussed and the most recent revision of each group is listed. Literature records are discussed only for species reported from Illinois but not discovered in the collections examined.

Preliminary List of Species Encountered

Family Formicidae

Subfamily Ponerinae

Most species of this subfamily are distributed throughout tropical regions. Within the United States, the greatest diversity occurs in southern states. All ponerines are predators and usually feed on small arthropods. Colonies encountered in Illinois are small and usually contain less than 50 individuals. Most collections come from Berlese samples of soil, rotten wood, and leaf litter. One species, *Ponera pennsylvanica*, is found statewide. Ponerines are most frequently encountered in springtime or after heavy rainfall when soil moisture content is high.

Amblyopone Erichson

Amblyopone pallipes (Haldeman)

HABITAT: Shaded areas in deciduous forest, usually on south-facing slopes (under stones, in decayed logs, as strays in leaf litter). COUNTIES: Champaign, Du Page, Jackson, Piatt, Putnam, Sangamon, Tazewell, Union. REVISION: Brown (1960).

Hypoconera Santschi

Hypoconera opacior (Forel)

HABITAT: In grass sod. COUNTY: Champaign. REVISION: Taylor (1968) and Creighton (1950).

Ponera Latreille

Ponera pennsylvanica Buckley

HABITAT: Shaded areas throughout the state from lawns to deciduous forest (under stones, in decayed logs, in leaf litter, in grass sod).
 COUNTIES: Adams, Champaign, Clinton, Coles, Cook, DeKalb, DeWitt, Edwards, Franklin, Hardin, Jackson, Jersey, Jo Daviess, LaSalle, Logan, Macon, Macoupin, Marshall, Mason, Massac, McHenry, McLean, Menard, Montgomery, Piatt, Pope, Sangamon, Stark, Stephenson, Tazewell, Union, Vermilion, Warren. REVISION: Taylor (1968).

Proceratium Roger*Proceratium pergandei* (Emery)

HABITAT: Shaded areas in deciduous forest (in decayed logs).
 COUNTY: Vermilion. REVISION: Brown (1980).

Proceratium silaceum Roger

HABITAT: Shaded areas in deciduous forest (in decayed logs).
 COUNTIES: Effingham, Jackson, Pope, Vermilion. REVISION: Brown (1980).

Subfamily Ecitoninae

Most species of this subfamily are distributed throughout Central and South America; they are commonly called army ants. Within the United States, the greatest diversity occurs in the southern states. Only one species has been collected in Illinois. Army ants are predators and usually feed exclusively on living prey (other small arthropods). Colonies are rarely encountered in Illinois (usually on overcast days or at night); males may be attracted to lights.

Neivamyrmex Borgmeier*Neivamyrmex nigrescens* (Cresson)

HABITAT: Shaded areas near edge of deciduous forests (under stones or in nests of other ants). COUNTIES: Pulaski, Union. REVISION: Watkins (1976).

Subfamily Myrmicinae

Members of this subfamily are distributed worldwide; within the United States, the greatest diversity occurs in southern states. Ants collected within Illinois will likely be members of this subfamily or the

subfamily Formicinae. Food preferences are diverse ranging from seeds (*Pheidole*) to cultivation of fungus (*Trachymyrmex*) through scavengers and predators (*Aphaenogaster*). Most species of this subfamily are found in deciduous forest (under stones, in rotten logs). Colonies can become quite large and may contain many thousands of individuals.

Aphaenogaster Mayr*Aphaenogaster fulva* Roger

HABITAT: Deciduous forest (under stones, in rotten logs).
 COUNTIES: Champaign, Piatt, Putnam, Vermilion, Woodford. REVISION: Creighton (1950).

Aphaenogaster lamellidens Mayr

HABITAT: Deciduous forest (in rotten logs). COUNTIES: Marshall, McLean. REVISION: Creighton (1950).

Aphaenogaster mariae Forel

HABITAT: Shaded areas near edge of deciduous forest (in dead branches or under loose bark of living trees). COUNTIES: Champaign, LaSalle, Marshall. REVISION: Creighton (1950).

Aphaenogaster rudis (Emery)

HABITAT: Deciduous forest (under stones, in rotten logs, in soil).
 COUNTIES: Champaign, Coles, Jackson, Jo Daviess, Peoria, Piatt, Pope, Richland, Tazewell, Union, Vermilion. REVISION: Creighton (1950).

Aphaenogaster tennesseensis (Mayr)

HABITAT: Deciduous forest (in rotten logs). COUNTIES: Champaign, Cook, Jo Daviess, LaSalle, Lee, Marshall, Mason, McHenry, McLean, Ogle, Piatt, Pope, Vermilion. REVISION: Creighton (1950).

Aphaenogaster texana (Emery)

HABITAT: Deciduous forest (under stones). COUNTY: Marshall. REVISION: Creighton (1950).

Aphaenogaster treatae Forel

HABITAT: Open fields or near edge of deciduous forest (in soil).
 COUNTIES: Adams, Jackson, Woodford. REVISION: Creighton (1950).

*Crematogaster Lund**Crematogaster cerasi* (Fitch)

HABITAT: Deciduous forest (under stones, in rotten logs). COUNTIES: Champaign, Cook, Hancock, Jackson, Kankakee, Marshall, Mason, Ogle, Pike, Vermilion. REVISIONS: Buren (1958, 1968).

Crematogaster lineolata (Say)

HABITAT: Deciduous forest (under stones; in rotten logs). COUNTIES: Champaign, Coles, Jo Daviess, Lake, Mason, McHenry. REVISIONS: Buren (1958, 1968).

Crematogaster punctulata Emery

HABITAT: Open fields (in soil). COUNTY: Tazewell. REVISIONS: Buren (1958, 1968).

*Harpagoxenus Forel**Harpagoxenus americanus* (Emery)

HABITAT: Deciduous forest (in plant cavities with host species of *Leptothorax*). COUNTY: LaSalle. REVISION: Creighton (1950).

*Leptothorax Mayr**Leptothorax ambiguus* Emery

One collection of this species is housed in the Illinois Natural History Survey. Locality information is ILLINOIS: Pollywogs [? near Oakwood in Vermilion Co.], in sumac stem. REVISION: Creighton (1950).

Leptothorax curvispinosus Mayr

HABITAT: Shaded areas in deciduous forest (in preformed plant cavities, such as nuts). COUNTIES: Carroll, Champaign, Lake, Lee, Mason, Ogle, Piatt, Tazewell, Union, Wabash. REVISION: Creighton (1950).

Leptothorax longispinosus Roger

HABITAT: Shaded areas in deciduous forest (in preformed plant cavities, such as nuts). COUNTY: Jo Daviess. REVISION: Creighton (1950).

Leptothorax pergandei Emery

HABITAT: Shaded areas in deciduous forest (in soil). COUNTY: Jackson. REVISION: Creighton (1950).

Leptothorax schaumii Roger

HABITAT: Shaded areas in deciduous forest (in bark of living trees). COUNTIES: Champaign, McLean, Tazewell. REVISION: Creighton (1950).

*Monomorium Mayr**Monomorium minimum* (Buckley)

HABITAT: Open fields (in soil). COUNTIES: Adams, Cumberland, Edwards, Hardin, Jackson, Johnson, Madison, Marion, Mason, Massac, McLean, Perry, Pope, Richland, Tazewell, Union, Wabash, Washington. REVISION: DuBois (1986).

Monomorium pharaonis (Linnaeus)

HABITAT: This is a tropical species which only survives in heated buildings in Illinois. COUNTIES: Champaign, Jackson, Jefferson, Pulaski, Sangamon, White. REVISION: Creighton (1950).

*Myrmecina Curtis**Myrmecina americana* Emery

HABITAT: Deciduous forest (under stones, in rotten logs, in leaf litter). COUNTIES: Adams, Alexander, Champaign, Christian, Jackson, Jersey, Lake, Marion, Mason, Piatt, Pope, Pulaski, Putnam, Saline, Tazewell, Vermilion, Wayne, Woodford. REVISION: Brown (1967).

*Myrmica Latreille**Myrmica americana* Weber

HABITAT: Open fields (in soil, under stones). COUNTIES: Adams, Champaign, Coles, Cook, Cumberland, Edgar, Edwards, Fulton,

Iroquois, Jo Daviess, Lake, LaSalle, Lee, Marion, Mason, McHenry, McLean, Ogle, Piatt, Putnam, Stark, Stephenson, Vermilion, Woodford. REVISIONS: Weber (1947, 1948, 1950).

Myrmica emeryana Forel

HABITAT: Shaded areas in deciduous forest (under stones). COUNTIES: Champaign, Jo Daviess, Mason, McLean, Peoria, Piatt, Vermilion. REVISIONS: Weber (1947, 1948, 1950).

Myrmica lobicornis fracticornis Emery

HABITAT: Moist, shaded areas in deciduous forest usually near water (under stones). COUNTIES: Champaign, Cook, DeKalb, Lawrence, Piatt. REVISIONS: Weber (1947, 1948, 1950).

Myrmica punctiventris Roger

HABITAT: Deciduous forest (in soil, in rotten logs). COUNTIES: Champaign, Ogle, Piatt, Vermilion. REVISIONS: Weber (1947, 1948, 1950).

Pheidole Westwood

Pheidole bicarinata Mayr

HABITAT: Open fields (under stones, under rotten logs). COUNTIES: Jackson, Mason, Tazewell, Woodford. REVISION: Gregg (1958). DuBois (1985) questioned the validity of the subspecies *Pheidole bicarinata vinelandica*. Within Kansas, nests of both subspecies (*P. bicarinata bicarinata* and *P. bicarinata vinelandica*) occur within a few feet of each other; characters used to separate these taxa intergrade.

Pheidole pilifera (Roger)

HABITAT: Open fields (in soil). COUNTY: Champaign. REVISION: Gregg (1958).

Smithistruma Brown

Smithistruma angulata (Smith)

HABITAT: Deciduous forest (in rotten wood). COUNTIES: Jackson, Pope. REVISION: Brown (1953).

Smithistruma bimarginata (Wesson and Wesson)

HABITAT: Deciduous forest (in soil cover). COUNTIES: Jefferson, Lawrence. REVISION: Brown (1953).

Smithistruma clypeata (Roger)

HABITAT: Deciduous forest (under stones, in rotten logs). COUNTIES: Adams, Jersey, Mason. REVISION: Brown (1953).

Smithistruma dietrichi (Smith)

HABITAT: Deciduous forest (in or under bark of rotten logs). COUNTIES: Adams, Bureau, Champaign, Knox, McLean, Monroe. REVISION: Brown (1953).

Smithistruma laevinasis (Smith)

HABITAT: Deciduous forest (in rotten logs). COUNTIES: Adams, Madison, Monroe, Vermilion. REVISION: Brown (1953).

Smithistruma ohioensis (Kennedy and Schramm)

HABITAT: Deciduous forest (in soil, under stones, in rotten logs). COUNTIES: Adams, Crawford, Effingham, Fulton, Gallatin, Jackson, Lake, Logan, Randolph. REVISION: Brown (1953).

Smithistruma ornata (Mayr)

HABITAT: Deciduous forest (in leaf litter). COUNTIES: Clark, Crawford, Hardin, Jackson, Monroe, Pope, Randolph. REVISION: Brown (1953).

Smithistruma pergandei (Emery)

HABITAT: Deciduous forest (under stones; in rotten logs). COUNTIES: LaSalle, Piatt, Putnam, Tazewell. REVISION: Brown (1953).

Smithistruma pilinasis (Forel)

HABITAT: Deciduous forest (under stones, in rotten logs). COUNTIES: Hardin, Pope. REVISION: Brown (1953).

Smithistruma pulchella (Emery)

HABITAT: Deciduous forest (in rotten logs). COUNTIES: Adams, Edgar, Jackson, Pope, Union, Vermilion. REVISION: Brown (1953).

Smithistruma reflexa (Wesson and Wesson)

HABITAT: Deciduous forest (under stones). COUNTIES: Adams, Jackson, Randolph, Union, Woodford. REVISION: Brown (1953).

Smithistruma rostrata (Emery)

HABITAT: Deciduous forest (in rotten logs). COUNTIES: Effingham, Hardin, Perry, Pope. REVISION: Brown (1953).

Smithistruma talpa (Weber)

HABITAT: Deciduous forest (in soil). COUNTIES: Adams, Clark, Crawford, Lawrence, Pike, Pope, Richland, Union. REVISION: Brown (1953).

Solenopsis Westwood*Solenopsis (Diplorhoptrum)* Mayr*Solenopsis molesta* (Say)

HABITAT: Open fields, deciduous forest (in soil, under stones). This species is sometimes found in or near nests of other ants. COUNTIES: Champaign, Coles, Jackson, Jo Daviess, Massac, Stark, Tazewell, Union, Woodford. REVISION: Thompson (1980).

Solenopsis texana Emery

HABITAT: Deciduous forest (in rotten logs, under bark). COUNTY: Pope. REVISION: Thompson (1980).

Stenamma Westwood*Stenamma brevicorne* (Wayr)

HABITAT: Deciduous forest (in rotten logs, under stones). COUNTIES: Champaign, Jo Daviess, Kane, Knox, McHenry, Piatt, Stephenson, Vermilion. REVISION: Smith (1957).

Stenamma diecki Emery

HABITAT: Deciduous forest (in rotten logs, under stones). COUNTY: Ogle. REVISION: Smith (1957).

Stenamma impar Forel

HABITAT: Deciduous forest (in rotten logs). COUNTY: Vermilion. REVISION: Smith (1957).

Stenamma meridionale Smith

HABITAT: Deciduous forest, usually near streams (in soil). COUNTIES: Alexander, Champaign, Pulaski, Tazewell, Union. REVISION: Smith (1957).

Stenamma schmittii Wheeler

HABITAT: Deciduous forest (under stones, in rotten logs). COUNTIES: Champaign, Jackson, McLean, Piatt, Vermilion. REVISION: Smith (1957).

Tetramorium Mayr*Tetramorium caespitum* (Linnaeus)

HABITAT: This is probably an introduced species as it is usually found near buildings (under sidewalks, in cracks in pavement). Brown (1957) discussed this matter in some detail. COUNTIES: Cook, DeKalb, Peoria, Tazewell. REVISION: Bolton (1979).

Trachymyrmex Forel*Trachymyrmex septentrionalis* (McCook)

HABITAT: Open fields, deciduous forest (in soil, under rocks). COUNTIES: Hardin, Jackson, Mason. REVISION: Creighton (1950).

Subfamily Dolichoderinae

Members of this subfamily are distributed worldwide; within the United States, the greatest diversity is found in southern states. In Illinois, these insects are often encountered on sidewalks where workers form long files of ants. Most species are scavengers and prefer sweet foods. Colonies are moderate in size and may contain up to a thousand individuals.

Conomyrma Forel

Conomyrma insana (Buckley)

HABITAT: Open, Sunny areas (in soil). COUNTIES: Champaign, Mason. REVISION: Snelling (1973).

Dolichoderus Lund*Dolichoderus (Hypoclinea)* Mayr*Dolichoderus pustulatus* Mayr

HABITAT: Open fields (near base of grass stems). COUNTIES: Lake, Stephenson. REVISION: Creighton 11950).

Forelius Emery*Forelius pruinosus* (Roger)

HABITAT: Open areas (in soil). COUNTIES: Jackson, Pulaski, Union. REVISION: Snelling and George (1979).

Tapinoma Foerster*Tapinoma sessile* (Say)

HABITAT: Many diverse habitats throughout the state ranging from open fields to deciduous forest (under stones, in rotten logs). COUNTIES: Bureau, Champaign, Clark, Gallatin, Hancock, Jackson, Jersey, Kane, Kankakee, Lake, LaSalle, Madison, Marion, McHenry, McLean, Piatt, Pope, Pulaski, Rock Island, Tazewell, Union, Vermilion, Wabash. REVISION: Creighton (1950).

Subfamily Formicinae

Members of this subfamily are found worldwide. One genus, *Camponotus*, has its greatest diversity in tropical regions. Other genera, such as *Formica*, *Lasius*, and *Acanthomyops* are primarily restricted to the Northern hemisphere. Ants of this subfamily are the most frequently encountered ones in Illinois. They are found in most habitats ranging from lawns to open fields to deciduous forests. Most species are scavengers or prefer sweet foods. Colonies can become quite large and contain thousands of individuals.

Acanthomyops Mayr*Acanthomyops claviger* (Roger)

HABITAT: Open fields, deciduous forest (in soil, under stones, in rotting logs). COUNTIES: Champaign, Clark, Fulton, Henry, Iroquois, Logan, Macon, McHenry, McLean, Piatt, Putnam, Saline, Tazewell, Vermilion, Williamson. REVISION: Wing (1968).

Acanthomyops interjectus (Mayr)

HABITAT: Open fields, deciduous forest (in soil, sometimes forming a mound, under stones, in rotting logs). COUNTIES: Champaign, Fulton, Hancock, Jackson, Jasper, Jo Daviess, Kankakee, Knox, Macon, Mason, McHenry, McLean, Peoria, Rock Island, Tazewell, Vermilion, Wayne, Winnebago, Woodford. REVISION: Wing (1968).

Acanthomyops latipes (Walsh)

HABITAT: Open fields, deciduous forest (in soil, sometimes forming a mound, under stones, in rotting logs). COUNTIES: Champaign, Macon, McHenry, McLean, Rock Island, Tazewell, Vermilion. REVISION: Wing (1968).

Brachymyrmex Mayr*Brachymyrmex depilis* Emery

HABITAT: Deciduous forest (under stones, in rotting logs). COUNTIES: Jackson, Mason. REVISION: Wheeler and Wheeler (1978).

Camponotus Mayr

This is a large genus which is found worldwide. Members are commonly called carpenter ants. Due to the size and diversity of this group, species are arranged by subgenus.

Camponotus (Camponotus) Mayr*Camponotus (Camponotus) americanus* Mayr

HABITAT: Deciduous forest (under stones). COUNTIES: Carroll, Coles, Iroquois, Jackson, Marshall, McHenry, Ogle, Saline, Union, Washington. REVISION: Creighton (1950).

Camponotus (Camponotus) ferrugineus (Fabricius)

HABITAT: Deciduous forest (in and under rotting logs). COUNTIES: Adams, Alexander, Cass, Champaign, Clark, Jackson, Mason,

McLean, Peoria, Piatt, Pope, Pulaski, Vermilion. REVISION: Creighton (1950).

Camponotus (Camponotus) novaeboracensis (Fitch)

HABITAT: Deciduous forest (in rotting logs). COUNTIES: Champaign, Cook, Jo Daviess, Lake, Marshall, McHenry, Ogle, Vermilion, Woodford. REVISION: Creighton (1950).

Camponotus (Camponotus) pennsylvanicus (DeGeer)

HABITAT: Deciduous forest (in and under rotting logs). COUNTIES: Adams, Bureau, Cass, Champaign, Cook, Fulton, Henderson, Iroquois, Jackson, Jo Daviess, Mason, McHenry, Piatt, Rock Island, Tazewell, Vermilion, Whiteside. REVISION: Creighton (1950).

Camponotus (Colobopsis) Mayr

Camponotus (Colobopsis) impressus (Roger)

HABITAT: Deciduous forest. Smith (1979) indicated the majority of colonies have been found in culms of sedges. COUNTIES: Champaign, Pope. REVISION: Creighton (1950).

Camponotus (Colobopsis) mississippiensis Smith

HABITAT: Deciduous forest (in hollow twigs and branches). COUNTIES: Alexander, Hardin, Pulaski. REVISION: Creighton (1950).

Camponotus (Myrmentoma) Forel

Camponotus (Myrmentoma) caryae caryae (Fitch)

HABITAT: Deciduous forest (usually associated with hickory trees, under bark, in hollow branches). COUNTIES: Champaign, Coles, Jackson, Jo Daviess, Lake, LaSalle, Marshall, McHenry, Piatt, Pope, Pulaski, Putnam, Vermilion, Will. REVISION: Creighton (1950).

Camponotus (Myrmentoma) nearcticus Emery

HABITAT: Deciduous forest (under bark, in hollow branches). COUNTIES: Lake, LaSalle, McHenry, Morgan, Tazewell, Vermilion. REVISION: Creighton (1950).

Camponotus (Myrmentoma) subbarbatus Emery

HABITAT: Deciduous forest (in plant cavities, under bark, in hollow branches). COUNTY: Piatt. REVISION: Creighton (1950).

Camponotus (Tanaemyrmex) Ashmead

Camponotus (Tanaemyrmex) castaneus (Latreille)

HABITAT: Open fields (in soil) and occasionally in deciduous forest (under stones, in rotting logs). COUNTIES: Champaign, Gallatin, Jackson, Johnson, Massac, McLean, Piatt, Pulaski, Richland, Tazewell, Union, Vermilion, Washington. REVISION: Creighton (1950).

Formica Linnaeus

Formica exsectoides Forel

HABITAT: Open meadows or near woods (in soil usually marked with large mound). COUNTY: Champaign. REVISION: Creighton (1950).

Formica fusca Linnaeus

HABITAT: Open area near edge of deciduous forest (under rocks). COUNTY: DeKalb. REVISION: Francoeur (1973).

Formica integra Nylander

HABITAT: Open areas in deciduous forest (in rotting logs). COUNTY: Clark. REVISION: Creighton (1950).

Formica montana Emery

HABITAT: Open fields (in soil marked with a grass covered mound). COUNTIES: Champaign, Lake, LaSalle, Stark, Stephenson. REVISION: Francoeur (1973).

Formica neogagates Emery

HABITAT: Open fields (under stones, in soil marked with a mound). COUNTIES: Champaign, Macon, Macoupin, McHenry, McLean, Ogle, Piatt, Stark. REVISION: Creighton (1950).

Formica obscuripes Forel

HABITAT: Open fields (in soil marked with a thatch covered mound). COUNTY: McHenry. REVISION: Creighton (1950).

Formica obscuriventris Mayr

HABITAT: Open fields (in soil marked with a thatch covered mound).
 COUNTY: Whiteside. REVISION: Creighton (1950).

Formica pallidefulva Latreille

HABITAT: Open fields (in soil at base of grass stems, under stones).
 COUNTIES: Champaign, Clay, Coles, Effingham, Jackson, Mason, Massac, McHenry, Stark, Tazewell, Wabash, Washington. REVISION: Creighton (1950).

Formica pallidefulva nitidiventris Emery

HABITAT: Open fields (in soil at base of grass stems, under stones).
 COUNTIES: Carroll, Champaign, Coles, Effingham, Iroquois, Jo Daviess, Lake, LaSalle, Lee, Marshall, Mason, Massac, McHenry, McLean, Ogle, Piatt, Pope, Stark, Vermilion, Wabash. REVISION: Creighton (1950).

Formica pergandei Emery

HABITAT: Open fields (colonies started in nest of host species).
 COUNTY: Vermilion. REVISION: Creighton (1950).

Formica rubicunda Emery

HABITAT: Open fields (colonies started in nest of host species).
 COUNTIES: Champaign, Jo Daviess. REVISION: Creighton (1950).

Formica schaufussi Mayr

HABITAT: Open fields (under stones). COUNTY: Champaign. REVISION: Creighton (1950).

Formica subintegra Emery

HABITAT: Open fields (colonies started in nest of host species).
 COUNTIES: Champaign, DeKalb, Marshall, McHenry, McLean, St. Clair, Tazewell, Woodford. REVISION: Creighton (1950).

Formica subsericea Say

HABITAT: Open woods (under rocks, nest sometimes marked by mound). COUNTIES: Champaign, Christian, Coles, Cook, Hancock, Gallatin, Jackson, Lee, Macon, Marshall, Mason, Massac,

McHenry, McLean, Mercer, Peoria, Sangamon, Stark, Tazewell, Union, Vermilion, Winnebago. REVISION: Francoeur (1973).

Formica ulkei Emery

HABITAT: Border between field and deciduous forest (nests usually in lower areas, close to the water table). COUNTIES: Lake, Peoria, Woodford. REVISION: Creighton (1950).

Lasius Fabricius

Due to the diversity of this group, species are arranged by subgenus.

*Lasius (Cautolasius) Wilson**Lasius (Cautolasius) flavus* (Fabricius)

HABITAT: Open fields (under stones). COUNTY: Champaign. REVISION: Wilson (1955).

Lasius (Cautolasius) nearcticus Wheeler

HABITAT: Shaded areas in deciduous forest (under stones, under rotting logs). COUNTIES: LaSalle, Vermilion. REVISION: Wilson (1955).

*Lasius (Chthonolasius) Ruzsky**Lasius (Chthonolasius) speculiventris* Emery

HABITAT: Open woods (in rotting logs). COUNTIES: Adams, McLean, Stephenson, Tazewell. REVISION: Wilson (1955).

Lasius (Chthonolasius) umbratus (Nylander)

HABITAT: Open fields or open woods (under stones, in rotting logs). COUNTIES: Champaign, Henry, Iroquois, Marshall, McHenry, McLean, Piatt, Sangamon, Vermilion, Woodford. REVISION: Wilson (1955).

*Lasius (Lasius) Fabricius**Lasius (Lasius) alienus* (Foerster)

HABITAT: Shaded areas in deciduous forest (under stones, in rotting logs). COUNTIES: Adams, Champaign, Clark, Coles, Cook, Lake, Marshall, McHenry, McLean, Stark, Tazewell, Vermilion. REVISION: Wilson (1955).

Lasius (Lasius) neoniger Emery

HABITAT: Open fields (in soil, under stones). COUNTIES: Champaign, Clark, Coles, Ford, Marion, Mason, McHenry, Mercer, Montgomery, Ogle, Pike, Rock Island, Stark, Tazewell. REVISION: Wilson (1955).

*Paratrechina Motschulsky**Paratrechina arenivaga* (Wheeler)

HABITAT: Open fields (in sandy soil). COUNTY: Mason. REVISION: Trager (1984).

Paratrechina longicornis (Latreille)

HABITAT: This is a tropical species which only survives in heated buildings in Illinois. COUNTIES: Kane, Peoria. REVISION: Trager (1984).

Paratrechina parvula (Mayr)

HABITAT: Open fields near edge of deciduous forest (in soil, under rocks). COUNTY: Champaign. REVISION: Trager (1984).

*Polyergus Latreille**Polyergus breviceps* Emery

HABITAT: Open fields (in nest of host ant species). COUNTIES: Champaign, Cook, DeKalb, McHenry, Peoria, Tazewell. REVISION: Wheeler (1968).

Polyergus lucidus Mayr

HABITAT: Open fields (in nest of host ant species). COUNTIES: Peoria, Tazewell. REVISION: Creighton (1950).

Prenolepis Mayr*Prenolepis imparis* (Say)

HABITAT: Open fields, open woods (in soil, under stones). COUNTIES: Champaign, DeWitt, Fulton, Hardin, Jackson, Johnson, LaSalle, Mason, McHenry, McLean, Menard, Piatt, Pope, Randolph, Stark, Tazewell, Union, Vermilion, Wabash, White. REVISION: Creighton (1950).

Literature Records

The following species have not been encountered in the collections examined. However, they have been reported from Illinois in recent literature. Only the most recent citation is provided for each species.

Subfamily Ponerinae

Proceratium croceum (Roger); Smith (1979).

Subfamily Myrmicinae

Leptothorax ambiguus foveatus Smith; Smith (1979). This subspecies was originally described from Illinois.

Leptothorax duloticus Wesson; Smith (1979).

Myrmica spatulata Smith; Smith (1979).

Ochetomyrmex auropunctata (Roger); Ross et al. (1971). This is a tropical species which only survives in heated buildings in Illinois.

Pheidole dentata Mayr; Smith (1979).

Pheidole morrisi Forel; Smith (1979).

Smithistruma abdita (Wesson and Wesson); Smith (1979).

Smithistruma missouriensis (Smith); Smith (1979).

Strumigenys louisianae Roger; Ross, et al. (1971).

Subfamily Dolichoderinae

Dolichoderus mariae Forel; Smith (1979).

Dolichoderus plagiatus (Mayr); Smith (1979). This species was originally described from Illinois.

Dolichoderus taschenbergi (Mayr); Smith (1979).

Iridomyrmex humilis (Mayr); Smith (1979). This is a tropical species which only survives in heated buildings in Illinois.

Iridomyrmex iniquus nigellus Emery; Smith (1979). This is a tropical species which only survives in heated buildings in Illinois.

Subfamily Formicinae

Acanthomyops subglaber (Emery); Wing (1968).

Formica argentea Wheeler; Smith (1979).

Formica creightoni Buren; Smith (1979).

Formica ferocula Wheeler; Smith (1979). This species was originally described from Illinois.

Formica glacialis Wheeler; Smith (1979).

Formica nepticula Wheeler; Smith (1979).

Formica postoculata Kennedy and Dennis; Smith (1979).

Lasius (Chthonolasius) minutus Emery; Wilson (1955).

Paratrechina terricola (Buckley); Trager (1984).

Discussion

The state of Illinois, which covers in excess of 146,000 km² is divided into 102 counties. It is relatively flat since most vertical relief has been eliminated by the Pleistocene glaciers. Only the extreme northwestern corner (Jo Daviess County) and the southern area (roughly in a line from Carbondale to Shawneetown) were not leveled by these glaciers. Elevation ranges from a maximum of 376 m at Charles Mound to a minimum of 85 m along the Mississippi River. However, diversity of habitats remains high due to the north-south orientation of the state. Extremes of habitat range from cypress swamps in southern Illinois to tamarack bogs in northern portions. Many areas have large sand-hills deposited when the glaciers melted.

Many habitats have been only briefly sampled for their ant fauna. As these habitats are thoroughly investigated, it is expected the number of species will rise significantly. To date, eight species have been described from Illinois; six of these are still regarded as valid species. This paper lists a total of 122 species as present within the state boundaries. Of these, 95 species (78%) were confirmed in various collections; six species (5%) are introduced, five are tropical species which only survive in heated buildings in Illinois (3 of these were not encountered in the collections examined); the remaining 21 native species (17%) are known from recent literature records only.

This study has found that the greatest diversity of ants occurs in southern Illinois. Most of the records for subfamilies Ponerinae, Ectoninae, and Myrmicinae are from this region and numerous species, such as *Neivamyrmex nigrescens* and many of the *Smithistruma* species are only known from this area.

Several studies have concentrated upon ants of the Chicago region. Talbot (1934) listed 70 species from this region while Gregg (1944) listed 85 taxa. Although nomenclature has changed for many of the taxa they discussed, most of the valid species they list should occur statewide. Most of these have been confirmed in the present study as much of the central Illinois region was examined. Undoubtedly, further collecting will clarify the distribution of many of the ants discussed and will uncover additional species.

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