

# The ants of Ohio (Hymenoptera, Formicidae): an updated checklist

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## Abstract

I update the last published list of Ohio ants to include 26 new species records and 38 name changes in species already on the list based on literature records, institutional collections, and contemporary collections made by the author or colleagues. At present, 143 species and morphospecies representing 30 native and 5 exotic genera and 7 subfamilies have been recorded for the state. Another seven species are removed from the Ohio ant fauna as they represent distribution anomalies, or are based on erroneous records. Known distribution data suggest that there is still a considerable potential for the discovery of more ant taxa in Ohio.

## Keywords

ant diversity, new records, distribution, eastern United States, Nearctic

## Introduction

In 2005, Coover published the first comprehensive account of the ant fauna of Ohio and listed 118 species and subspecies from the state based on literature, museum records, and extensive collecting in the state in the period 1996–2002 (Coover 2005). The list included 14 taxa recorded for the first time from Ohio. A few earlier records were overlooked (i.e., *Paratrechina longicornis* (Latreille) (Hedges 1998), *Strumigenys hyalina* (Bolton) (Bolton 2000), *Tetramorium bicarinatum* (Nylander) (Bolton 1979)),

or excluded from the list (i.e., *Formica incerta* Buren (Wesson and Wesson 1940; Amstutz 1943; Headley 1943, 1949, 1952; Talbot 1945), *Myrmica incompleta* Provancher (Weber 1950), *Proceratium crassicornis* Emery (Wesson and Wesson 1940)) based on contemporary understanding of the group. *Formica nitidiventris* Emery was later synonymized with *Formica pallidefulva* Latreille and dropped from Ohio's list (Trager et al. 2007), bringing the total number of species known from the state to 117.

In the past fourteen years, a substantial amount of information from survey work, biodiversity and ecological studies, and taxonomic revisions (Francoeur 2007; Rabeling et al. 2007; Snelling and Snelling 2007; Trager et al. 2007; Trager 2013; Mackay and Mackay 2010, 2017; Kallal and Lapolla 2012; Pacheco and Mackay 2013; DeMarco and Cognato 2015, 2016; Morgan and Mackay 2017) has become available. As a result, the 2005 list is much out of date necessitating the current update. Contemporary knowledge of the state's ant fauna may be beneficial in providing support to future ecological, conservation, behavioral, and taxonomic studies in Ohio and the surrounding areas.

## Materials and methods

Data reported herein are based on information gathered from the following sources: 1) review of published records; 2) examination of materials in the collections of the Cleveland Museum of Natural History and the Virginia Museum of Natural History; 3) online records from digitized personal and museum collections, iDigBio (<https://www.idigbio.org/>), SCAN (<http://scanbugs.org/portal>), and AntWeb (<https://antweb.org/>); and 4) newly collected material.

Abbreviations of entomological collections used in this study are as follows:

- CMNH Cleveland Museum of Natural History, Cleveland, Ohio.
- FMNH Field Museum of Natural History, Chicago, Illinois.
- INHS Illinois Natural History Survey, Champaign, Illinois.
- MCZ Louis Agassiz Museum of Comparative Zoology, Cambridge, Massachusetts.
- MEM Mississippi Entomological Museum, Starkville, Mississippi.
- OSUC C.A. Triplehorn Insect Collection at Ohio State University, Columbus, Ohio.
- TTU-Z Texas Tech University Invertebrate Collection, Lubbock, Texas.
- UAIC University of Arizona Insect Collection, Tucson, Arizona.
- UCMC University of Colorado Museum of Natural History Insect Collection, Boulder, Colorado.
- VMNH Virginia Museum of Natural History, Martinsville, Virginia.

To the best of my knowledge, all species names presented herein are the currently valid names according to the fourth edition of the International Code of Zoological Nomenclature (ICZN 1999). Taxon names and concepts used in this work are gleaned from an interpretation of the contemporary literature and follow Bolton (2019) with

the exception of *Myrmica emeryana* Forel which is based on an ongoing revision of North American *Myrmica* by André Francoeur. Known morphospecies bear the names assigned to them by the relevant taxonomic specialists (e.g., André Francoeur's "*Myrmica* AF-*smi*"). These names are unavailable according to the zoological code (ICZN 1999). Unless otherwise noted, all identifications were made by the author. Vouchers of all newly collected material are deposited in the invertebrate collections at CMNH and VMNH.

The species included in this checklist can be identified using the keys in Covert (2005), Francoeur (2007), Trager et al. (2007), Ellison et al. (2012), Kallal and Lapolla (2012), and Sarnat et al. (2015). Additionally, representative high-resolution photographs of at least the worker's caste of Ohio's species can be found on AntWeb, AntWiki ([www.antwiki.org](http://www.antwiki.org)) and on Discover Life ([www.discoverlife.org](http://www.discoverlife.org)).

In the species accounts presented herein, all taxa are listed alphabetically by subfamily, tribe, genus, and species. County-level distributions (new data in bold) are provided only for the published Ohio records not appearing in Covert (2005) and for species previously known from only one or two records which are herein presented as "Rare", although I acknowledge that they may be more abundant and widespread outside the boundaries of Ohio. Detailed locality data are given only for the unpublished Ohio records. Material from institutional and personal collections is given first, followed by literature records, which are presented in chronological order. An asterisk (\*) marks taxa absent from the 2005 list and superscript <sup>E</sup> denotes exotic species. General within-state distribution follows Covert (2005) with adjustments for new records and recent taxonomic changes.

Appended is a list of questionable Ohio records based on published accounts or unpublished records appearing in online databases. These taxa are excluded from the Ohio fauna as they are based on erroneous records, mislabeled specimens, or misidentifications.

## Results and discussion

A total of 143 species and morphospecies representing 30 native and 5 exotic genera and 7 subfamilies comprise the known ant fauna of Ohio, USA. These include 26 additions to the checklist provided in Covert (2005) and 38 name changes in species already on the list. The new Ohio records are based on: 1) records published prior to 2005 but previously omitted from the list (6 taxa), 2) records published since 2005 (10 taxa), and 3) unpublished records (10 taxa). The majority of Ohio's new additions are known species whose populations were only recently discovered in the state with the remainder representing recently described (*Myrmica semiparasitica* Francoeur) or yet undescribed (*Myrmica* AF-*eva*, *Myrmica* AF-*scu*, *Myrmica* AF-*smi*) species.

Ohio's ant fauna is dominated by cool-climate *Camponotus*, *Formica*, *Lasius*, and *Myrmica*, whereas taxa with austral affinities are largely restricted to the southern, unglaciated region of the state. The overall composition of Ohio's myrmecofauna much

resembles that of other Midwestern and northeastern states for which contemporary checklists exist (e.g., Indiana (Carroll 2011), Michigan (Wheeler et al. 1994), New England (Ellison et al. 2012), and Pennsylvania (Butler and Coulter 2019)). The most species-rich genera in the state include *Formica* (26 spp.), *Strumigenys* (15 spp.), *Myrmica* (11 spp. and morphospp.), *Camponotus* (10 spp.), *Lasius* (10 spp.), *Temnothorax* (10 spp.), *Aphaenogaster* (7 spp.), and *Nylanderia* (6 spp.). These eight genera include two-thirds of Ohio's ant species and morphospecies. Conversely, 16 genera are represented in Ohio by a single species (Table 1).

Many of Ohio's ant taxa are widespread, both in the state and in Eastern North America, with nearly a quarter of the species having an essentially statewide distribution. The most widely distributed of these are the forest-dwelling *Camponotus pennsylvanicus* (De Geer) and *Lasius americanus* Emery, which have been recorded in all of Ohio's 88 counties. Other species that have been collected in a large proportion of the state include *Lasius neoniger* Emery (87 counties), *Formica subsericea* Say (>80 counties), *Formica pallidefulva* Latreille (>75 counties), and the non-native *Tetramorium immigrans* Santschi (>75 counties), (distribution from Coovert 2005 and new data). Other taxa exhibit restricted within-state distribution as a result of associations with rare/unusual habitats (*Dorymyrmex grandulus* (Forel), *Nylanderia arenivaga* Wheeler, W.M., *Myrmica lobifrons* Pergande), or because they reach the northern (e.g., *Neivamyrmex carolinensis* (Emery), *Aphaenogaster lamellidens* Mayr, *Crematogaster pilosa* Emery, *Pheidole tysoni* Forel, *Strumigenys laevinasis* Smith, M.R., *Temnothorax pergandei* (Emery), *Trachymyrmex septentrionalis* (McCook)), or southern (e.g., *Formica aserva* Forel, *Formica ulkei* Emery, *Harpagoxenus canadensis* Smith, M.R., *Leptothorax canadensis* Provancher) limits of their distributional ranges. Yet others, have been infrequently collected in the state due to their socially parasitic lifestyle (*F. aserva*, *Temnothorax americanus* (Emery), *T. duloticus* (Wesson L.G.), *T. minutissimus* Smith M.R., *Tetramorium atratum* (Schenck)), or simply because standard ant collecting techniques do not pick them very well (e.g., *Colobopsis*, *Strumigenys*, *Proceratium*). Undoubtedly, there are other, equally rare, species, which have not been detected yet in Ohio.

Recently, Ivanov (2016) reviewed the exotic ant fauna of Ohio and listed ten non-native taxa from the state. Earlier Ohio records of *Tetramorium bicarinatum* (Bolton 1979; Wetterer 2009) were overlooked and not included in the list. With the addition of this species, and the recent report of *Brachyponera chinensis* (Emery) from Cincinnati (Guénard et al. 2018), there are now 12 ant exotics known to occur in the state. Half of Ohio's non-native species belong to the subfamily Myrmicinae (6 species) with Dolichoderinae, Formicinae, and Ponerinae represented by two species each. While the native ant fauna predominates in intact forest ecosystems, grasslands, old fields, and prairie remnants, exotic species are more commonly associated with disturbed areas and are frequently encountered indoors in the large metropolitan areas of Cincinnati, Cleveland, and Columbus.

Although the updated list presented herein likely contains a large proportion of the taxa that exist in the state, there is still a considerable potential for the discovery of more species. There are at least 44 species likely to occur in the state by virtue of their

**Table 1.** Taxonomic composition of Ohio's ant fauna. Genera are ordered by the total number of (morpho-)species in each. Superscript <sup>E</sup> denotes exotic genera.

Genus	Number of species	% of Ohio fauna	Genus	Number of species	% of Ohio fauna
<i>Formica</i>	26	18.2	<i>Tapinoma</i>	2	1.4
<i>Strumigenys</i>	15	10.5	<i>Brachymyrmex</i>	1	0.7
<i>Myrmica</i>	11	7.7	<sup>E</sup> <i>Brachyponera</i>	1	0.7
<i>Camponotus</i>	10	7.0	<sup>E</sup> <i>Cardiocondyla</i>	1	0.7
<i>Lasius</i>	10	7.0	<i>Dorymyrmex</i>	1	0.7
<i>Tennothorax</i>	10	7.0	<i>Forelius</i>	1	0.7
<i>Aphaenogaster</i>	7	4.9	<i>Harpagoxenus</i>	1	0.7
<i>Nylanderia</i>	6	4.2	<i>Leptothorax</i>	1	0.7
<i>Pheidole</i>	5	3.5	<sup>E</sup> <i>Linepithema</i>	1	0.7
<i>Stenammas</i>	4	2.8	<i>Myrmecina</i>	1	0.7
<i>Crematogaster</i>	3	2.1	<i>Neivamyrmex</i>	1	0.7
<i>Dolichoderus</i>	3	2.1	<sup>E</sup> <i>Paratrechina</i>	1	0.7
<i>Proceratium</i>	3	2.1	<i>Polyergus</i>	1	0.7
<i>Solenopsis</i>	3	2.1	<i>Ponera</i>	1	0.7
<sup>E</sup> <i>Tetramorium</i>	3	2.1	<i>Prenolepis</i>	1	0.7
<i>Colobopsis</i>	2	1.4	<i>Stigmatomma</i>	1	0.7
<i>Hypoponera</i>	2	1.4	<i>Trachymyrmex</i>	1	0.7
<i>Monomorium</i>	2	1.4			

presence in neighboring areas (Appendix 1), any and all of which may turn up in Ohio in the future. Targeting these taxa, however, will require a more systematic approach and more intensive collecting throughout the state. Nonetheless, future collecting efforts are certain to add new taxa and provide additional locality records of known species building upon our knowledge of Ohio's myrmecofauna.

## List of Ohio ants

**Subfamily Amblyoponinae** [1 genus; 1 species]

### Tribe Amblyoponini

#### *Stigmatomma* Roger

*pallipes* (Haldeman). Common, but inconspicuous element of the local fauna throughout Ohio. Under *Amblyopone* in Covert (2005).

**Subfamily Dolichoderinae** [5 genera; 8 species]

### Tribe Dolichoderini

#### *Dolichoderus* Lund

*plagiatus* (Mayr). Widespread.

*pustulatus* Mayr. Widespread

*taschenbergi* (Mayr). Champaign and Hocking Cos. in southcentral Ohio. Rare.

**Tribe Leptomyrmecini*****Dorymyrmex* Mayr**

***grandulus*** (Forel). Literature records: **Lucas** (Friedrich 2010). Only known from a small number of collections in prairie remnants of the globally rare Oak Openings Region of northwestern Ohio. Rare.

***Forelius* Emery**

***pruinus*** (Roger). Literature records: **Lucas, Preble** (Uno et al. 2010; Campbell and Crist 2017). Previously reported from areas with full sun and hot, dry conditions in Adams and Erie Cos. Rare.

***Linepithema* Mayr**

***humile*** (Mayr). Ohio's only confirmed record of this notorious invasive species is from a greenhouse in Cleveland (Ivanov 2016). Coovert (2005) includes an unspecified Ohio record in Arnett (1993). Indoors, in heated buildings.

**Tribe Tapinomini*****Tapinoma* Foerster**

***melanocephalum*** (Fabricius). Literature records: **Butler, Cuyahoga, Franklin** (Ivanov 2016). In Ohio, this widely distributed tramp species is currently confined to indoor situations and can be abundant in greenhouses, conservatories, and zoo buildings.

***sessile*** (Say). Statewide and in most habitats including disturbed sites and inside buildings.

**Subfamily Dorylinae** [1 genus; 1 species]***Neivamyrmex* Borgmeier**

***carolinensis*** (Emery). Unspecified Ohio records in M.R. Smith (1967), Watkins (1972, 1976), and D.R. Smith (1979). Rare. No definitive Ohio records of this southeastern army ant exist, but it may occur in suitable habitats in the southern part of the state along the northern fringes of its distribution (see Snelling and Snelling 2007).

**Subfamily Formicinae** [9 genera; 58 species]**Tribe Camponotini*****Camponotus* Mayr**

***americanus*** Mayr. Widespread. Majority of the records from unglaciated southern Ohio, with disjunct records from Columbiana, **Lucas** (Uno et al. 2010) and **Summit** (VMNH110593) Cos. in the north.

***caryae*** (Fitch). Widespread.

***castaneus*** (Latreille). A number of scattered records from southern Ohio, north to Franklin and Muskingum Cos.

***chromaiodes*** Bolton. Statewide.

*discolor* (Buckley). Gallia and Muskingum Cos. in unglaciated southwestern Ohio. Rare.

\**herculeanus* (Linnaeus). – **Cuyahoga Co.** • Cuyahoga Valley National Park; 41.35597N, 81.56847W; alt. 259 m; 18 July 2009; W. & E. Mackay leg.; #23734; nest in solid log; hardwood forest; clay loam soil; W. Mackay det. 2009; MCZENT567833.

*nearcticus* Emery. Statewide.

*novaeboracensis* (Fitch). Widespread in northern Ohio, south to Franklin and Greene Cos.

*pennsylvanicus* (De Geer). Statewide.

*subbarbatus* Emery. Statewide.

### *Colobopsis* Mayr

*impresa* Roger. **Mahoning** (CMNHENT39502), **Warren** (K. Campbell unpublished data; pers. comm., February 2019). Previously reported from Henry and Muskingum Cos. Rare.

*mississippiensis* (Smith, M.R.). This infrequently collected arboreal species is known from only a few scattered Ohio sites.

### Tribe Formicini

#### *Formica* Linnaeus

*argentea* Wheeler, W.M. **Cuyahoga, Ottawa, Richland** (MCZENT551348, MCZENT551349, MCZENT551350, MCZENT551351, MCZENT551352, MCZENT551353, MCZENT551354, MCZENT551355, MCZENT551400, MCZENT551401, MCZENT551402, MCZENT551410, MCZENT551411, MCZENT551412, MCZENT551413). Until now, this species was only known from Summit Co. in the northeastern part of the state. Rare.

*aserva* Forel. **Geauga** (VMNH110555; in a mixed colony with host *F. glacialis* Wheeler, W.M). Until present, this northern dulotic species was only known from neighboring Ashtabula Co. in the extreme northeastern part of the state. Rare.

*dakotensis* Emery. Scattered records from glaciated western Ohio.

*difficilis* Emery. Single record from Jackson Co. in southcentral Ohio (Wesson and Wesson 1940). Rare.

*dolosa* Buren. Scattered sites throughout Ohio. Records under *Formica schaufussi* Mayr in Coover (2005) refer to this species.

*exsectoides* Forel. Statewide.

*glacialis* Wheeler, W.M. Widespread in glaciated northern Ohio, south to Champaign and Madison Cos.

\**gynocrates* Snelling, R.R. & Buren. Literature records: **Lucas** (Friedrich 2010). In Ohio, this species is only known from prairie remnants in the globally rare Oak Openings Region of northwestern Ohio.

\**incerta* Buren. **Ashland, Ashtabula, Athens, Erie, Geauga, Hardin, Huron, Madison, Morgan, Summit** (CMNHENT40013, CMNHENT40014, CMN-

HENT40015, CMNHENT40016, CMNHENT40017, CMNHENT40018, CMNHENT40019, CMNHENT40259, MCZENT672736, MCZENT672737, VMNH110556, VMNH110557, VMNH110558, VMNH110575, VMNH110576, VMNH110597, VMNH110601, VMNH110602). Literature records: **Adams, Ashtabula, Butler, Champaign, Delaware, Hamilton, Hocking, Jackson, Lucas, Montgomery, Seneca, Wyandot** (Amstutz 1943; Headley 1943, 1949, 1952; Talbot 1945; Trager et al. 2007; Friedrich 2010), **southcentral Ohio** (Wesson and Wesson 1940). The name *incerta* has a long and confusing history (see Coovert 2005; Trager et al. 2007) until finally revived from synonymy under *pallidefulva* (and its synonym *F. nitidiventris* Emery) by Trager et al. (2007). All Ohio records of this species in Coovert (2005) appear under *nitidiventris*. This species occurs in mesic, and dry-mesic grasslands, pastures, lawns, old fields, and other open habitats throughout the state. It is undoubtedly more widespread in Ohio than the current records indicate.

***integra*** Nylander. Widespread with majority of the records from unglaciated southern Ohio.

***lasioides*** Emery. Fulton and Lucas Cos. in northwestern Ohio. Rare

***montana*** Wheeler, W.M. Few sites in northcentral Ohio, south to Madison Co.

***neogagates*** Viereck. Scattered sites across northeastern Ohio.

***obscuriventris*** Mayr. Few disjunct sites in extreme northern (Lucas Co.) and southern (Adams, Pike, and Scioto Cos.) Ohio in areas with the appropriate combination of dense woodlands and adjacent open prairie remnants and pastures.

***pallidefulva*** Latreille. Statewide. Distribution of this widespread species in Ohio is confounded with *F. incerta* (see comments under *incerta*). A number of records under *F. nitidiventris* in Coovert (2005) also refer to this species.

***pergandei*** Emery. Few scattered sites in southern and northwestern Ohio.

**\**podzolica*** Francoeur. – **Summit Co.** • 30.57 km SW of Richfield; 41.20992N, 81.66797W; alt. 354 m, 26 July 2007; W. & E. Mackay leg.; W. Mackay det.; MEM221118.

***postoculata*** Kennedy & Dennis. Butler and Hocking Cos. Rare

***prociliata*** Kennedy & Dennis. In Ohio, this species is only known from Ottawa Co. (including type locality) in the extreme northern part of the state. Rare. It is a known inhabitant of glaciated tallgrass prairies and prairie remnants of the upper Midwest.

***querquetulana*** Kennedy & Dennis. Few disjunct sites in extreme southern and northern Ohio where the appropriate combination of open oak woodlands, oak savannas, and associated prairie clearings occurs.

***rubicunda*** Emery. Glaciated western Ohio, and just into the adjacent unglaciated area.

**\**subaenescens*** Emery. Literature records: **Lucas** (Uno et al. 2010). The sole Ohio record appears under the name *Formica fusca* Linnaeus. As currently understood, true *fusca* is restricted to the Palearctic region and does not occur in North America (see Schär et al. 2018).

***subintegra*** Wheeler, W.M. Statewide. This dulotic species is found throughout Ohio along with *Formica fusca*-group hosts.



*subsericea* Say. Statewide.

*ulkei* Emery. Widespread in northern Ohio.

*vinculans* Wheeler, W.M. Scattered sites in glaciated western Ohio, and just into the adjacent unglaciated area.

### *Polyergus* Latreille

*lucidus* Mayr. This dulotic species is known from few scattered Ohio sites along with host *F. incerta*.

### Tribe Lasiini

#### *Lasius* Fabricius

*americanus* Emery. Statewide. Records under *L. alienus* (Foerster) in Coover (2005) refer to this species.

*aphidicola* (Walsh). Statewide. Records under *L. umbratus* (Nylander) in Coover (2005) refer to this species.

*brevicornis* Emery. **Fairfield** (OSUC53785, OSUC53786, OSUS53787, OSUC53788). Literature records: **Lucas, Montgomery** (Uno et al. 2010; Campbell and Crist 2017). This species was previously only known from Summit Co. and an unspecified southcentral Ohio record in Wesson and Wesson (1940). Rare. Records under *L. flavus* (Fabricius) in Coover (2005) refer to this species.

*claviger* (Roger). Widespread with majority of the records from glaciated western Ohio. Under *Acanthomyops* in Coover (2005).

*interjectus* Mayr. Known from a number of scattered Ohio sites, predominantly in the western, glaciated, part of the state. Under *Acanthomyops* in Coover (2005).

*latipes* (Walsh). – **Greene Co.** • Wright State University Woods; 39.7836N, 84.0636W; 28 July 1998; G.A. Coover leg.; G.A.C. 2026 #9; G.A. Coover det.; OSUC57890. Until now, this species was known only from Lucas Co. in glaciated northwestern Ohio (Wing 1968; material at MCZ: MCZENT557430, MCZENT557431, MCZENT557432). Rare. Interestingly, the single specimen in the OSU collection was collected and identified by Gary Coover but not included in the 2005 list. Under *Acanthomyops* in Coover (2005).

*minutus* Emery. Lucas Co. Rare.

*nearcticus* Wheeler, W.M. Statewide.

*neoniger* Emery. Statewide.

*speculiventris* Emery. Widespread.

#### *Nylanderia* Emery

\**arenivaga* (Wheeler, W.M.). **Lucas**: Toledo (S. Philpott unpublished data; pers. comm., June 2007). This distinctive yellow *Nylanderia* is a sand specialist associated with deep sand deposits in dry open areas with sparse vegetation.

*faisonensis* (Forel). Widespread. Under *Paratrechina* in Coover (2005).

\*<sup>E</sup>*flavipes* (Smith). Literature records: **Cuyahoga, Franklin, Lake, Lucas** (Ivanov and Milligan 2008; Ivanov et al. 2011; Ivanov 2016; Uno et al. 2010). This temperate introduced species is abundant in the urban and suburban areas of Cleveland,

Columbus, and Toledo including forested green spaces, gardens, yards, and vacant lots. It is also occasionally found indoors (see Ivanov 2016).

*parvula* (Mayr). Widespread with majority of the records from southern Ohio. Under *Paratrechina* in Coover (2005).

\**terricola* (Buckley). – **Cuyahoga Co.** • Cleveland, Cleveland State University campus; 41.50236N, 81.67353W; alt. 202 m; 10 May 2007; K. Ivanov leg.; KI1731; single male on bare soil surface; landscaped flower bed surrounded by pavement; urban; VMNH110553. Workers of this species are nearly impossible to separate from those of *N. vividula* (Nylander) and males are required for proper identification (see Kallal and LaPolla 2012).

\**vividula* (Nylander). **Cuyahoga** (VMNH110554). Literature records: **Franklin** (Kallal and LaPolla 2012; material at MCZ: MCZENT565308, MCZENT565309, MCZENT565310).

### *Paratrechina* Donisthorpe

\*<sup>E</sup>*longicornis* (Latreille). Literature records: **Hamilton** (Hedges 1998). In Ohio, this notorious tramp species is currently confined to heated buildings. It is undoubtedly more widespread in the state than current records indicate.

### *Prenolepis* Mayr

*imparis* (Say). Statewide.

### Tribe Myrmelachistini

#### *Brachymyrmex* Mayr

*depilis* Emery. Statewide but uncommonly collected likely due to small worker and colony size, and its largely subterranean habits. This species has an enormous geographic range and may turn out to represent a complex of sibling species.

### Subfamily Myrmicinae [15 genera; 65 species, 3 morphospecies]

#### Tribe Attini

#### *Pheidole* Westwood

*bicarinata* Mayr. Few disjunct sites in extreme northern (**Lucas** Co.; Friedrich 2010) and southern (Adams, Pike, and Jackson Cos.) Ohio.

<sup>E</sup>*bilimeki* Mayr. The single Ohio record of this introduced species is from a greenhouse in Franklin Co. (Coover 2005).

\**dentata* Mayr. – **Franklin Co.** • Columbus; 7 Apr. 1916; M.R. Smith leg. Single uncatalogued specimen at MCZ (D. Lubertazzi pers. comm., March 2019).

*pilifera* (Roger). Widespread in southern Ohio.

*tysoni* Forel. **Hocking, Scioto** (VMNH110560, VMNH110561, VMNH110596).

Literature records: **Butler, Montgomery, Preble** (Campbell and Crist 2017). Until now, this species was known from Hocking and Gallia Cos. in the southern, unglaciated, part of Ohio.

***Strumigenys* Smith F.**

The perceived rarity of these cryptic litter and soil inhabitants can be explained, at least partly, by the fact that litter extraction techniques historically have been rarely used for the collection of soil and litter dwelling taxa in Ohio. At least some members of this genus (i.e., *S. ohioensis* Kennedy & Schramm, *S. ornata* Mayr, *S. rostrata* Emery) are among the most widespread and commonly encountered ants in the soil and litter layers of eastern deciduous forests. All taxa under *Smithistruma* in Coovert (2005).

***abdita*** Wesson, L.G. & Wesson, R.G. Literature records: **Cuyahoga** (Ivanov and Keiper 2010). Until now, this species was known only from Jackson and Ottawa Cos. Rare.

***bimarginata*** Wesson, L.G. & Wesson, R.G. Adams Co. Rare.

***clypeata*** Roger. Literature records: **Butler, Montgomery, Preble** (Campbell and Crist 2017). Previously only known from Jackson Co. in southcentral Ohio.

***dietrichi*** Smith, M.R. Few scattered sites throughout Ohio.

**\**hyalina*** (Bolton). **Cuyahoga, Greene** (VMNH110584, VMNH110585, VMNH110586, VMNH110587). Literature records: **Ottawa** (Bolton 2000). Until now, this rarely collected species was only known in Ohio from the type locality in Catawba Beach (Bolton 2000).

**\**laevinasis*** Smith, M.R. **Greene** (VMNH110559). Literature records: **Pike** (Campbell et al. 2013). This uncommonly collected woodland species is at the northern fringes of its distribution in Ohio.

***missouriensis*** Smith, M.R. Pike Co. Rare.

***ohioensis*** Kennedy & Schramm. Widespread in southern Ohio.

***ornata*** Mayr. Pike Co. Rare.

***pergandei*** Emery. Few scattered sites throughout Ohio.

***pilinasis*** Forel. Pike Co. Rare.

***pulchella*** Emery. Few scattered sites throughout Ohio.

***reflexa*** Wesson, L.G. & Wesson, R.G. Few scattered sites throughout Ohio.

***rostrata*** Emery. Few records from unglaciated southcentral Ohio.

***talpa*** Weber. Few records from unglaciated southcentral Ohio.

***Trachymyrmex* Forel**

***septentrionalis*** (McCook). In Ohio, this wide-ranging fungus-growing ant is known only from Adams and Jackson Cos. in the extreme southern part of the state along the northern fringes of its distribution. Rare.

**Tribe Crematogastrini*****Cardiocondyla* Emery**

**\*<sup>E</sup>*obscurior*** Wheeler, W.M. Literature records: **Hamilton** (Ivanov 2016). The single Ohio record of this introduced species is from a conservatory in Cincinnati.

***Crematogaster* Lund***cerasi* (Fitch). Statewide.*lineolata* (Say). Statewide.*pilosa* Emery. Widespread in southcentral Ohio, north to Fairfield Co.***Harpagoxenus* Forel***\*canadensis* Smith, M.R. – **Jackson Co.** • 1938; L.G. Wesson leg.; FMNHINS113834.

In Ohio, this boreal dulotic species is near the southern edge of its known distribution.

***Leptothorax* Mayr***canadensis* Provancher. **Ashtabula, Franklin, Geauga** (UCMC94034, UCMC94036, VMNH110562, VMNH11563, VMNH110564). Previously only known from Ashtabula Co. in northernmost Ohio. Rare. Records under *L. muscorum* (Nylander) in Coovert (2005) refer to this species.***Myrmecina* Curtis***americana* Emery. Statewide.***Temnothorax* Mayr**All *Temnothorax* records, except *T. americanus* (see below), appear under *Leptothorax* in Coovert (2005).*ambiguus* (Emery). Statewide.*americanus* (Emery). This dulotic species is known from a few scattered Ohio sites along with hosts *T. ambiguus*, *T. curvispinosus* (Mayr), and *T. longispinosus* (Roger). Under *Protomognathus* in Coovert (2005).*curvispinosus* (Mayr). Statewide.*duloticus* (Wesson, L.G.). This rarely collected dulotic species is known from a handful of scattered Ohio sites along with hosts *T. ambiguus*, *T. curvispinosus*, and *T. longispinosus*.*longispinosus* (Roger). Statewide.*minutissimus* (Smith, M.R.). In Ohio, this rarely collected workerless parasite of *T. curvispinosus* is known only from Delaware and Franklin Cos. Rare.*pergandei* (Emery). Widespread in southern Ohio.*schaumii* (Roger). Statewide.*smithi* (Baroni Urbani). This species is only known from Hocking and Jackson Cos. in unglaciated southern Ohio along the northern edge of its distribution. Rare.*texanus* (Wheeler, W.M.). Several disjunct records from Jackson (south) and Lucas (north) Cos. Rare.***Tetramorium* Mayr***<sup>E</sup>atratum* (Schenck). **Cuyahoga** (CMNHENT40727, CMNHENT40728), **Preble** (K. Campbell unpublished data; pers. comm., February 2019). Literature records:

**Ashtabula, Cuyahoga, Geauga** (Ivanov 2016). This introduced workerless social parasite of *Tetramorium immigrans* Santschi previously was only known from Shelby Co. in western Ohio. It is rarely observed in both its native and introduced ranges, presumably because of its parasitic lifestyle or simply because it is indeed rare. Under *Anergates* in Coover (2005).

\*<sup>E</sup>*bicarinatum* (Nylander). Literature records: **Franklin**: Columbus, 1931, collector unknown, material at the US National Museum of Natural History (Wetterer 2009), **Ohio** (Bolton 1979). In temperate areas, this widely distributed tramp species is confined to greenhouses and other heated buildings.

<sup>E</sup>*immigrans* Santschi. Statewide. This introduced species is abundant in disturbed habitats and urban settings throughout Ohio, and is also occasionally found indoors. Records under *T. caespitum* (Linnaeus) in Coover (2005) refer to this species.

## Tribe Myrmicini

### *Myrmica* Latreille

André Francoeur is working on a much-needed revision of the Nearctic members of this genus and I have chosen to follow his preliminary findings in my species accounts below including the recognition of a few as-yet-undescribed species (see also Ellison et al. 2012).

*americana* Weber. Distribution of this northerly species in Ohio is unclear, confounded with the undescribed and more widely distributed *M. AF-eva*. True *americana* appears to be a strict psammophile occurring in glaciated sand communities and probably does not occur outside of them (J. Trager pers. comm.). In Ohio, I have only collected this species in the sparsely vegetated fossil dune ridge of North Kingsville Sand Barrens in Ashtabula Co. in northernmost Ohio (VMNH110565). It likely also occurs in other sand based communities along the coast of Lake Erie in northern Ohio, however, its distribution in the state is much more restricted than indicated in Coover (2005).

*emeryana* Forel. Distribution of this species in Ohio is unclear, confounded with the undescribed but widespread and abundant *M. AF-scu* and *M. AF-smi*. The distribution depicted in Coover (2005) represents a composite of the distributions of these three taxa. Records under *Myrmica latifrons* Starcke in Coover (2005) refer to this species.

\**AF-eva*. – **Cuyahoga Co.** • Cleveland Heights, 3986 Bluestone Rd.; 41.52998N, 82.53670W; 30 Sep. 2004; H. Clebsch leg.; yellow pan traps; CMNHENT0038652. – **Hardin Co.** • Ada, Ohio Northern University campus; 40.76844N, 83.84341W; alt. 294 m; 8–9 Sep. 2017; A. Brooks & J. Isaak leg.; red pan traps; mowed grass at edge of a small woodlot; VMNH110577 • same collection data as for preceding; VMNH110578. – **Hocking Co.** • Hocking Hills, Deep Woods farm; 39.40812N, 82.57503W; alt. 215 m; 14 June 2008; K. Ivanov leg.; KI2042; ground foragers; open mowed grass field; VMNH110545. – **Madison Co.** • OPOTA tactical training center; 39.88028N, 83.48917W; alt. 338 m;

25–26 July 2016; J.B. Keiper leg.; old field; sweeping; VMNH110579 • same collection data as for preceding; VMNH110580. – **Summit Co.** • Sagamore Hills, Eaton estate; 20 Sep. 2002; M.R. Proffitt leg.; CMNHENT0038653 • Singer Lake Bog; 40.92288N, 81.48720W; alt. 356 m; 9 May 2008; K. Ivanov leg.; KI2019; ground foragers; edge of agricultural field; VMNH110546. This undescribed species is found in dry-mesic to mesic grasslands, pastures, and old fields (Ellison *et al.* 2012). Historically it has been commonly confused with *Myrmica americana*.

**fracticornis** Forel. Statewide, in moist open habitats. Historical records likely confounded with the undescribed *M. AF-scu*.

\***incompleta** Provancher. **Franklin** (OSUC270669; as *M. brevinodis* Emery, N.F. Johnson det. 1984). Literature records: **Adams** (Weber 1950). This species was prematurely excluded from the 2005 list without examination of Weber's specimens.

\***lobifrons** Pergande. – **Champaign Co.** • Cedar Bog Nature Preserve; 40.05785N, 83.79613W; 27–28 May 2006; T. Jones leg.; sedge meadow; VMNH110548. – **Cuyahoga Co.** • Cleveland Metroparks, Acacia Reservation; 41.51039N, 81.49517W; alt. 313 m; 27 May 2013; K. Ivanov leg.; KI2333; sedge meadow; sweeping; VMNH110547. – **Stark Co.** • Jackson Township, Willow Dale Bog; 22 Sep. 2011; D. Kriska leg.; VMNH110549 • same collection data as for preceding; VMNH110550 • same collection data as for preceding; VMNH110551 • same collection data as for preceding; VMNH110552. In Ohio, this boreal bog-inhabiting species is rarely collected in the northern, glaciated, part of the state.

**pinetorum** Wheeler, W.M. Statewide.

**punctiventris** Roger. Statewide.

\***AF-scu**. – **Ashtabula Co.** • North Kingsville Sand Barrens; 30 Aug. – 24 Sep. 2007; T. Pucci leg.; Malaise trap; CMNHENT0038834 • same collection data as for preceding; 9–19 Sep. 2008; VMNH110603 • Pymatuning Creek Fen; 41.56738N, 80.62710W; alt. 298 m; 13 Oct. 2008; K. Ivanov leg.; KI2192; soil nest under plant litter at the base of a small sumac (*Rhus* sp.); edge of agricultural field; VMNH110598. – **Cuyahoga Co.** • Strongsville, Cleveland Metroparks, nr. Greenbrier L.; 8 Aug. 2009; T. Pucci leg.; meadow; sweeping; CMNHENT0038835. – **Erie Co.** • Kelleys Island, Coleman Tract; 2–4 Aug. 2002; B. Coleman leg.; C1; pitfall trap; VMNH110571 • same collection data as for preceding; D2; VMNH110569 • same collection data as for preceding; 6–8 Sep. 2002; D2; VMNH110570 • Castalia, Rockwell Springs Trout Club; 41.39014N, 82.83646W; alt. 194 m; 17 July 2008; K. Ivanov leg.; KI2121; strays in grass litter; open grass field adjacent to riparian woods; VMNH110600 • Castalia, 0.25 mi N intersection Rt. 312 and Vickery Rd.; 41.38979N, 82.84770W; alt. 192 m; 17 July 2008; K. Ivanov leg.; KI2124; ground foragers; managed tallgrass prairie remnant; VMNH110599 – **Geauga Co.** • Burton Wetlands Nature Preserve; 41.44576N, 81.17723W; alt. 341 m; 21 Apr. 2006; K. Ivanov leg.; KI1228; foragers in grass litter at base of a large oak tree; edge of an open grass field; VMNH110590 • Fern Lake Bog; 41.44026N, 81.17262W; alt. 344 m; 16 May 2007; K. Ivanov leg.; KI1745; soil nest in clay loam under grass litter; edge of tamarack bog; VMNH110589 •

Taber Preserve; 18 May 2007; T. Pucci leg.; sweeping; CMNHENT0038833 • Soubusta; 41.57000N, 81.24000W; 28 July 2009; T.H. Webster leg.; scrap wood pile; CMNHENT0038816 – **Greene Co.** • Wright State University campus; 8 July 2009; B. Doane leg.; tuna baits; VMNH110605. – **Madison Co.** • OPOTA tactical training center; 39.88028N, 83.48917W; alt. 338 m; 25–26 July 2016; J.B. Keiper leg.; old field; sweeping; VMNH110581 • same collection data as for preceding VMNH110582. – **Medina Co.** • Wolf Creek Environmental Center; 2 July 2008; T. Pucci leg.; sweeping; CMNHENT0038815. – **Ottawa Co.** • Winous Point; 24 June 2004; T. Pucci leg.; sweeping; CMNHENT0038814 • Ottawa National Wildlife Refuge, Young Pond; 41.53649N, 83.00608W; alt. 175 m; 25 July 2008; K. Ivanov leg.; KI2147; ground foragers; open riparian woods; VMNH110568. – **Trumbull Co.** • Chamberlin Forest; 41.44773N, 80.98881W; alt. 311 m; 5 June 2009; K. Ivanov leg.; KI2201; ground foragers; small grass field surrounded by mesic woods; VMNH110567. – **Wyandot Co.** • Kildeer Plains Wildlife Area; 40.70234N, 83.24097W; alt. 271 m; 22 May 2009; K. Ivanov leg.; KI2197; ground foragers; open grass and gravel road at the edge of an open mixed mesic woodland; VMNH110591. This undescribed species is found in mesic grasslands, wood’s edges, and open, remnant dry-mesic and mesic woodlands. Historically it has been confused with *M. emeryana* and *M. fracticornis*. It is undoubtedly more widespread in the state than the above records indicate.

\**semiparasitica* Francoeur. Literature records: **Cuyahoga** (Francoeur and Ivanov 2008; Ivanov and Keiper 2009, 2011; Ivanov et al. 2010). This recently described species has been rarely collected in the northern half of the eastern deciduous forest biome along with its suspected host *M. punctiventris*. Since the range of its host covers the southern half of the eastern deciduous forest biome as well, it is expected that *M. semiparasitica* will be discovered much further south in the future

\*AF-*smi*. **Athens, Cuyahoga, Erie, Geauga, Greene, Hocking, Lake, Medina, Scioto, Summit** (CMNHENT0038654, CMNHENT0038655, CMNHENT0038656, CMNHENT0038657, CMNHENT0038658, CMNHENT0038659, CMNHENT0038660, CMNHENT0038661, CMNHENT0038662, CMNHENT0038663, CMNHENT0038664, CMNHENT0038665, CMNHENT0038666, CMNHENT0038667, CMNHENT0038668, CMNHENT0038669, CMNHENT0038670, CMNHENT0038671, CMNHENT0038672, CMNHENT0038673, CMNHENT0038674, CMNHENT0038675, CMNHENT0038676, CMNHENT0038677, CMNHENT0038678, CMNHENT0038679, CMNHENT0038680, CMNHENT0038681, CMNHENT0038682, CMNHENT0038683, CMNHENT0038684, CMNHENT0038685, CMNHENT0038687, CMNHENT0038688, CMNHENT0038811, CMNHENT0038812, CMNHENT0038813, CMNHENT0038817, CMNHENT0038819, CMNHENT0038820, CMNHENT0038838, CMNHENT0038839, CMNHENT0038840, VMNH110572, VMNH110573, VMNH110574, VMNH110583, VMNH110588, VMNH110592, VMNH110594,

VMNH110595, VMNH110604). Literature records: **Cuyahoga, Medina** (Ivanov and Keiper 2009, 2010, 2011; Ivanov et al. 2010). This undescribed species prefers dry to mesic deciduous woodlands and mixed forests (Ellison et al. 2012) and is also occasionally found in mesic grasslands and old fields. It is undoubtedly more widespread in the state than the above records indicate.

### Tribe Solenopsidini

#### *Monomorium* Mayr

*minimum* (Buckley). Statewide but less common in northern Ohio.

*pharaonis* (Linnaeus). This notorious tramp species is known from a number of scattered indoor records across Ohio.

#### *Solenopsis* Westwood

Members of the *molesta* complex (sensu Pacheco and Mackay 2013) are minute in size and notoriously difficult to identify. Historical Ohio records of this complex (i.e., *S. carolinensis* Forel, *S. molesta* (Say), and *S. texana* Emery) are likely confounded with each other and should be viewed with caution. Presence of queens will aid in identification, but see discussion in Deyrup (2016).

*carolinensis* Forel. Single unspecified southcentral Ohio record in Wesson and Wesson (1940). Rare.

*molesta* (Say). Statewide.

*texana* Emery. Adams Co. Rare.

### Tribe Stenammini

#### *Aphaenogaster* Mayr

While many eastern *Aphaenogaster* can be readily identified based on morphological characters, a number of taxa remain difficult, or impossible, to separate based on morphology alone. This is especially true for some members of the *rudis* clade although some progress has been recently made (DeMarco 2015; DeMarco and Cognato 2016). Historical records of *Aphaenogaster carolinensis* Wheeler, W.M. and *Aphaenogaster rudis* Enzmann from Ohio, and elsewhere, should be interpreted with caution.

*fulva* Roger. Statewide.

*lamellidens* Mayr. An unspecified southern Ohio record in Dennis (1938). Rare.

*mariae* Forel. A number of scattered sites in unglaciated southern Ohio.

*picea* (Wheeler, W. M.). Statewide.

*rudis* Enzmann. Statewide.

*tennesseensis* (Mayr). Statewide.

*treatae* Forel. Few scattered records from prairie remnants and old fields in extreme northern and southern Ohio.



**Stenamamma Westwood**

*brevicornis* (Mayr). Statewide.

\**diecki* Emery. – **Licking Co.** • Blackhand Gorge; 3–4 May 1989; P. Kovarik leg.; berlesate; leaf litter; S.P. Cover det. 1989; MCZ540382 • same collection data as for preceding; MCZ540383.

*impar* Forel. Widespread and likely more common than current records indicate.

*schmitti* Wheeler, W.M. Few scattered sites throughout Ohio.

**Subfamily Ponerinae** [3 genera; 4 species]**Tribe Ponerini****Brachyponera Emery**

\*,<sup>E</sup>*chinensis* (Emery). Literature records: **Hamilton:** Cincinnati, 2017, J Boggs leg., Ohio State University Extension (Guénard et al. 2018). This East Asian species has been spreading through the eastern United States since its original discovery in Georgia, North Carolina, and Virginia (Smith 1934). At present, Ohio lies along the northern edge of its known introduced range. Given its profound negative impacts on local insect populations, care should be taken in monitoring the future spread of this invasive species in Ohio and the adjacent areas.

**Hypoponera Santschi**

*opacior* (Forel). Widespread in southern Ohio, north to Guernsey Co.

<sup>E</sup>*ragusai* (Emery). This introduced species is known from a single locality in Jackson Co. (Wesson and Wesson 1940). Record under *H. gleadowi* (Emery) in Covert (2005) refers to this species.

**Ponera Latreille**

*pennsylvanica* Buckley. Statewide.

**Subfamily Proceratiinae** [1 genus; 3 species]**Tribe Proceratiini****Proceratium Roger**

\**crassicornis* Emery. Literature records: **southcentral Ohio** (Wesson and Wesson 1940). Rare. The single Ohio record is included under *P. silaceum* in Covert (2005). This species was revived from synonymy under *P. silaceum* by Baroni Urbani and De Andrade (2003).

*pergandei* (Emery). Literature records: **Franklin** (Campbell et al. 2013). Until now, this species was only known from Adams and Greene Cos. Rare.

*silaceum* Roger. Few scattered sites throughout Ohio.

## Doubtful Ohio records

*Dorymyrmex insanus* (Buckley) (Friedrich 2010; likely misidentification of *D. grandulus*), *Pheidole tepicana* Pergande (TTU-Z\_075141), *Pogonomyrmex barbatus* (Smith F.) (OSUC50490), and *Leptogenys elongata* (Buckley) (INHS-INSECT-575849) are herein excluded from the Ohio list. These records represent stark distribution anomalies relative to the rest of their known western ranges and are likely based on misidentifications and/or mislabeled specimens. The record of *A. carolinensis* from Ottawa Co. reported in Mackay and Mackay (2017; p.238) seems rather surprising. The finding of this southern species in northern Ohio is doubtful and likely represents misidentification of the more common and widespread *A. rudis*. Workers from young *A. rudis* colonies can easily be mistaken for *A. carolinensis* and genetic data is needed for proper identification (see DeMarco and Cognato 2016). I provisionally exclude this species from the Ohio list awaiting future work on the *rudis* Complex of species. In addition, Mackay and Mackay (2017) erroneously cite Coovert (2005) as source of *Aphaenogaster ashmeadi* (Emery) (p. 211) and *A. flemingi* Smith, M.R. (p. 244) records from Ohio. To my knowledge, no Ohio records of these two southeastern taxa exist.

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## Appendix I

Alphabetical list of native ant taxa documented from surrounding areas but not yet recorded from Ohio. Data from Wheeler et al. (1994), Coovert (2005), Carroll (2011), Seifert et al. (2014), Butler and Coulter (2019), Antmaps (2019), and references therein.

Species	Indiana	Kentucky	Michigan	Pennsylvania	West Virginia
<i>Camponotus decipiens</i> Emery	√				
<i>Crematogaster ashmeadi</i> Mayr				√	
<i>Crematogaster laeviuscula</i> Mayr	√	√			
<i>Crematogaster missouriensis</i> Emery	√				
<i>Dolichoderus mariae</i> Forel	√		√	√	
<i>Formica adamsi</i> Wheeler, W.M.			√		
<i>Formica creightoni</i> Buren			√		
<i>Formica ferocula</i> Wheeler, W.M.	√				
<i>Formica foveiceps</i> Buren			√		
<i>Formica hewitti</i> Wheeler, W.M.			√		
<i>Formica impexa</i> Wheeler, W.M.			√		
<i>Formica indianensis</i> Cole					
<i>Formica neorufibarbis</i> Emery			√	√	
<i>Formica nepticula</i> Wheeler, W.M.			√	√	
<i>Formica obscuripes</i> Forel	√		√	√	
<i>Formica talbotae</i> Wilson			√		
<i>Formicoxenus hirticornis</i> (Emery)	√		√		
<i>Formicoxenus provancheri</i> (Emery)			√		
<i>Lasius murphyi</i> Forel			√		
<i>Lasius pallitarsis</i> (Provancher)	√		√		
<i>Lasius plumopilosus</i> Buren			√		
<i>Lasius subglaber</i> Emery	√		√		
<i>Lasius subumbratus</i> Viereck	√		√		
<i>Monomorium emarginatum</i> DuBois	√			√	
<i>Monomorium talbotae</i> DuBois			√		
<i>Myrmica alaskensis</i> Wheeler, W.M.			√		
<i>Myrmica brevispinosa</i> Wheeler, W.M.			√		
<i>Myrmica detritinodis</i> Emery			√		
<i>Myrmica monticola</i> Creighton			√		
<i>Myrmica nearctica</i> Weber	√		√		
<i>Myrmica spatulata</i> Smith, M.R.	√		√	√	
<i>Neivamyrmex nigrescens</i> (Cresson)	√	√			√
<i>Pheidole morrisii</i> Forel	√				
<i>Polyergus bicolor</i> Wasmann	√		√		
<i>Polyergus breviceps</i> Emery	√		√		
<i>Polyergus mexicanus</i> Forel	√				
<i>Polyergus montivagus</i> Wheeler, W.M.	√		√		
<i>Polyergus sanwaldi</i> Trager	√				
<i>Stenamamma meridionale</i> Smith, M.R.	√				√
<i>Strumigenys angulata</i> Smith, M.R.		√			
<i>Strumigenys flitalpa</i> (Brown)	√				
<i>Strumigenys memorialis</i> (Deyrup)		√			
<i>Strumigenys metazytes</i> (Bolton)		√			
<i>Temnothorax pilagens</i> Seifert et al.			√		