ISSN: 1936-6019

www.midsouthentomologist.org.msstate.edu

# **Research Article**

# New Records of Ants (Hymenoptera: Formicidae) for Arkansas with a Synopsis of Previous Records

Joe. A. MacGown<sup>1, 3</sup>, JoVonn G. Hill<sup>1</sup>, and Michael Skvarla<sup>2</sup>

Received: 7-I-2011 Accepted: 7-IV-2011

**Abstract:** Ten new state records of Formicidae are reported for Arkansas including Camponotus obliquus Smith, Polyergus breviceps Emery, Proceratium crassicorne Emery, Pyramica metazytes Bolton, P. missouriensis (Smith), P. pulchella (Emery), P. talpa (Weber), Stenamma impar Forel, Temnothorax ambiguus (Emery), and T. texanus (Wheeler). A synopsis of previous records of ant species occurring in Arkansas is provided.

Keywords: Ants, new state records, Arkansas, southeastern United States

### Introduction

Ecologically and physiographically, Arkansas is quite diverse with seven level III ecoregions and 32 level IV ecoregions (Woods, 2004). Topographically, the state is divided into two major regions on either side of the fall line, which runs northeast to southwest. The northwestern part of the state includes the Interior Highlands, which is further divided into the Ozark Plateau, the Arkansas River Valley, and the Ouachita Mountains. The southern and eastern portions of the state are located in the Gulf Coastal Plain, which is divided into the West Gulf Coastal Plain in the south, the Mississippi River Alluvial Plain in the east, and Crowley's Ridge, a narrow upland region that bisects the Mississippi Alluvial Plain from north to south (Foti, 2010).

AntWeb, a web site that provides faunal lists of ants (Fisher, 2002) lists neighboring Missouri as having 148 species of ants, Texas with 279, Louisiana with 128, Missouri with 148, and Mississippi with 173. Based on the diversity of ecoregions and proximity to these states with high faunal lists, it would seem likely that Arkansas also would have a similarly high list of ant species. In the only comprehensive survey of the ants of Arkansas, Warren and Rouse (1969) reported 88 species, some of which were later synonymized. However, as a result of recent surveys by General and Thompson (2007, 2008, 2009) and other surveys and taxonomic treatments by various authors, 120 valid species have been reported from Arkansas (Baroni Urbani and de Andrade, 2003; Bolton 2000; MacGown et al., 2007; MacKay, 1993; Pacheco, 2007; Smith, 1979; Trager, 1984; Trager et al., 2007; Wing, 1968).

Here, we report new state records of ants for Arkansas and provide an updated list of species known to occur in the state (Table 1). The report of these new state records and the species list are based on collections made by the Mississippi Entomological Museum (MEM) staff, Michael Skvarla, specimens borrowed from the University of Arkansas Arthropod Museum (UAAM), and literature records.

<sup>&</sup>lt;sup>1</sup>Mississippi Entomological Museum, Department of Entomology and Plant Pathology, Mississippi State University, MS 39762

<sup>&</sup>lt;sup>2</sup>Department of Entomology, University of Arkansas, Fayetteville, AR 72207

<sup>&</sup>lt;sup>3</sup>Correspondence: <u>imacgown@entomology.msstate.edu</u>

<sup>© 2011,</sup> Mississippi Entomological Association

Vouchers of specimens collected by MacGown, Hill, and Skvarla are stored in the MEM. Species that were borrowed from the UAAM, MEM specimens, literature records, and other citations of records are noted in the second column of Table 1. New state records are in bold type, and a bold "E" follows exotic species. Synonyms and trinomial names used by Warren and Rouse (1969) and other authors were updated following Bolton et al. (2007). Species names are arranged alphabetically by genus and follow Fisher and Cover (2007).

#### **Results and Discussion**

We present 10 new state records for Arkansas: *Camponotus obliquus* Smith (labeled only "Arkansas, 1964–1965, ex-dead hickory"), *Polyergus breviceps* Emery (Conway County), *Proceratium crassicorne* Emery (Washington County), *Pyramica metazytes* Bolton (Conway County), *P. missouriensis* (Smith) (Newton County), *P. pulchella* (Emery) (Newton County), *P. talpa* (Weber) (Conway and Newton Counties), *Stenamma impar* Forel (Clark, Sharp, and Washington Counties), *Temnothorax ambiguous* (Emery) (Newton County), and *T. texanus* (Wheeler) (Conway County). The single specimen of *C. obliquus* was intermixed with a series identified as *C. pylartes* Wheeler in the University of Arkansas Arthropod Museum (UAAM). Specimens of *P. breviceps* were observed and collected as they raided a colony of *F. subsericea* Say at Petit Jean State Park on 5 August 2008 during the William H. Cross Expedition (for a complete list of the ants collected on this trip, see MacGown and Hill, 2008). The presence of *P. breviceps* in the state represented a somewhat surprising range extension, as its distribution is typically more western and northern (Smith, 1979). It is not known to occur elsewhere in the Southeast. Similarly, *T. ambiguus* has not been reported from any other southeastern state (MacGown, 2010). All of the other new state records included species that are found throughout the Southeast, and we expected to find them in Arkansas.

With these new additions to the state list, 131 species from seven subfamilies and 34 genera are now known to occur in Arkansas (Table 1). By no means do we consider this list to be complete. Continued collections in the state will assuredly result in the discovery of more species.

We did not examine specimens of all species reported in the literature; therefore, we cannot guarantee the veracity of all historical identifications. We consider recent revisions, which included vouchered material, to be more reliable than the older study by Warren and Rouse (1969). However, the majority of the species reported by Warren and Rouse are known to occur in Arkansas. Excluding names lost to synonymy, only 10 species on their list were not collected by the MEM or reported by other authors. Many of the specimens from the Warren and Rouse study were deposited in the University of Arkansas Arthropod Museum. Four of these species, *Aphaenogaster rudis* Enzmann, *Camponotus caryae* (Fitch), *Lasius claviger* (Roger), and *Tetramorium bicarinatum* (Nylander) [listed as *T. guineense* (Fabricius) by Warren and Rouse (1969)], were examined and verified by MacGown.

Solenopsis xyloni McCook, reported by Warren and Rouse (1969) from 25 counties, has not been collected recently in Arkansas. However, the historical presence of this species in the state is not doubted because Arkansas lies well within its natural distributional range (Trager, 1991). In other southeastern states, the red imported fire ant, Solenopsis invicta Buren has been shown to displace both this species and S. geminata (Fabricius) as it has advanced its range (Tabor, 2000; Tschinkel, 2006). It is possible that S. invicta, which has been known to occur in Arkansas since at least 1953 (Tschinkel, 2006), might have caused a decline in or even extirpated S. xyloni populations in the state. Or, its absence in recent surveys may simply be a result of under collecting in the region. Such was the case with Solenopsis geminata, which was reported by Warren and Rouse in 1969, but not reported in the state again until 2008 (General and Thompson, 2008).

Warren and Rouse (1969) reported *Dorymyrmex pyramicus pyramicus* (Roger) from 17 counties in Arkansas. According to Snelling (1995), species in the United States that had been identified historically as *D. p. pyramicus* actually represented more than one species. Based on the description given by Warren and Rouse, it is likely that the species they collected was either *D. smithi* Cole or *D. insanus* (Buckley). However, specimens were not available for study, and we cannot be certain which species they actually had. Therefore, we exclude it from our list at this time.

Specimens reported as *Formica fusca* Linnaeus by Warren and Rouse (1969) were likely *F. subsericea* Say, which is the only black species of *Formica* known to occur in this region. At the time of the Warren and Rouse study, their identification would have been logical because *F. subsericea* was

<sup>© 2011,</sup> Mississippi Entomological Association

considered a synonym of *F. fusca* (Creighton, 1950). Furthermore, the range of *F. fusca* is considered to be much farther north and would not likely occur in the Southeast (Francoeur, 1973; Wilson and Francoeur, 1979). Specimens collected by Warren from the late 1960s and identified as *F. fusca* were borrowed from the University of Arkansas Arthropod Museum and determined to be *F. subsericea* by MacGown. Therefore, we exclude *F. fusca* from this species list.

Formica schaufussi Mayr was reported by Warren and Rouse (1969), but this name was later synonymized with *F. biophilica* Trager and *F. dolosa* Buren by Trager et al. (2007). Thus, the Warren and Rouse records may have represented *F. biophilica* Trager and/or *F. dolosa* Buren, both of which were reported as occurring in Arkansas by Trager et al. (2007).

Although Warren and Rouse (1969) reported *Pogonomyrmex badius* (Latreille) as occurring in Arkansas, their records are dubious. This species is known to nest in deep sand in the coastal plain from North Carolina south to Florida and west to Louisiana (MacGown et al., 2008; Smith, 1979). If it were to be present in Arkansas, it would be expected to occur in similar habitat. However, records from Arkansas are from Logan and Scott Counties, neither of which has suitable sandhill habitat. No specimens of this species from their survey were available for study in the University of Arkansas Arthropod Museum. Therefore, we exclude it from this state list until such time as this record can be corroborated.

DuBois (1986) reported that *Monomorium viride* Brown was known only from allopatric populations along the Atlantic coast including the New Jersey Pine Barrens, and various localities in North Carolina, Georgia, and Florida where it nests in sand. Recently, this species was reported from southern Mississippi (Storz and Tschinkel, 2004), and isolated inland populations of this species were discovered nesting in riverine dunes in Georgia (MacGown et al., 2009). If it were to be found in Arkansas, it would be associated with sandy soils; but Warren and Rouse (1969) described it as being in a variety of habitats, none of which were specifically mentioned as being sandy. Workers of *M. viride* are difficult to distinguish from workers of *M. minimum* (Buckley), a common southeastern species. Without the presence of queens, which are easily differentiated from *M. minimum*, it raises the likelihood that this species was misidentified. No specimens of *M. viride* were available for study in the University of Arkansas Arthropod Museum. Therefore, records of this species in Arkansas are questionable, and until verified specimens are discovered, *M. viride* should not be considered to be present in the state.

General and Thompson (2007) erroneously reported *Aphaenogaster picea* (Wheeler) and *Myrmica spatulata* Smith as being listed by Warren and Rouse (1969), who actually listed *A. rudis* and *M. americana*, respectively. Specimens of both of latter species were borrowed from the UAAM and confirmed by MacGown. At this time, neither *A. picea* or *M. spatulata* are known to occur in Arkansas.

Paratrechina longicornis (Latreille), reported by O'Conner (2009), is an Internet record, and should be considered less reliable. In fact, this record was based on a paper by Nickerson and Barbara (2009) that did not report *P. longicornis* from Arkansas. Additionally, this species was not included as occurring in Arkansas by Wetterer (2008) in an exhaustive literature review of this species' distribution. If *P. longicornis* were to be found in Arkansas, it likely would be restricted to indoor populations. At this time, we exclude it from the species list, but recognize that indoor populations could potentially occur in the state.

Other species reported from Arkansas that may be questionable include *Solenopsis carolinensis* Forel, *S. molesta* (Say), and *S. texana* Emery in the *Solenopsis molesta* complex (General & Thompson, 2007, 2008, 2009; Pacheco, 2007; Warren & Rouse, 1969). This species group is in drastic need of revision, and identifications of species are difficult. However, based on their distributions in the United States, all three of these species should occur in Arkansas, and we include them on the species list. *Solenopsis* "AR-01" was reported by General and Thompson (2009). This species is likely one of the three similar species already listed from Arkansas; therefore, we did not include it here.

Another problematic genus is *Forelius*. Warren and Rouse (1969) reported *Forelius pruinosus* (Roger) [as *Iridomyrmex pruinosus pruinosus* (Roger)], *F. analis* (André) [as *Iridomyrmex pruinosus analis* (André)], and *Forelius mccooki* (McCook) [as *Forelius foetidus foetidus* (Buckley)] as occurring in Arkansas. Ward (2005) synonymized *F. analis* with *F. pruinosus*, leaving only two valid species in the United States, *F. pruinosus* and *F. mccooki*. However, at least four distinct morphotypes are known to occur in the United States including *F. pruinosus*, a blackish-colored sand-dwelling species with sparse erect setation; an undescribed, very setose species known to occur in sandhill habitats in Florida and Georgia (MacGown et al. 2009); *F. mccooki*, a somewhat hairy, western species that nests in a variety of open habitats; and an eastern species that was formerly identified as *F. analis* (before this species was synonymized with *F. pruinosus*). The latter morphotype is common throughout the Southeast in a variety

<sup>© 2011,</sup> Mississippi Entomological Association

of open habitats. It is easily distinguished from *F. pruinosus*, both morphologically and by habitat preference, and appears to be a distinctly different species than *F. pruinosus*. Due to the current invalidity of the name *F. analis*, this species recently has been identified as *F. mccooki* or as *Forelius* sp. It seems unlikely that this southeastern form is the same species as the western *F. mccooki*, which is generally more setose. Rather, it would seem that either this southeastern form is an undescribed species or that the name *F. analis* should be resurrected for this species. General and Thompson (2009) reported *Forelius* "species AR-01," which was likely the southeastern "*F. analis*" species. At this time, we only include *F. mccooki* (which includes both the eastern and western forms) and *F. pruinosus* as occurring in Arkansas, but recognize that there may be three distinct species present, including *F. pruinosus* (in sandhill habitats), *F. mccooki* (in western Arkansas), and *F.* sp. (the common southeastern morphotype).

Currently, nine exotic species are known to occur in Arkansas, including *Brachymyrmex* patagonicus Mayr (Argentina, Neotropics), *Cardiocondyla venustula* Wheeler (Old World Tropics), *Hypoponera opaciceps* (Mayr) (Brazil), *Linepithema humile* (Mayr) (Argentina), *Monomorium pharaonis* (Linnaeus) (Old World Tropics-Africa?), *Pyramica membranifera* (Emery) (Old World Tropics-Europe?), *Solenopsis invicta* (Brazil), *S. richteri* Forel (Argentina), and *Tetramorium bicarinatum* (Old World Tropics-SE Asia) (MacGown et al., 2010; McGlynn, 1999). Of these introduced species, *S. invicta* (red imported fire ant) has the most obvious presence in the state. According to the University of Arkansas Cooperative Extension Service web site (Loftin and Hopkins, 2010), *Solenopsis richteri* (black imported fire ant) has been reported from only two counties, Phillips and Crittenden. *Linepithema humile* (Argentine ant) and *B. patagonicus* (dark rover ant), both of which are pest species, currently have limited distributions in the state, but show potential for expanding their range. *Monomorium pharaonis*, a notorious invasive species, is not likely to pose serious problems in Arkansas due to the relatively cool climate, and populations would be relegated as occasional indoor pests at nurseries or other similar places. *Cardiocondyla venustula* is only known from Arkansas by a single specimen collected in Ashley County on 15 April 1972.

## **Acknowledgments**

Collections were made with permission from Arkansas Department of Parks and Tourism. We thank Jeff Barnes (University of Arkansas) for the loan of specimens from the University of Arkansas Arthropod Museum, Michael Warriner for sending specimens of *Pogonomyrmex comanche* and other unidentified material from Arkansas, and David General for comments about the manuscript. This article is approved for publication as Journal Article No. J-11949 of the Mississippi Agricultural and Forestry Experiment Station. Research was supported by State Project MIS-311080 and the USDA-ARS Areawide Management of Imported Fire Ant Project (Richard L. Brown, Principal Investigator).

## References

**Baroni Urbani, C. and M. L. de Andrade. 2003.** The ant genus *Proceratium* in the extant and fossil record (Hymenoptera: Formicidae). Museo Regionale di Scienze Naturali, Monografie 36: 1-480.

**Bolton, B. 2000.** The ant tribe Dacetini. Memoirs of the American Entomological Institute 65: 1-1028.

**Bolton, B. and G. D. Alpert. 2011.** Barry Bolton's Synopsis of the Formicidae and Catalogue of Ants of the World, in <a href="http://gap.entclub.org/">http://gap.entclub.org/</a> Version: 3 January 2011. Accessed on 3 May 2011.

**Bolton B, G. D Alpert, P. S Ward, and P. Naskrecki. 2007.** Bolton's Catalogue of Ants of the World, 1758-2005. Cambridge, MA. Harvard University Press (CD-ROM).

Creighton, W. S. 1950. The ants of North America. Bull. Museum Compar. Zool. 104: 1-585.

**DuBois, M. B. 1986.** A revision of the native New World species of the ant genus *Monomorium* (*minimum* group) (Hymenoptera: Formicidae). Univ. Kansas Sci. Bull. 53: 65-119.

**Fisher, B. L. 2002.** Antweb. The California Academy of Sciences, San Francisco, U.S.A. <a href="http://www.antweb.org">http://www.antweb.org</a> [accessed 10 August 2010].

**Fisher, B. L. and S. P. Cover. 2007.** Ants of North America: A Guide to the Genera. University of California Press. Berkeley, CA. 194 pp.

Foti, T. 2010. The Encyclopedia of Arkansas History and Culture.

<a href="http://encyclopediaofarkansas.net/encyclopedia/entry-detail.aspx?entryID=401#">http://encyclopediaofarkansas.net/encyclopedia/entry-detail.aspx?entryID=401#</a> [accessed 11 August 2010].

<sup>© 2011,</sup> Mississippi Entomological Association

- **Francoeur, A. 1973.** Revision taxonomique des especes nearctiques du group *fusca*, genre *Formica* (Hymenoptera: Formicidae). Memoires de la Société Entomologique du Québec 3: 1-316.
- **General, D. M. and L. C. Thompson. 2007.** Ants (Hymenoptera: Formicidae) of Arkansas Post National Memorial. J. Arkansas Acad. Sci. 61: 59-64.
- **General, D. M. and L. C. Thompson. 2008.** New distributional records of ants in Arkansas. J. Arkansas Acad. Sci. 62: 148-150.
- **General, D. M and L. C Thompson. 2009.** New distributional records of ants for 2008. J. Arkansas Acad. Sci. 63: 182-184.
- Johnson, C. 1988. Species identification in the eastern Crematogaster. J. Entomol. Sci. 23: 314-322.
- Loftin, K. and J. D. Hopkins. 2010. Distribution of Imported Fire Ants in Arkansas. University of Arkansas, Division of Agriculture, Cooperative Extension Service.

  <a href="http://www.extension.org/pages/Information\_for\_Arkansas\_Residents">http://www.extension.org/pages/Information\_for\_Arkansas\_Residents</a> [accessed 1 November 2010].
- MacGown, J. A. 2010. Ants of the Southeastern United States (species list).

  <a href="http://www.mississippientomologicalmuseum.org.msstate.edu/Researchtaxapages/Formicidaepages/faunal.lists/Southeastern.species.htm">http://www.mississippientomologicalmuseum.org.msstate.edu/Researchtaxapages/Formicidaepages/faunal.lists/Southeastern.species.htm</a> [accessed 4 October 2010].
- MacGown, J. A. and J. G. Hill. 2008. Ants of Petit Jean State Park, Conway County, Arkansas (species list).

  <a href="http://www.mississippientomologicalmuseum.org.msstate.edu/Researchtaxapages/Formicidaepages/faunal.lists/PetitJeanStPkAnts.html">http://www.mississippientomologicalmuseum.org.msstate.edu/Researchtaxapages/Formicidaepages/faunal.lists/PetitJeanStPkAnts.html</a> [accessed 22 September 2010].
- **MacGown, J. A., J. G. Hill, and M. A. Deyrup. 2007.** *Brachymyrmex patagonicus* (Hymenoptera: Formicidae), an emerging pest species in the southeastern United States. Florida Entomol. 90: 457-464.
- **MacGown, J. A., J. G. Hill, and M. Deyrup. 2009.** Ants (Hymenoptera: Formicidae) of the Little Ohoopee Dunes, Georgia. J. Entomol. Sci. 44: 193-197.
- MacGown, J. A., J. G. Hill, L. C. Majure, J. L. Seltzer. 2008. Rediscovery of *Pogonomyrmex badius* (Latreille) (Hymenoptera: Formicidae) in mainland Mississippi, with an analysis of associated seeds and vegetation. Midsouth Entomol. 1: 17-28.
- **MacKay, W.P. 1993.** A review of the New World ants of the genus *Dolichoderus* (Hymenoptera: Formicidae). Sociobiology 22: 1-148.
- **McGlynn, T. P. 1999.** The worldwide transport of ants: geographic distribution and ecological invasions. J. Biogeography 26: 535-548.
- Nickerson, J. C., and K. A. Barbara. 2009. Crazy ant: scientific name: *Paratrechina longicornis* (Latreille) (Insecta: Hymenoptera: Formicidae). Featured Creatures: University of Florida Institute of Food and Agricultural Sciences.
- O'Conner, S. 2009. Global Invasive Species Database: *Paratrechina longicornis*. National Biological Information Infrastructure and Invasive Species Specialist Group.

  <a href="http://www.issg.org/database/species/ecology.asp?fr=1&si=958&sts">http://www.issg.org/database/species/ecology.asp?fr=1&si=958&sts</a> = [accessed 14 August 2010].
- Pacheco, J. A. 2007. The New World Ants of the Genus Solenopsis (Hymenoptera: Formicidae). Ph.D. dissertation, The University of Texas at El Paso. i-xxi +543 pp.
  Smith, D. R. 1979. Superfamily Formicoidea [pp. 1323-1467]. In: K. V. Krombein, P. D. Hurd, Jr., D. R. Smith, and B. D. Burks (Eds.), Catalog of Hymenoptera in America North of Mexico, Vol. 2: Apocrita (Aculeata). Smithsonian Institution Press, Washington, D.C. xvi + 1199-2209
- **Smith, M. R. 1957.** Revision of the genus *Stenamma* Westwood in America north of Mexico (Hymenoptera: Formicidae). Am. Midland Naturalist 57: 133-174.
- **Snelling, R. R. 1995.** Systematics of Nearctic ants of the genus *Dorymyrmex* (Hymenoptera: Formicidae). Contribution in Science. Natural History Museum of Los Angeles Country. 454: 1-14.
- **Snelling G. C. and R. R. Snelling. 2007.** New synonymy, new species, new keys to *Neivamyrmex* army ants of the United States. *In*: Snelling, R. R., P. S. Ward, and B. L. Fisher (Eds.), Advances in ant systematics. Memoirs of the American Entomological Institute 80: 459-550.
- **Storz, S. R., AND W. R. Tschinkel. 2004.** Distribution, spread, and ecological associations of the introduced ant *Pheidole obscurithorax* in the southeastern United States. J. Insect Sci. 14: 12.

<sup>© 2011,</sup> Mississippi Entomological Association

- **Suarez, A. V., D. A. Holway, and T. J. Case. 2001.** Patterns of spread in biological invasions dominated by long-distance jump dispersal: Insights from Argentine ants. Proc. Natl. Acad. Sci. 98: 1095-1100.
- Tabor, S. W. 2000. Fire Ants. College Station, TX: Texas A&M University Press. 308 pp.
- **Tschinkel, W.R. 2006.** The Fire Ants. Cambridge, MA: Belknap Press of Harvard University Press. 723 pp.
- **Trager, J. C. 1984.** A revision of the genus *Nylanderia* (Hymenoptera: Formicidae) of the continental United States. Sociobiology 9: 49-162.
- **Trager, J. C. 1991.** A revision of the fire ants, *Solenopsis geminata* group (Hymenoptera: Formicidae: Myrmicinae). J. New York Entomol. Soc. 99: 142-198.
- **Trager, J. C., J. A. MacGown and M. D. Trager. 2007.** Revision of the Nearctic endemic *Formica pallidefulva* group (Hymenoptera: Formicidae: Formicinae). *In*: Snelling, R. R., P. S. Ward, and B. L. Fisher (Eds.), Advances in ant systematics. Memoirs of the American Entomological Institute 80: 610-636.
- **Ward, P. S. 2005.** A synoptic review of the ants of California (Hymenoptera: Formicidae). Zootaxa 936: 1-68.
- Warren, L. O and E. P Rouse. 1969. The ants of Arkansas. Univ. Arkansas Agric. Exper. Sta. Bull. 742: 68 pp.
- **Warren, L. O. and E. P. Rouse. 1980.** Checklist of the ants (Formicidae) of Arkansas. Arkansas Academy of Science, Arkansas Biota Survey Checklist No. 24. 3pp.
- **Wetterer, J. K. 2008.** Worldwide spread of the longhorn crazy ant, *Paratrechina longicornis* (Hymenoptera: Formicidae). Myrmecological News 11: 137-149.
- **Wilson, E. O. and A. Francoeur. 1974.** Ants of the *Formica fusca* group in Florida. Florida Entomol. 57: 115-116.
- **Wing, M. W. 1968.** Taxonomic revision of the Nearctic genus *Acanthomyops* (Hymenoptera: Formicidae). Cornell Experiment Station Memoir 405: 1-173.
- Woods A. J., T. L. Foti, S. S. Chapman, J. M. Omernik, J. A. Wise, E. O. Murray, W. L. Prior, J. B. Pagan Jr., J. A Comstock, and M. Radford. 2004. Ecoregions of Arkansas (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,000,000).



<sup>© 2011,</sup> Mississippi Entomological Association

Table 1. List of ant species in Arkansas (new state records in bold). Names follow Bolton and Alpert (2011).

Genus/species	Collection/Literature Citation
Amblyopone pallipes (Haldeman)	MEM; General & Thompson, 2008; Warren & Rouse, 1969
Aphaenogaster carolinensis Wheeler	MEM; General & Thompson, 2008; Warren & Rouse, 1969
Aphaenogaster fulva Roger	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969
Aphaenogaster lamellidens Mayr	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969
Aphaenogaster rudis Enzmann	UAAM; Warren & Rouse, 1969
Aphaenogaster tennesseensis (Mayr)	MEM; General & Thompson, 2008, 2009; Warren & Rouse, 1969
Aphaenogaster texana Wheeler	MEM; General & Thompson, 2007, 2008; Warren & Rouse, 1969
Aphaenogaster treatae Forel	MEM; General & Thompson, 2009; Warren & Rouse, 1969
Brachymyrmex depilis Emery	MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969
Brachymyrmex patagonicus Mayr E	MEM; MacGown et al., 2007
Camponotus americanus Mayr	MEM; General & Thompson, 2007, 2008; Warren & Rouse, 1969
Camponotus caryae (Fitch)	UAAM; Warren & Rouse, 1969
Camponotus castaneus (Latreille)	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969
Camponotus chromaiodes Bolton	MEM; Warren & Rouse, 1969
Camponotus decipiens Emery	General & Thompson, 2007; 2008, 2009; Warren & Rouse, 1969
Camponotus discolor (Buckley)	UAAM; General & Thompson, 2007; Warren & Rouse 1969
Camponotus nearcticus Emery	MEM; General & Thompson, 2007, 2008; Warren & Rouse, 1969;
Camponotus obliquus Smith	UAAM
Camponotus pennsylvanicus (DeGeer)	MEM; General & Thompson, 2007, 2008; Warren & Rouse, 1969
Camponotus pylartes Wheeler	UAAM; General and Thompson, 2007; Warren & Rouse, 1969;
Camponotus sansabeanus (Buckley)	MEM; UAAM; Smith, 1979; Warren & Rouse, 1969
Camponotus snellingi Bolton	MEM; General & Thompson, 2008, 2009
Camponotus subbarbatus Emery	MEM; Warren & Rouse, 1969
Cardiocondyla venustula Wheeler E	UAAM; Warren & Rouse, 1980
Crematogaster ashmeadi Mayr	MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969
Crematogaster atkinsoni Wheeler	General & Thompson, 2007
Crematogaster cerasi (Fitch)	UAAM; General & Thompson, 2008, 2009; Smith, 1979
Crematogaster laeviuscula Mayr	UAAM; General & Thompson, 2007; Warren & Rouse 1969
Crematogaster lineolata (Say) Crematogaster minutissima Mayr	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969 UAAM; General & Thompson, 2007, 2008, 2009;
Crematogaster missuriensis Emery	Warren & Rouse, 1969 MEM; General & Thompson, 2007, 2009; Warren &
Crematogaster pilosa Emery	Rouse, 1969 MEM; UAAM; General & Thompson, 2007; Warren &
Crematogaster vermiculata Emery	Rouse, 1969 (listed as C. clara Mayr) Smith, 1979

<sup>© 2011,</sup> Mississippi Entomological Association

Cryptopone gilva (Roger) Discothyrea testacea Roger Dolichoderus mariae Forel Dolichoderus taschenbergi (Mayr) Dorymyrmex bureni (Trager) Dorymyrmex flavus McCook Dorvmvrmex insanus (Buckley) Forelius mccooki (McCook) Forelius pruinosus (Roger)

Formica biophilica Trager Formica dolosa Buren Formica pallidefulva Latreille

Formica rubicunda Emery Formica subsericea Say

Hypoponera opaciceps (Mayr) E Hypoponera opacior (Forel)

Labidus coecus (Latreille) Lasius alienus (Foerster)

Lasius claviger (Roger) Lasius interjectus (Mayr) Lasius neoniger Emery Linepithema humile (Mayr) E Monomorium minimum (Buckley)

Monomorium pharaonis (Linnaeus) E Myrmecina americana Emery

Myrmica americana Weber

Myrmica pinetorum Wheeler Myrmica punctiventris Roger

Neivamyrmex nigrescens (Cresson)

Neivamyrmex opacithorax (Emery)

Neivamyrmex pilosus (F. Smith)

Neivamyrmex swainsonii (Shuckard) Nylanderia arenivaga (Wheeler) Nylanderia faisonensis (Forel) Nylanderia parvula (Mayr) Nylanderia terricola (Buckley)

Nylanderia wojciki (Trager) Pheidole bicarinata Mayr

Pheidole dentata Mayr

Pheidole dentigula Smith Pheidole metallescens Emery Pheidole morrisi Forel

MEM; General & Thompson, 2008; Smith, 1979 MEM; General & Thompson, 2007, 2008, 2009 UAAM; MacKay, 1993; Warren & Rouse, 1969 MEM; UAAM; MacKay, 1993; Warren & Rouse, 1969

General & Thompson, 2009

UAAM; General & Thompson, 2008

General & Thompson, 2008

MEM; UAAM; Warren & Rouse, 1969

UAAM; General & Thompson, 2007; Warren & Rouse,

MEM; Trager et al., 2007

MEM; Trager et al., 2007; Warren & Rouse, 1969 MEM; General & Thompson, 2007, 2008; Trager et

al., 2007; Warren & Rouse, 1969 MEM; General & Thompson, 2008

MEM; UAAM; Warren and Rouse, 1969 (reported as

F. fusca)

UAAM; General & Thompson, 2008, 2009 MEM; UAAM; General & Thompson, 2007,2008,

2009; Warren & Rouse, 1969

MEM; UAAM; Smith, 1979; Warren & Rouse, 1969 MEM; General & Thompson, 2007; Smith, 1979;

Warren & Rouse, 1969

MEM; UAAM; Warren & Rouse, 1969

MEM; UAAM; Warren & Rouse, 1969; Wing, 1968

MEM; UAAM; Warren & Rouse, 1969

UAAM; Suarez, 2001; Warren & Rouse, 1969 MEM; Dubois, 1986; General & Thompson, 2007,

2008, 2009; Warren & Rouse, 1969 MEM; UAAM; Warren & Rouse, 1969

MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969

MEM; UAAM; General & Thompson, 2008, 2009; Warren & Rouse, 1969

MEM; General & Thompson, 2009

MEM; UAAM; General & Thompson, 2007, 2008, 2009; Smith, 1979; Warren & Rouse, 1969

MEM; UAAM; Smith, 1979; Snelling & Snelling, 2007;

Warren & Rouse, 1969

MEM; UAAM; Smith, 1979; Snelling & Snelling, 2007;

Warren & Rouse, 1969

MEM; UAAM; Smith, 1979; Snelling & Snelling, 2007;

Warren & Rouse, 1969 General & Thompson, 2009

UAAM; Trager, 1984; Warren & Rouse, 1969 MEM; General & Thompson, 2009; Trager, 1984 MEM; Trager, 1984; Warren & Rouse, 1969 UAAM; General & Thompson, 2007, 2008, 2009;

Trager, 1984

General & Thompson, 2008, 2009

MEM; General & Thompson, 2007; Warren & Rouse,

MEM; General & Thompson, 2007, 2009; Warren &

Rouse, 1969

General & Thompson, 2007, 2008, 2009

General & Thompson, 2009 MEM; Warren & Rouse, 1969

<sup>© 2011,</sup> Mississippi Entomological Association

Pheidole pelor Wilson General & Thompson, 2009 MEM; General & Thompson, 2007, 2008, 2009 Pheidole pilifera (Roger) Pheidole soritis Wheeler MEM; Warren & Rouse, 1969 Pheidole tetra Creighton MEM; General & Thompson, 2008, 2009; Wilson, 2003 Pheidole tysoni Forel MEM; General & Thompson, 2007 Pogonomyrmex barbatus (Smith) MEM; UAAM; Smith, 1979; Warren & Rouse, 1969 Pogonomyrmex comanche Wheeler MEM; UAAM; General & Thompson, 2009; Smith, 1979; Warren & Rouse, 1969 Polyergus breviceps Emery MEM Polyergus Iucidus Mayr UAAM; General & Thompson, 2007; Warren & Rouse, 1969 Ponera exotica Smith MEM; General & Thompson, 2008, 2009 Ponera pennsylvanica Buckley MEM; UAAM; General & Thompson, 2007, 2008, 2009: Warren & Rouse, 1969 Prenolepis imparis (Say) MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969 Proceratium crassicorne Emery MEM Proceratium creek de Andrade Baroni Urbani & de Andrade, 2003 Proceratium croceum (Roger) UAAM; Baroni Urbani & de Andrade, 2003 Proceratium pergandei (Emery) MEM; Baroni Urbani and de Andrade, 2003; General & Thompson, 2007, 2008, 2009; Smith, 1979 Proceratium silaceum Roger MEM; Baroni Urbani & de Andrade, 2003; General & Thompson, 2008; Smith, 1979 Protomognathus americanus (Emery) UAAM; General & Thompson, 2007, 2009 Pseudomyrmex ejectus (Smith) General & Thompson, 2009 Pseudomyrmex pallidus (Smith) UAAM; General & Thompson, 2007, 2009; Warren & Rouse, 1969 Pyramica angulata (Smith) MEM; Bolton, 2000 UAAM; Bolton, 2000; General & Thompson, 2007, Pyramica clypeata (Roger) 2008, 2009; Smith, 1979; Warren & Rouse, 1969 Pyramica dietrichi (Smith) MEM; Bolton, 2000; Smith, 1979 Pvramica filitalpa (Brown) Bolton, 2000: Smith, 1979 Pyramica laevinasis (Smith) MEM; UAAM; Bolton, 2000 Pyramica membranifera (Emery) E General & Thompson, 2009 Pyramica metazytes Bolton MEM Pyramica missouriensis (Smith) MEM Pyramica ohioensis (Kennedy & Schramm) MEM; Bolton, 2000; General & Thompson, 2008, 2009; Smith, 1979; Smith, 1979; Warren & Rouse, 1969 MEM; Bolton, 2000; General & Thompson, 2007, Pyramica ornata (Mayr) 2009; Warren & Rouse, 1969 Pyramica pilinasis (Forel) Bolton, 2000; Smith, 1979; Warren & Rouse, 1969 Pyramica pulchella (Emery) Pyramica reflexa (Wesson & Wesson) MEM; Bolton, 2000; General & Thompson, 2009 MEM; Bolton, 2000; Warren & Rouse, 1969 Pyramica rostrata (Emery) Pyramica talpa (Weber) MEM Pyramica species AR-01 General & Thompson, 2009 Pyramica species AR-02 General & Thompson, 2009 Solenopsis carolinensis Forel MEM; Pacheco, 2007 Solenopsis geminata (Fabricius) General & Thompson, 2008; Warren & Rouse, 1969

MEM; General & Thompson, 2007, 2008, 2009;

General & Thompson, 2007, 2008, 2009; Warren &

Smith, 1979

Rouse, 1969

General & Thompson, 2009

Solenopsis invicta Buren E

Solenopsis molesta (Say)

Solenopsis pergandei Forel

<sup>© 2011,</sup> Mississippi Entomological Association

Solenopsis richteri Forel	Loftin & Hopkins, 2010; Warren & Rouse, 1969
Solenopsis texana Emery	Pacheco, 2007; Warren & Rouse, 1969
Solenopsis xyloni McCook	UAAM; Warren & Rouse, 1969
Stenamma impar Forel	MEM; UAAM
Stenamma meridionale Smith	Smith, 1979; Smith, 1957; Warren & Rouse, 1969
Strumigenys Iouisianae Roger	MEM; Bolton, 2000; General & Thompson, 2007, 2008, 2009
Tapinoma sessile (Say)	MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969
Temnothorax ambiguus (Emery)	MEM
Temnothorax curvispinosus (Mayr)	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969
Temnothorax pergandei (Emery)	MEM; General & Thompson, 2007, 2009; Warren & Rouse, 1969
Temnothorax schaumii (Roger)	MEM; General & Thompson, 2007; Warren & Rouse, 1969
Temnothorax texanus (Wheeler)	MEM
Tetramorium bicarinatum (Nylander) E	UAAM; listed as T. guineense-Warren & Rouse, 1969
Trachymyrmex septentrionalis (McCook)	MEM; General & Thompson, 2007, 2008, 2009; Warren & Rouse, 1969

 $<sup>^{\</sup>circ}$  2011, Mississippi Entomological Association