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A PRELIMINARY LIST OF THE ANTS (HYMENOPTERA: FORMICIDAE) OF ALABAMA, U.S.A.¹

Joe A. MacGown² and Jason A. Forster³

ABSTRACT: One hundred and fifty-four species of Formicidae, plus the hybrid fire ant *Solenopsis invicta x richteri*, are reported from Alabama, U.S.A. Fifty-nine new state records are presented and county distributions are given for each species.

KEYWORDS: Hymenoptera, Formicidae, Alabama, U.S.A., ants, new records

Although the formicid fauna of North America is relatively well known, distributional records are incomplete for many parts of the United States, including Alabama. The lack of published information on Alabama ants is unfortunate because the state is extremely diverse with five major and 31 minor physiographic regions (Department of Geography, University of Alabama, http://alamamaps.ua.edu/alabama/physical/al_physio.jpg), and one would expect Alabama's ant fauna to reflect this diversity. Several physiographic regions from the northern, southern, and midwestern United States reach their geographic limits in Alabama, forming a unique transitional area that is very important for delimiting the distribution of many species of ants.

L. C. Murphree (1947) conducted a limited survey of ants in Alabama with the results eventually given in his thesis. Murphree did not mention the years that his collections were made, but Glancey et al. (1976) stated that Murphree's work must have been done in the early to mid 1930s when he was scouting the state for the Argentine ant, *Linepithema humile* (Mayr). Most of Murphree's ant collections were from urban habitats; consequently, he listed only 47 species of ants, some of which were later synonymized. Murphree had no unusual species records for Alabama in his list, nor were his identifications considered to be questionable because they were corroborated by the well-known ant taxonomist M. R. Smith. However, three species on Murphree's list, *Dorymyrmex pyramicus* Roger, *Forelius analis* Andre, and *Camponotus pylartes fraxinicola* M. R. Smith, were not included in this list due to difficulties in those groups or questions about their current validity as species, making it impossible to know with certainty which species he actually had. The only other published list of ants for Alabama included 16 species collected at bait in Mobile County (Glancey et al. 1976), the identifications of which were verified by W. F. Buren, another well-known myrmecologist.

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Edward O. Wilson, a native of Alabama, and various colleagues, including W. Brown, collected ants in different locations in the state, but their records were not compiled into a state list. Rather, records of their specimens and others have been reported in revisional works by various authors including Baroni Urbani and De Andrade (2003), Bolton (2000), Creighton (1930, 1950), Deyrup and Cover (2004), DuBois and Davis (1998), Johnson (1988), MacKay (1993), Shoemaker et al. (1994), D. R. Smith (1979), M. R. Smith (1931, 1932, 1942), Pass (1960), Snelling (1988, 1995), Trager (1984, 1988), Trager et al. (2005), Umphrey (1996), Ward (1985), Watkins (1985), and Wilson (1950, 1952, 2003).

While these authors made significant contributions to the number of species recorded from Alabama, a considerable number of species likely to occur in the state were still not reported. With taxonomic changes taken into account, only 95 species have actually been listed as occurring in Alabama. The list presented here adds 59 new records and increases the list of Alabama ants to 154 species (plus the hybrid fire ant, *Solenopsis invicta* x *richteri*) representing 37 genera and 8 subfamilies. Efforts were made to sample as many of the diverse habitat types in Alabama as possible, and ants were collected or reported from all 67 counties in Alabama (Fig. 1).

Many of the species records included in this list are based on collections made during the last 12 years, with 125 species and all of the 59 new state records collected during this time period. The remaining species records are from examination of older specimens stored at both the Auburn University Entomological Museum (AUEM) in Alabama and the Mississippi Entomological Museum (MEM) at Mississippi State University, as well as from literature records.

Preliminary List of the Formicidae of Alabama, U.S.A.

The list presented is arranged by subfamily, tribe, and genus according to Bolton (2003). Names follow Bolton (1995), except *Dorymyrmex*, which follows Snelling (1995); *Pyramica*, which follows Bolton (2000); *Aphaenogaster*, which follows Umphrey (1996); *Pheidole*, which follows Wilson (2003); and *Crematogaster*, which follows Johnson (1988) and Deyrup (2003).

County records are provided with counties of material examined by the authors given first (AUEM and/or MEM indicate deposition of specimens), followed by literature records. Only unique county records are listed for literature records, with duplicate counties excluded if specimens from those counties were in the AUEM or MEM collections. New records of species for Alabama are indicated by an asterisk (*).

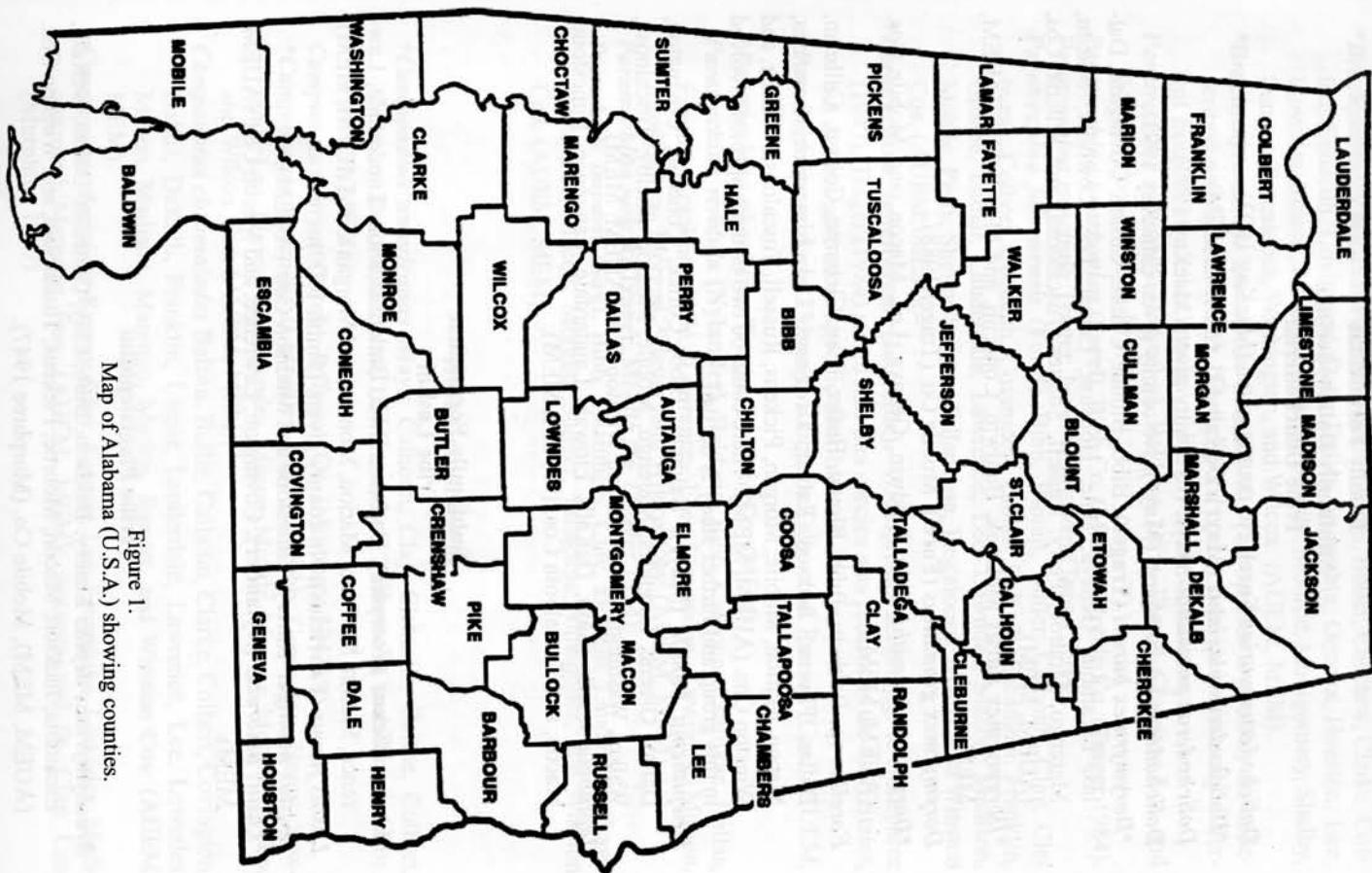


Figure 1.
Map of Alabama (U.S.A.) showing counties.

Family Formicidae
Subfamily Dolichoderinae

Tribe Dolichoderini

**Dolichoderus mariae* Forel. No county given (MacKay 1993).

**Dolichoderus plagiatus* (Mayr). DeKalb Co. (AUEM, MEM).

Dolichoderus pusulatus Mayr. No county given (MacKay 1993).

**Dorymyrmex bureni* (Trager). Bibb, Blount, Clarke, Coffee, Covington, Dallas, Escambia, Geneva, Hale, Houston, Lamar, Lee, Lowndes, Macon, Marengo, Monroe, Perry, Russell, Sumter, Tuscaloosa, and Wilcox Cos. (AUEM, MEM).

**Dorymyrmex flavus* McCook. Baldwin, Conecuh, and Mobile Cos. (AUEM, MEM).
Dorymyrmex grandulus (Forel). Mobile Co. (Trager 1988).
*i_{Dorymyrmex smithi} Cole. Baldwin, Geneva, Lee, Macon, and Mobile Cos. (AUEM, MEM).

Forelius sp. Baldwin, Bibb, Blount, Butler, Clay, Cleburne, Colbert, Cullman, Dallas, Fayette, Jackson, Lamar, Lawrence, Lee, Limestone, Lowndes, Macon, Marion, Mobile, Morgan, Pickens, Russell, Tuscaloosa, Walker, and Winston Cos. (AUEM, MEM). There could be two or more species involved in this group and further study is needed.

Linepithema humile (Mayr). Baldwin, Bibb, Coffee, Conecuh, Covington, Dallas, Greene, Lowndes, Marengo, Mobile, Monroe, Shelby, Tuscaloosa, Walker, Washington, Wilcox, and Winston Cos. (AUEM, MEM).
Tapinoma sessile (Say). DeKalb, Etowah, Lauderdale, Lawrence, Limestone, Macon, and Tuscaloosa Cos. (AUEM, MEM).

**Brachymyrmex musculus* Forel. Baldwin, Bibb, Butler, Choctaw, Clarke, Coffee, Conecuh, Covington, Dale, Dallas, Escambia, Geneva, Houston, Lee, Lowndes, Macon, Marengo, Marion, Mobile, Monroe, Montgomery, Shelby, Sumter, Tuscaloosa, Washington, and Wilcox. (AUEM, MEM).

**Brachymyrmex* sp. Tuscaloosa Co. (MEM). This species is possibly an undescribed new species (Mark Deyrup, pers. comm.), and it is distinctly different from the two other species of *Brachymyrmex* on this list.

Paratrechina bourbonica (Forel). Bibb Co. (MEM); Mobile Co. (Trager 1984).

Paratrechina concinna Trager. No county given (Trager 1984).

Paratrechina faisonensis (Forel). Bibb, Blount, Butler, Calhoun, Clay, Cleburne, Colbert, Conecuh, Covington, Dallas, DeKalb, Escambia, Franklin, Greene, Lamar, Lauderdale, Lawrence, Lee, Lowndes, Macon, Madison, Mobile, Perry, Shelby, Sumter, Tallapoosa, Tuscaloosa, Wilcox, and Winston Cos. (AUEM, MEM).

Paratrechina longicornis (Latreille). Widespread, according to Murphree (1947). Trager (1984) stated that this species was present in the Gulf States, but did not give more specific distributional information.

**Paratrechina parvula* (Mayr). Bibb, DeKalb, and Russell Cos. (AUEM, MEM).

**Paratrechina phasasma* Trager. Baldwin Co. (MEM).

Paratrechina vividula (Nylander). Baldwin, Bibb, Calhoun, Cherokee, Dallas, Fayette, Franklin, Hale, Lawrence, Lee, Limestone, Lowndes, Marion, Montgomery, Morgan, Sumter, and Wilcox Cos. (AUEM, MEM).

Paratrechina wojciki Trager. Mobile Co. (Trager 1984).

Prenolepis imparis (Say). Bibb, Chambers, Clay, DeKalb, Lauderdale, Lawrence, Lee, Macon, Morgan, Sumter, Talladega, Tallapoosa, and Winston Cos. (AUEM, MEM).

Subfamily Formicinae

Tribe Lasiini

**Lasius alienus* (Foerster). Barbour, Bibb, Butler, Jackson, Lauderdale, Lawrence, Macon, Madison, Marion, Monroe, and Morgan Cos. (AUEM, MEM).

Lasius flavus (Fabricius). No county given. (Smith 1979).

**Lasius neoniger* Emery. Limestone and Madison Cos. (AUEM).

**Lasius umbratus* (Nylander). Covington, Lawrence, and Macon Cos. (AUEM, MEM).

Tribe Camponotini

**Camponotus americanus* Mayr. Calhoun, Clay, Cleburne, Coffee, Colbert, Cullman, DeKalb, Etowah, Lawrence, Lee, Tallapoosa, and Winston Cos. (AUEM, MEM).

Camponotus caryae (Fitch). Jefferson Co. (Murphree 1947).

**Camponotus castaneus* (Latreille). Baldwin, Bibb, Covington, Henry, Lawrence, Lee, Limestone, Lowndes, Macon, Mobile, Monroe, Morgan, Shelby, and Wilcox Cos. (AUEM, MEM).

Camponotus chromaiodes Bolton. Butler, Calhoun, Clarke, Colbert, Covington, Dallas, DeKalb, Franklin, Lamar, Lauderdale, Lawrence, Lee, Lowndes, Macon, Madison, Marengo, Marion, Sumter, and Winston Cos. (AUEM, MEM).

Camponotus decipiens Emery. Clay, Fayette, Lee, Limestone, Lowndes, Madison, and Marengo Cos. (AUEM, MEM); Autauga and St. Clair Cos. (Murphree 1947).

Camponotus discolor (Buckley). Pickens Co. (AUDEM); Baldwin Co. (Murphree 1947).

****Camponotus floridanus*** (Buckley). Baldwin, Geneva, Mobile, and Tallapoosa Cos. (AUDEM, MEM).

****Camponotus impressus*** (Roger). Baldwin, Barbour, Bibb, Dallas, Lee, Lowndes, and Marengo. (AUDEM, MEM).

****Camponotus mississippiensis*** M. R. Smith. Lawrence and Lowndes Cos. (AUDEM, MEM).

****Camponotus nearcticus*** Emery. Lauderdale, Lawrence, Lowndes, Morgan, and Shelby Cos. (AUDEM, MEM).

Camponotus obliquus M. R. Smith. No county given (Smith 1979). Cos. (Smith 1942).

Camponotus pennsylvanicus (DeGeer). Bibb, Blount, Cleburne, Dallas, De Kalb, Escambia, Greene, Hale, Lauderdale, Lawrence, Lee, Limestone, Lowndes, Marengo, Monroe, Morgan, Pickens, Shelby, Sumter, Tuscaloosa, and Wilcox Cos. (AUDEM, MEM); Mobile Co. (Glancey et al. 1976).

****Camponotus snellingi*** Bolton. Bibb, Colbert, DeKalb, Lawrence, Lee, Hale, Monroe, Tuscaloosa, and Walker Cos. (AUDEM, MEM).

****Camponotus socius*** Roger. Baldwin and Mobile Cos. (AUDEM, MEM).

****Camponotus subbarbatus*** Emery. Bibb, Lauderdale, Lawrence, Marion, and Tuscaloosa Cos. (AUDEM, MEM).

Tribe Formicini

Formica archboldi M. R. Smith. No county given (Smith 1979).

****Formica integra*** Nylander. Clay, Dekalb, Etowah, Lee, Morgan, and Randolph Cos. (AUDEM, MEM).

****Formica pallidefulva*** Latreille. Clay, Cleburne, Dekalb, Fayette, Lauderdale, Lawrence, Limestone, Macon, Marion, Morgan, and Tuscaloosa Cos. (AUDEM, MEM).

****Formica rubricunda*** Emery. Dekalb Co. (MEM).

Formica schaufussi dolosa Buren. Bibb, Clay, Dekalb, Lawrence, Lowndes, and Sumter Cos. (AUDEM, MEM); Mobile Co. (Glancey et al. 1976).

****Formica subintegra*** Wheeler. Clay Co. (AUDEM, MEM).

****Formica subsericea*** Say. Barbour, Bibb, Cherokee, Dekalb, Etowah, Lawrence, Lowndes, Madison, and Shelby Cos. (AUDEM, MEM).

****Formica n.*** sp. Bibb, Butler, Lowndes, Sumter, and Tuscaloosa Cos. This is a new species in the *pallidefulva* group being described by Trager (2005, in press).

Subfamily Amblyoponinae

Tribe Amblyoponini

****Amblyopone pallipes*** (Haldeman). Bibb, Lauderdale, Lawrence, and Lee Cos. (AUDEM, MEM).

Subfamily Ponerinae

Tribe Ponerini

Cryptopone gilva (Roger). Butler Co. (AUDEM).

Hypoponera opaciceps (Mayr). Covington and Marengo Cos. (AUDEM); Baldwin, Bullock, Conecuh, Crenshaw, Mobile, Montgomery, and Russell Cos. (Murphree 1947).

Hypoponera opacior (Forel). Baldwin, Barbour, Bibb, Blount, Butler, Chambers, Choctaw, Clay, Cleburne, Conecuh, Cullman, Dallas, Escambia, Franklin, Houston, Lauderdale, Lawrence, Lee, Macon, Madison, Marengo, Mobile, Monroe, Montgomery, Morgan, Shelby, Sumter, Tallapoosa, Tuscaloosa, Walker, and Winston Cos. (AUDEM, MEM); Elmore Co. (Murphree 1947).

Odontomachus brunneus (Patton). Houston Co. (AUDEM); Baldwin and Mobile Cos. (Deyrup and Cover 2004).

****Odontomachus ruginodis*** M. R. Smith. Baldwin Co. (MEM).

****Ponera exotica*** M. R. Smith. Bibb, Lawrence, and Sumter Cos. (MEM).

****Pseudomyrmex ejectus*** (F. Smith). Baldwin, Houston, Lee, and Macon Cos. (AUDEM, MEM); Geneva Co. (Murphree 1947); Mobile and Monroe Cos. (Ward 1985).

Pseudomyrmex pallidus (F. Smith). Baldwin, Bibb, Blount, Clarke, Dale, Dallas, Marengo, Montgomery, Shelby, Washington, and Wilcox Cos. (AUDEM, MEM); Mobile Co. (Ward 1985).

****Pseudomyrmex seminole*** Ward. Baldwin Co. (MEM).

Subfamily Ectatomminae

Tribe Ectatommini

**Gnaphogenys triangularis* (Mayr). Mobile Co. (Lloyd Davis, Gainesville, FL, pers. comm.).

Subfamily Proceratiinae

Tribe Proceratiini

**Discothyrea testacea* Roger. Baldwin, Chilton, Lauderdale, Lawrence, and Lee Cos. (AUEM, MEM).

Proceratium chickasaw De Andrade. Bibb, Lauderdale, Lawrence, and Tuscaloosa Cos. (MEM); Mobile Co. (Baroni Urbani and De Andrade 2003).

Proceratium croceum (Roger). Baldwin Co. (MEM); DeKalb, Mobile, Montgomery, and Tuscaloosa Cos. (Baroni Urbani and De Andrade 2003).

Proceratium pergandei (Emery). Lawrence Co. (MEM); Mobile Co. (Baroni Urbani and De Andrade 2003).

Proceratium silaceum Roger. Bibb and Tuscaloosa Cos. (MEM); Baldwin and Mobile Cos. (Baroni Urbani and De Andrade 2003).

Subfamily Myrmicinae

Tribe Dacetini

Pyramica angulata (M. R. Smith). Baldwin, Lauderdale, Lawrence, and Marshall Cos. (AUEM, MEM); Tuscaloosa Co. (Bolton 2000).

Pyramica chyneata (Roger). Morgan Co. (AUEM); Marshall and Tuscaloosa Cos. (Bolton 2000).

Pyramica creightoni (M. R. Smith). Mobile Co. (MEM).

Pyramica dierrichi (M. R. Smith). Lawrence Co. (MEM); Houston, Mobile, and Tuscaloosa Cos. (Bolton 2000).

Pyramica laevinasis (M. R. Smith). Bibb, Lauderdale, and Lee Cos. (AUEM, MEM); Marshall and Mobile Cos. (Bolton 2000).

Pyramica margaritae (Forel). No county given (Smith 1979).

**Pyramica membranifera* (Emery). Baldwin, Bibb, and Macon Cos. (MEM).

Pyramica ohioensis (Kennedy & Schramm). Clay, Lauderdale, Lawrence, Lee, Monroe, and Sumter Cos. (AUEM, MEM).

Pyramica ornata (Mayr). Baldwin, Bibb, Chilton, Conecuh, Henry, Lauderdale, Lawrence, Lee, Marion, Sumter, and Tuscaloosa Cos. (AUEM, MEM); Marshall Co. (Bolton 2000).

**Pyramica pergandei* (Emery). DeKalb Co. (AUEM, MEM).

Pyramica pilinasis (Forel). Tuscaloosa Co. (Bolton 2000).

Pyramica pulchella (Emery). Baldwin, Bibb, and Conecuh Cos. (MEM); Marshall, Mobile, and Morgan Cos. (Bolton 2000).

Pyramica reflexa (Wesson & Wesson). Conecuh and Lawrence Cos. (MEM); Franklin Co. (Bolton 2000).

Pyramica rostrata (Emery). Bibb, Clay, Lauderdale, Lawrence, Lee, and Sumter Cos. (AUEM, MEM); Baldwin, Franklin, and Tuscaloosa Cos. (Bolton 2000).

Pyramica talpa (Weber). Baldwin and Bibb Cos. (MEM); Houston and Mobile Cos. (Bolton 2000).

Strumigenys louisianae Roger. Baldwin, Barbour, Bibb, Butler, Clay, Henry, Houston, Lauderdale, Lawrence, Lee, Sumter, and Tuscaloosa Cos. (AUEM, MEM); Morgan Co. (Smith 1932).

Tribe Attini

Cyphomyrmex rimosus (Spinola). Baldwin, Conecuh, Covington, Dale, Escambia, Houston, Lowndes, Mobile, Monroe, Montgomery, and Wilcox Cos. (AUEM, MEM).

**Trachymyrmex septentrionalis* (McCook). Bibb, Butler, Covington, Hale, Houston, Lawrence, Lowndes, Macon, Mobile, Monroe, Pickens, Talladega, Tuscaloosa, and Wilcox Cos. (AUEM, MEM).

Tribe Stenammini

**Stenamma soveoloccephalum* M. R. Smith. Bibb Co. (DuBois and Davis 1998).
**Stenamma meridionale* M. R. Smith. Monroe and Sumter Cos. (MEM).

Tribe Solenopsidini

Monomorium florilegum (Jerdon). No county given (Smith 1979).

Monomorium minimum (Buckley). Baldwin, Bibb, Covington, Escambia, Hale, Lauderdale, Lawrence, Lowndes, Marengo, Mobile, Montgomery, Morgan, Pickens, and Tuscaloosa Cos. (AUEM, MEM).

Monomorium pharaonis (Linnaeus). Lamar Co. (AUEM); Widespread, according to Murphree (1947).

Monomorium viride Brown. Mobile Co. (Glancey et al. 1976). This record may be unreliable as workers of this species are difficult to distinguish from *M. minimum*.

**Solenopsis carolinensis* Forel. Cleburne, Colbert, Covington, Henry, Lee, Lowndes, Macon, Madison, Monroe, Pickens, and Tuscaloosa Cos. (AUEM, MEM).

Solenopsis geminata (Fabricius). Mobile Co. (Creighton 1930); Baldwin, Barber, Bibb, Bullock, Coffee, Covington, Crenshaw, Dale, Escambia, Geneva, Houston, and Pike Cos. (Murphree 1947). This species was not found during the course of recent collecting and is thought to have been displaced from the area by the introduced fire ants, *S. invicta*, *S. richteri*, and their hybrid.

Solenopsis globularia littoralis Creighton. Mobile Co. (MEM); Baldwin Co. (Creighton 1930); Russell Co. (Murphree 1947).

Solenopsis invicta Buren. Baldwin, Bibb, Chambers, DeKalb, and Lee Cos. (AUEM, MEM); widespread, especially in southern half of state (Shoemaker et al. 1994).

Solenopsis invicta* x *richteri. Lauderdale and Sumter Cos. (AUEM, MEM); widespread, especially in north-central portion of state (Shoemaker et al. 1994).

Solenopsis molesta (Say). Baldwin, Barbour, Bibb, Clay, Franklin, Hale, Houston, Lamar, Lauderdale, Lawrence, Lee, Macon, Marion, Mobile, Morgan, Pickens, Shelby, and Tuscaloosa, Cos. (AUEM, MEM).

Solenopsis pergandei Forel. Bibb, Covington, Lauderdale, Mobile, and Tuscaloosa Cos. (AUEM, MEM); Coosa Co. (Murphree 1947).

****Solenopsis picta*** Emery. Baldwin, Barbour, and Montgomery Cos. (AUEM, MEM).

Solenopsis richteri Forel. Lawrence Co. (AUEM, MEM); Mobile Co. (Creighton 1930); Baldwin and Mobile Cos.; and Spring Hill and Whistler (counties unknown) (Murphree 1947); widespread, especially in the northwestern portion of Alabama (Shoemaker et al. 1994).

****Solenopsis tennesseensis*** M. R. Smith. Baldwin Co. (MEM).

****Solenopsis xyloni*** McCook. Lee Co. (AUEM); Madison, Mobile and Montgomery Cos. (Creighton 1930). Historically this species was widespread, occurring in 154 communities in Alabama, according to Murphree (1947). This species was not found during the course of recent collecting and is thought to have been displaced from the area by the introduced fire ants, *S. invicta*, *S. richteri*, and their hybrid.

Tribe Myrmicini

****Myrmica americana*** Weber. Jackson Co. (AUEM, MEM).

****Myrmica pinetorum*** Wheeler. Barbour, Clay, DeKalb, and Winston Cos. (AUEM).

****Myrmica punctiventris*** Roger. Clay, Cleburne, Coosa, DeKalb, Etowah, Lee, Macon, and Monroe Cos. (AUEM, MEM).

Pogonomyrmex badius (Latreille). Baldwin, Covington, Lee, and Mobile Cos. (AUEM, MEM); Barbour Co. (Murphree 1947).

Tribe Tetramorini

Tetramorium bicarinatum (Nylander). Mobile Co. (Glancey et al. 1976); widespread, according to Murphree (1947).

****Tetramorium caespitum*** (Linnaeus). Limestone Co. (AUEM). ***Tetramorium lanuginosum*** Mayr. Dale and Houston Cos. (Murphree 1947).

Tribe Pheidolini

Aphaenogaster floridana M. R. Smith. No county given (Smith 1979).

Aphaenogaster fulva Roger. Bibb, Conecuh, Lauderdale, Lawrence, Perry, Sumter, and Tuscaloosa Cos. (AUEM, MEM); Autauga and Colbert Cos. (Murphree 1947).

****Aphaenogaster lamellidens*** Mayr. Bibb, Blount, Chambers, Cherokee, Colbert, Fayette, Lauderdale, Lawrence, Lee, Macon, Morgan, and Tuscaloosa Cos. (AUEM, MEM).

Aphaenogaster miamiana Wheeler. Baldwin, Barbour, Bibb, Butler, Escambia, Geneva, Houston, and Macon Cos. (AUEM, MEM).

****Aphaenogaster piccea*** (Wheeler). Clay and Franklin Cos. (AUEM, MEM).

Aphaenogaster rudis Enzmann. Cleburne Co. (Umphrey 1996).

****Aphaenogaster tennesseensis*** (Mayr). Bibb and Houston Cos. (AUEM).

Aphaenogaster treatae Forel. Bibb, Clay, DeKalb, Lawrence, Macon, and Tuscaloosa Cos. (AUEM, MEM); Lamar Co. (Murphree 1947).

***Aphaenogaster* sp. (*fultva-texana-rudis* complex). Baldwin, Bibb, DeKalb, Lauderdale, Lawrence, Sumter, and Tuscaloosa Cos. (AUEM, MEM). This species is probably either *Aphaenogaster carolinensis* Wheeler or A. n. sp. N19 (Umphrey 1996). These two species cannot be separated reliably using morphological characteristics.**

****Pheidole adrianoi*** Naves. Baldwin Co. (MEM).

Pheidole bicarinata Mayr. Bibb, Blount, Dallas, DeKalb, Franklin, Geneva, Lauderdale, Lawrence, Lowndes, Macon, Marion, Morgan, Pickens, Shelby, Tuscaloosa, and Winston Cos. (AUEM, MEM).

Pheidole crassicornis Emery. Barbour, DeKalb, Lee, Lowndes, and Macon Cos. (AUEM, MEM); Butler Co. (Murphree 1947).

Pheidole davisi Wheeler. No county given (Wilson 2003).

Pheidole dentata Mayr. Baldwin, Barbour, Bibb, Clay, Cleburne, Colbert, Coosa, Covington, Cullman, Escambia, Franklin, Geneva, Hale, Houston, Lawrence, Lee, Limestone, Lowndes, Macon, Marion, Mobile, Monroe, Perry, Shelby, Tuscaloosa, and Washington Cos. (AUEM, MEM).

Pheidole dentigula M. R. Smith. Barbour, Bibb, Calhoun, Clay, Henry, Houston, Lawrence, Lee, Marion, Sumter, and Tuscaloosa Cos. (AUEM, MEM).

Pheidole floridana Emery. Baldwin Co. (MEM); Mobile Co. (Wilson 2003).

Pheidole metallescens Emery. Barbour, Covington, Mobile, Tuscaloosa, and Wilcox Cos. (AUEM, MEM).

Pheidole moerens Wheeler. Baldwin, Coffee, Covington, Dale, Geneva, Houston, and Mobile Cos. (AUEM, MEM).

****Pheidole morrissi*** Forel. Baldwin, Covington, Escambia, and Madison Cos. (AUEM, MEM).

Pheidole obscurithorax Naves. Baldwin, Escambia, and Mobile Cos. (AUEM, MEM).

****Pheidole tetra*** Creighton. Winston Co. (AUEM).

****Pheidole tucsoni*** Forel. Clay, Lawrence, Montgomery, and Pickens Cos. (AUEM, MEM).

**Pheidole* sp. Bibb, Clay, Dallas, Lamar, Lauderdale, Lawrence, Marion, and Tuscaloosa Cos. (AUEM, MEM). This species does not fit Wilson's key to *Pheidole* (2003) and is apparently an undescribed species in the *crassicornis* group.

Tribe Crematogastrini

Crematogaster ashmeadi Mayr. Baldwin, Bibb, Blount, Cherokee, Colbert, Covington, Cullman, Dallas, Fayette, Houston, Lauderdale, Lawrence, Lee, Limestone, Lowndes, Madison, Mobile, Monroe, Pickens, Shelby, Talladega, Tuscaloosa, Walker, Wilcox, and Winston Cos. (AUEM, MEM); Henry and Saint Clair Cos. and Edwardsville (county unknown) (Murphree 1947).

Crematogaster atkinsoni Wheeler. No county given (Johnson 1988).

Crematogaster lineolata (Say). Barbour, Bibb, Blount, Choctaw, Clay, Cleburne, Colbert, Cullman, Dale, Dallas, DeKalb, Escambia, Henry, Lauderdale, Lawrence, Limestone, Lowndes, Macon, Marengo, Russell, Tuscaloosa, and Wilcox Cos. (AUEM, MEM); Chilton Co. (Johnson 1988); Franklin, and Montgomery Cos. (Murphree 1947).

Crematogaster minutissima Mayr. Bibb, Lawrence, Lee, Marion, and Mobile Cos. (AUEM, MEM); Pike and Talladega Cos. (Murphree 1947).

**Crematogaster missouriensis* Emery. Baldwin, Bibb, Clay, Lawrence, Madison, and Morgan Cos. (AUEM, MEM).

Crematogaster pilosa Emery. Baldwin, Cleburne, Coffee, Cullman, Dallas, Escambia, Franklin, Jackson, Lauderdale, Lawrence, Lee, Marion, Monroe, Pickens, Shelby, Sumter, Tallapoosa, Tuscaloosa, and Washington Cos. (AUEM, MEM); Calhoun, Cherokee, Conecuh, Dale, Fayette, and Greene Cos. (Murphree 1947).

**Crematogaster vermiculata* Emery. Barbour and Lauderdale Cos. (AUEM, MEM).

Tribe Formicoxenini

**Protomognathus americanus* (Emery). Madison Co. (AUEM).

Temnothorax bradleyi (Wheeler). Baldwin and Tuscaloosa Cos. (Wilson 1952); Jefferson Co. (Murphree 1947).

Temnothorax curvispinosus (Mayr). Clay, Cleburne, DeKalb, Etowah, Lauderdale, Lawrence, Lee, Lowndes, Madison, Marengo, and Winston Cos. (AUEM, MEM).

Temnothorax longispinosus (Roger). Clay and DeKalb Cos. (AUEM, MEM).

**Temnothorax pergandei* (Emery). Cullman, DeKalb, Lawrence and Lowndes Cos. (AUEM, MEM).

**Temnothorax schaumi* (Roger). Lawrence Co. (AUEM, MEM).

Temnothorax smithi (Baroni Urbani). No county given (Smith 1979).

**Temnothorax texanus* (Wheeler). Clay Co. (AUEM, MEM).

Temnothorax tuscaloosae (Wilson). Monroe Co. (MEM); Tuscaloosa Co. (Wilson 1950).

Tribe Myrmecinini

Myrmecina americana Emery. Baldwin, Bibb, Chilton, Clay, Dallas, Fayette, Henry, Houston, Jackson, Lauderdale, Lawrence, Lee, Macon, Marion, Shelby, Sumter, and Tuscaloosa Cos. (AUEM, MEM).

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REVIEW OF *PARADORYDIUM* KIRKALDY (HOMOPTERA, AUCHEONORRHYNCHA, CICADELLIDAE) FROM TURKEY, WITH THE DESCRIPTION OF A NEW SPECIES¹

Emine Demir²

ABSTRACT: The following species of *Paradorydium* are recorded from Turkey: *P. mustafai* sp.n., *P. occidentale* Lindberg (new record) and *P. paradoxum* (Herrich-Schaeffer). Taxonomical features and figures of the species are given.

KEY WORDS: *Paradorydium mustafai*, sp.n., Homoptera, Cicadellidae, Auchenorrhyncha, Turkey. *Paradorydium* is one of only four genera of the Old World leafhopper tribe *Paradorydini* (Linnauvori, 1979). The distinctive elongate shape (Fig. 1) of the members of this tribe has been likened to the seeds of the grasses on which they live. Sixteen species were recorded from Africa by Linnauvori (1979) and ten species from the Palaearctic region by Nast (1972), including *P. paradoxum* Herrich-Schaeffer. In the present work, two other species, *P. occidentale* Lindberg and *P. mustafai* sp. nov., are recorded from Turkey. All three species are described and a key provided for their separation.

Key to the species of *Paradorydium* from Turkey

1. Length of vertex approximately 6.5 X length of pronotum. Aedeagus with a pair of apical processes (Fig. 11)..... *mustafai*
- Length of vertex 4.5 X length of pronotum. Aedeagus without apical processes..... 2
- 2(1) Aedeagus with a pair of basal processes (Fig. 33) *paradoxum*
- Aedeagus without a pair of basal processes (Fig. 21) *occidentale*

***Paradorydium mustafai* sp. n. (Figs. 1-11)**

Description: Length: male 8.8 - 9.7 mm, female 11.8 - 12.2 mm. Yellowish-green. Crown and hemelytra with fine brown punctuation (only a female with red punctuation). Face with distinct dark lateral bands. Veins of forewing brownish-yellow, granulated. Crown (Figs. 3-4) tetrahedral in cross section, median, lateral and ventral carinae distinct; vertex 6.5 X as long as median length of pronotum, sides concave, apex pointed and curved dorsad, median carina reaching to apex, Hemelytra transparent with sharp apex, enclosing entire abdomen. Male genitalia as in Figs. 6-11. Side lobes of pygoophore insinuate apically. Subgenital plate with apical margin forming an inner process and an outer lobe. Stem of aedeagus elongate, slightly recurved dorsad, with falcate apical appendages. Female genitalia as in Fig. 5.

Material Studied: Holotype: male, TURKEY: Southwest Anatolia, Antalya, Manavgat, Hac-yobasý, 22.06.2002, on *Bothriochloa ischaemum*. Paratypes: 2 males and 3 females, TURKEY, Antalya, Manavgat, Hac-yobasý, 22.06.2002, on *Bothriochloa ischaemum*, 2 males, Antalya, Manavgat, Örensehir, 15.10.2001, 8 males and 4 females, Antalya, Manavgat, Hac-yobasý, 26.08.2003, on *Bothriochloa ischaemum*. Holotype and paratypes are deposited in Centre for Entomological Studies Ankara and 1 male and 1 female in the Natural History Museum, London.

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