

# Report on the Ants Collected on Spring Island, Beaufort County, South Carolina: Mississippi Entomological Museum Report #2015-01

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During a brief afternoon visit to Spring Island, I collected several species of ants (listed below). Due to time restraints, I was unable to collect additional species, such as might be found in leaf litter. Collections were mostly done in conjunction with being shown around the island by Tony Mills, naturalist for the Spring Island Preserve. However, during this brief time, several conspicuous ants were seen. Given more time, it is likely that many more species would be collected.

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## *Aphaenogaster ashmeadi* Emery

Common name: none (could be referred to as "Ashmead's long legged ant").

Distribution: Coastal Plain.

Native Status: Native to US.

Worker Description: Medium sized, long legged, reddish brown species with two nodes between propodeum and gaster. No sting present.

Habitat: Nests in soil at forest and field edges, in sandy soil under litter in hammocks, flatwoods, and pine forests.

Pest Status: It does not sting and is fairly timid.

Comments: Saw this species foraging on the ground in the sandy open pine area where "herp" arrays were located.

## *Brachyponera chinensis* (Emery)

Common name: Asian needle ant.

Distribution: In the US, mostly east coastal, but spreading westward.

Native Status: Introduced to US from Asia (probably Japan).

Worker Description: Small size (about the size of an average fire ant); body shiny black with reddish coloration at tip of abdomen, legs orangish brown to brown; single node present between propodeum and gaster; sting present.

Habitat: Nests in soil, leaf litter, or rotting wood in open woodlands and in urban landscapes.

Pest Status: Invasive species that has a potent sting, not overly aggressive, but will sting if colony is disturbed or a winged queen lands on a person. In large numbers, this species has been shown to out-compete other ant species.

Comments: I only found one specimen at Spring Island, so this may be new to the area. It

was near the guest cabin. However, this species has become problematic in the SC region in general and could become established here.

*Camponotus floridanus* (Buckley)

Common name: Florida carpenter ant

Distribution: Coastal Plain along coastal areas.

Native Status: Native to US.

Worker Description: Large; bicolored red and black species; body with abundant long setae; single node at waist; no sting present.

Habitat: Sandy, coastal habitats in the Coastal Plain where it nests in rotting logs and trees, in soil beneath objects (such as the herb arrays) and at bases of trees.

Pest Status: Although it does not have a stinger, it can spray formic acid from a structure called an acidopore (located at tip of abdomen). Bites are often followed by a shot of formic acid into the bite area. This may cause a slight reaction in some people. Because it nests in wood, it is sometimes a structural pest in man made structures.

Comments: This species appeared to be very common on the island.

*Dorymyrmex bureni* (Trager)

Common name: Yellow pyramid ant.

Distribution: Southeastern US into Texas and north to Maryland

Native Status: Native to US.

Worker Description: Small (3.0-3.5 mm); yellowish orange to orangish brown with apical portion of abdomen sometimes brownish; long legs and antennae; propodeum conical, followed by a single node; no sting present.

Habitat: Open habitats, usually sandy, both disturbed and natural.

Pest Status: Not typically considered a pest, although some homeowners have complained about them being a general nuisance and causing problems in well-manicured lawns. Similar complaints have been made by various golf course managers.

Comments: This species is a member of the subfamily Dolichoderinae, a group known for possessing potent defensive chemicals and being dominant ants. This species is a common inhabitant of open areas with slightly sandy to very sandy soils. Workers are active during the warmer periods of the day and one of the few species to be visible in the Deep South during summer afternoons. It does not appear to be negatively impacted by imported fire ants, which often nest in the same habitats. In fact, this species is known to kill fire ants, especially newly mated queens, the dead bodies of which are often placed around the edges of the pyramid ants' colonies. Nests are often large and can be detected by the craterlike mound (about 3-4 inches in diameter and about two inches tall) above the entrance holes to their subterranean nests. Typically, two of these craters can be found within one meter of each other for a given colony. This species can be easily recognized in the field by these crater mounds in open sandy habitats, the yellowish color, and the erratic and fast paced movement of the workers. This appears to be a common ant on Spring Island in open pine forests and along sandy open areas nears water edges.

### *Hypoponera opaciceps* (Mayr)

Common name: none.

Distribution: In the US this species is mostly southern, but ranges as far north as Colorado. This species has been spread globally and now is found in many regions with similar climates to the US.

Native Status: Introduced to US, thought to be native to Brazil.

Worker Description: Small (2.0-2.5 mm); dark brownish black with orangish brown legs; single rectangular (in profile) node at waist; sting present.

Habitat: Typically found in open disturbed habitats.

Pest Status: Not considered a pest. Although it possesses a sting, workers of this species are not aggressive and seldom sting. Winged queens potentially could sting if they alighted on human skin.

Comments: In the Southeast, this introduced species appears to be more common in coastal counties where it nests in open disturbed habitats. On Spring Island, workers were collected as they foraged on the open sandy soil along the edge of the road near a wooded area.

### *Nylanderia parvula* (Mayr)

Common name: none.

Distribution: Widespread in eastern US

Native Status: Native to US.

Worker Description: Small (about 1.6-2.2 mm); dark brown to brownish black; rows of thickened, erect setae (macrosetae) present on body and head (lacking on antennal scapes); single node; no sting.

Habitat: Nests in soil, usually in sandy open forests such as moist pine barrens, mixed deciduous forests, and sandy pine-oak dune woodlands.

Pest Status: Not considered a pest.

Comments: This species is uncommonly collected, but not is probably more common than collection records indicate. In woodland habitats where this species nests, it can be recognized by the dark brownish black coloration and size. Workers of this species were found foraging on a sandy roadside beside a mixed hardwood/pine forest.

### *Pheidole bicarinata* Mayr

Common name: Bicarinate big-headed ant.

Distribution: Widespread in the US and into northern Mexico.

Native Status: Native to US.

Worker Description: **Major:** Relatively small, with a greatly enlarged head (head length about 1.0 mm); light yellow brown to darker brown; with some sculpture on side of pronotum and propodeum; small propodeal spines present; two nodes on waist; sting atrophied in workers. **Minor:** Small, about the half the size of major, head not enlarged (head length about 0.54 mm); yellow to medium brown; sculpture on sides of mesopleura

and propodeum; small propodeal spines present; two nodes on waist; sting atrophied in workers.

Habitat: Nests in soil in open habitats in both natural and disturbed sites Nests are often in open grassy areas with bare spots revealing slightly sandy soil.

Pest Status: Not considered a serious pest; workers may forage for sweet food sources in homes, although this does not appear to be a common problem.

Comments: This is a common, widespread species in open areas. Like other members of the genus, they are omnivorous feeding on seeds, nectar, other insects, etc. Colonies are underground with entrance houses often having a thin circular ring of soil surrounding it. Minor workers are conspicuous, with major workers tending to be more timid.

### *Pheidole dentata* Mayr

Common name: Dentate big-headed ant.

Distribution: Widespread in the southeastern US into western TX.

Native Status: Native to US.

Worker Description: **Major:** Medium sized slender species, with greatly enlarged head (head length about 1.26 mm) variably colored from light yellowish brown to dark reddish brown; with some sculpture on side of mesopleura and propodeum; overall shiny in appearance with numerous long setae on entire body; small propodeal spines present; two nodes on waist; sting atrophied in workers. **Minor:** Small, much smaller than major, head not enlarged (head length about 0.54 mm); yellow to dark brown; sculpture on sides of mesopleura and propodeum; small propodeal spines present; two nodes on waist; sting atrophied in workers.

Habitat: Nests in soil and rotting wood in a wide variety of habitats ranging from open sandy pine forests to deep deciduous forests.

Pest Status: Not considered a serious pest; workers may forage for sweet food sources in homes, although this does not appear to be a common problem.

Comments: A very common and abundant ant. Colonies are often large with numerous workers. Unlike many species in the genus, *Pheidole dentata* majors are less timid. Both majors and minors come to sweet baits readily. Common on Spring Island.

### *Pheidole moerens* Wheeler

Common name: Caribbean big-headed ant.

Distribution: in the US, widespread in the Southeast, especially along southern and eastern parts of the Coastal Plain.

Native Status: Introduced to US, native to Caribbean.

Worker Description: **Major:** Small, with greatly enlarged head (head length about 0.9 mm); bicolored reddish brown and dark brown to completely dark brown; with sculpture on entire side of mesosoma; small propodeal spines present; two nodes on waist; sting atrophied in workers. **Minor:** Small, about the half the size of major, head not enlarged (head length about 0.48 mm); yellow to medium brown; sculpture on sides of mesopleura and propodeum; small propodeal spines present; two nodes on waist; sting atrophied in workers.

Habitat: Nests in open disturbed areas and natural wooded habitats. Nests are typically in rotting wood, but also may be in soil or leaf litter at bases of trees.

Pest Status: Can be a nuisance pest; workers may forage for sweet food sources in homes, although this does not appear to be a common problem. This species produces large mating swarms of males and queens, which are sometimes attracted to lights in homes causing concern for homeowners. Because of the dark coloration and size of the queens, they are often mistaken for termite swarmers.

Comments: This invasive species has been steadily increasing its range in the US during the last 50 plus years. Although no data has been presented, it may have a negative effect on native ant species that nest in the same habitat. On Spring Island, colonies of this species were found at the bases of pines near a boat landing.

### *Pheidole metallescens* Emery

Common name: Metallic big-headed ant.

Distribution: Widespread in the Southeast into Texas.

Native Status: Native to US.

Worker Description: **Major:** Small, with greatly enlarged head (head length about 0.94 mm); bicolored reddish brown with dark brownish gaster; with sculpture on entire side of mesosoma; small propodeal spines present; two nodes on waist; sting atrophied in workers. **Minor:** Small, about the half the size of major, head not enlarged (head length about 0.46 mm); dark blackish with metallic greenish to blueish reflections; sculpture on sides of mesopleura and propodeum; small propodeal spines present; two nodes on waist; sting atrophied in workers.

Habitat: Nests in soil in sandy habitats such as along rivers and creeks, pine savannas, or other sandy areas.

Pest Status: Not considered to be a pest.

Comments: This small ant can usually be identified in the field by the small, blackish colored minor workers that forage along the ground in sandy areas. In deep sand habitats, they could be confused with related species *P. davisi* and *P. adrianoi*.

### *Pheidole tysoni* Forel

Common name: Golden big-headed ant.

Distribution: Widespread in the southern US to New England.

Native Status: Native to US.

Worker Description: **Major:** Small (about 2 mm), with enlarged head (head length about 1.10 mm); golden yellowish to reddish orange; very little sculpture on entire side of mesosoma, very shiny; small propodeal spines present; two nodes on waist; sting atrophied in workers. **Minor:** Small (about 1.4 mm), about the half the size of major, head not enlarged (head length about 0.48 mm); golden yellow; mostly lacking sculpture on side of mesosoma; small propodeal spines present; two nodes on waist; sting atrophied in workers.

Habitat: Nests in soil in open areas including, fields, prairies, open wooded areas.

Pest Status: Not considered to be a pest.

Comments: A tiny, golden colored ant that forages along the ground. Relatively common in open areas.

*Pogonomyrmex badius* (Latreille)

Common name: Florida harvester ant.

Distribution: Southeast US, not found west of the Mississippi River.

Native Status: Native to US.

Worker Description: **Major:** Large with huge heads; reddish brown; head, body, and waist with strong, deep striations; entire body with numerous, erect, white setae; extremely long setae present underneath head; propodeum lacking spines; two nodes present; strong sting present. **Minor:** Similar to majors, but smaller and with proportionally smaller heads.

Habitat: Nests in open sandy habitats in the Coastal Plain.

Pest Status: This species has a strong sting and workers should not be handled.

Comments: This species is the only member of the genus present east of the Mississippi River. It has a dimorphic worker caste with large major workers and smaller minor workers. It is an omnivorous species, but is known to gather a wide variety of seeds as food resources. The large heads of the major heads are equipped with strong mandibular muscles to control the massive jaws that crush seeds open. Nests are very conspicuous in open sandy areas, as the ants clear the immediate area and create a wide, low crater above the subterranean colony. This wide crater area may be up to one meter in diameter. Typically, debris including seeds husks from the colony, bits of charcoal, and other items are placed in the crater area. This makes it easy to spot this species. Workers are known to travel many meters while foraging. Harvester ants are somewhat susceptible to disturbance and insecticide use (such as treatments aimed at controlling fire ants). Open sandy, natural habitats that are periodically burned seemed to be preferred nesting sites. This species was found nesting in open sandy slash pine forest habitat on Spring Island.

*Solenopsis carolinensis* Forel

Common name: Carolina thief ant.

Distribution: Southern US, especially in the Southeast.

Native Status: Native to US.

Worker Description: Minute (1.3 – 1.48 mm); golden yellow to yellowish brown; body shiny, sculpture mostly lacking; scattered erect, whitish setae present; antenna 10 segmented and terminating in a 2 segmented club; propodeum lacking spines; two nodes at waist; sting present.

Habitat: This species nests in soil, leaf litter, in rotting wood, and under bark of trees (especially pine trees) in wooded areas.

Pest Status: This species is attracted to sweet substances, so it could potentially enter homes as a nuisance pest. However, this is unlikely as this species is typically in forested areas.

Comments: This ant is very common in the Southeast. Colonies can easily be found nesting under and in bark of pines, especially mature pines with thick bark layers near the

base of tree. Nests appear to be polygyne at times having multiple queens. This species was found near the guest cabin, but it likely present throughout the island.

### *Solenopsis invicta* Buren

Common name: Imported red fire ant.

Distribution: Southern US and into California, especially common in the Southeast.

Native Status: Introduced to US from Brazil.

Worker Description: Workers vary in size from about 2.0 to 4.0 mm; reddish brown with darker brown to blackish gaster; body shiny, sculpture mostly lacking; scattered erect, whitish setae present; antenna 10 segmented and terminating in a 2 segmented club; propodeum lacking spines; two nodes at waist; sting present.

Habitat: This species nests in soil in open disturbed habitats.

Pest Status: This is a serious stinging pest.

Comments: The red imported fire ant is an aggressive invasive, stinging species from Brazil. This species has a potent sting that has resulted in death for some people, mostly after an anaphylactic shock response. Once established in an area, they build large mounds above ground in addition to their larger underground colony. Colony size is often large, and some colonies may have multiple queens. This species also hybridizes with the related black imported fire ant (*Solenopsis richteri*) forming a vigorous hybrid. Currently, the fire ants on Spring Island appear to be the red imported fire ant.

### *Solenopsis pergandei* Forel

Common name: Pergande's thief ant.

Distribution: Southeastern US into Texas and New Mexico.

Native Status: Native to US.

Worker Description: Minute (1.74 – 1.86 mm); light, milky white; body moderately shiny to slightly opaque, sculpture mostly lacking, but with numerous punctures on head and body; numerous erect, whitish yellow setae present; antenna 10 segmented and terminating in a 2 segmented club; propodeum lacking spines; two nodes at waist; sting present.

Habitat: This species nests in soil or less often in rotting wood in sandy habitats.

Pest Status: This species is not considered to be a pest.

Comments: This minute species is similar to other thief ants, but can be distinguished from them by the slightly larger size of workers and the pale, whitish yellow coloration. This species appears to be common on Spring Island, as several colonies were discovered in a short period of time.

### *Trachymyrmex septentrionalis* (McCook)

Common name: Irregular-spined fungus gardening ant.

Distribution: Southeastern US north to New York and west to western Texas.

Native Status: Native to US.

Worker Description: Average sized ant; reddish brown; with jagged projections on head and mesosoma and tubercles present on gaster; two nodes present at waist; sting apparently atrophied or lost in this group.

Habitat: This species nests in a wide variety of well-drained and often sandy habitats.

Pest Status: This species is not considered to be a pest.

Comments: This species has small subterranean colonies that can easily be noted in open sandy habitats or along sandy trails in upland forest by the crescentic pile of soil that the ants place near the colony entrance hole. As with other species in this group, this species collects bits of plant material, as well as insect feces, which it uses to grow fungus on in underground chambers. This species is a common inhabitant of Spring Island.