SP 164

Structure-Invading Ants of Florida

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As the human population of Florida continues to grow and development extends into previously undisturbed areas, the number of ant species considered pests will increase. There are approximately 200 ant species in Florida and many of them have the potential to become pests. This booklet presents information on 18 genera and 29 species most likely to be encountered as pests in structures. A recent survey by Klotz and others reveals the following common pest ant species in Florida: *Camponotus abdominalis floridanus*, *Camponotus tortuganus*, *Monomorium pharaonis*, *Paratrechina bourbonica*, *Paratrechina longicornis*, *Pheidole megacephala*, *Solenopsis invicta* and *Tapinoma melanocephalum*. Some ants considered pests in other states, such as *Acanthomyops interjectus* (the greater yellow ant), *Lasius alienus* (the cornfield ant), *L. neoniger*, *L. umbratus*, *Formica* spp., and *Tapinoma sessile* (the odorous house ant), are present in Florida but are not yet pests. Also, while the genera *Solenopsis*, *Tetramorium* and *Monomorium* are represented in Florida, the pest species *S. (Diplorhoptrum) molesta* (thief ant), *Tetramorium caespitum* (pavement ant), and *Monomorium minimum* (little black ant) have not been found here.

The pictorial key presented with this booklet will allow one to identify the genera of structure-invading ants of Florida. Identifying ants requires at least a 10X hand lens or a microscope. Magnification up to 30X is often needed.

To use the pictorial key, one must first decide whether the ant has a one-segmented or a two-segmented waist. Once the correct statement is selected, follow the vertical line down to where it branches and choose the more correct of the two statements. Continue this procedure until no vertical line extends from the chosen statement and the genus has been identified. (Refer to the glossary and the drawing of external morphological characteristics of the Allegheny mound ant if the terminology used is unfamiliar.)

Biological characteristics, behavior, and descriptions of some ant species within each genus are provided in this booklet, which accompanies the key. Many of the descriptions and biological characteristics of the ants in this booklet are taken from Smith (1965). A literature reference is provided for most descriptions so the user can find more information on the pest. For inspection techniques and control strategies, see Hedges (1992). Distribution records for ants are from Deyrup et al. (1989), personal communications with Deyrup, and our observations.

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List of Structure-Invading Ants of Florida

Subfamily Ponerinae

Hypoponera punctatissima and other *Hypoponera* spp.

Subfamily Pseudomyrmecinae

Pseudomyrmex mexicanus and other *Pseudomyrmex* spp.

Subfamily Myrmicinae

Pogonomyrmex badius (Florida harvester ant)
Pheidole dentata
P. floridana
P. megacephala (Big-headed ant)
P. moerens
Crematogaster spp. (Acrobat ant)
Monomorium destructor
M. floricola
M. pharaonis (Pharaoh ant)
M. trageri
Solenopsis geminata (Native Fire ant)
S. invicta (Red imported fire ant)
S. (Diplorhoptrum) spp. (Thief ants)
Tetramorium bicarinatum
T. calderium
T. simillimum
Wasmannia auropunctata (Little fire ant)

Subfamily Dolichoderinae

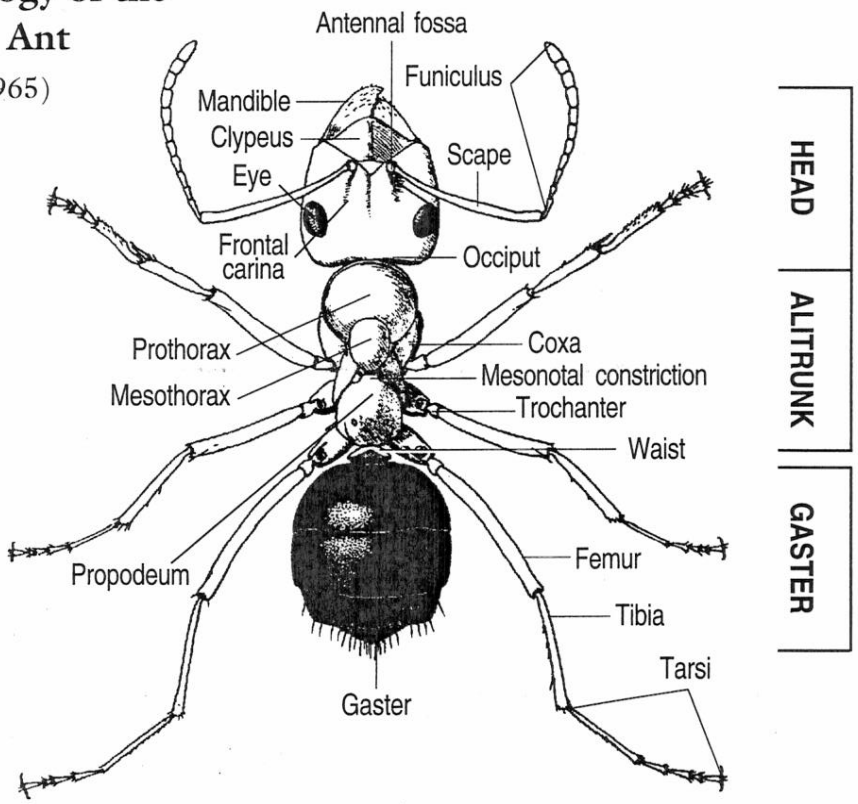
Dorymyrmex (=Conomyrma) bureni
Dorymyrmex (=Conomyrma) medeis
Linepithema humile (=Iridomyrmex humilis) (Argentine ant)
Forelius pruinosus
Tapinoma melanocephalum (Ghost ant)
Technomyrmex albipes (White-footed ant)

Subfamily Formicinae

Brachymyrmex spp.
Paratrechina longicornis (Crazy ant)
Paratrechina bourbonica
Paratrechina spp.
Prenolepis imparis (False honey or winter ant)
Camponotus abdominalis floridanus (Florida carpenter ant)
C. pennsylvanicus (Black carpenter ant)
C. tortuganus
C. spp.

External Morphology of the Allegheny Mound Ant

Modified from Smith (1965)



Glossary

alitrunk • body region behind head and before the waist; thorax plus the propodeum
anterior • towards the front
appressed • close to body surface
bilobed • two lobes or rounded margins
brood • immature stages such as eggs, larvae, and pupae
carina • ridge
club • antennal segments farthest from body are enlarged
cloacal orifice • common opening of the anus and reproductive organs
connules • pointed, lateral projections
dimorphic • workers having two distinct sizes
dorsal • top side
erect • upright
fossa • socket for antennae in head
funicular joint • joints of the smaller antennal segments, not including the scape or club
gaster • body region posterior to the waist
major workers • those larger in size
mandible • the chewing mouthparts or jaws
matte • dull, not shining
mesonotum • top surface of middle alitrunk segment
mesopleuron • side surface of middle alitrunk segment
minor workers • those smaller in size
monogyne • colony with one queen
monomorphic • workers of one size
occipital • referring to back of head
petiole • the first, or anterior, segment of the waist
polygyne • more than one queen
polymorphic • workers having more than two sizes
posterior • towards the back
postpetiole • the second or posterior segment of the waist
pronotum • top surface of the first alitrunk segment
propodeum • posterior segment of alitrunk
psammophore • basket-shaped group of hairs under head
pubescence • short, appressed hairs
robust • thick
scrobe • a groove in the head to hold the antennal scape
spine • immovable, thornlike projection of cuticle (body wall)
sting • stinger; pin-like organ; modified ovipositor at end of gaster used to deliver venom and other substances
tergite • dorsal sclerite
transverse • across, at right angles to the longitudinal axis
ventral • under side
waist • segment(s) between propodeum and gaster; if one segment is present, it is called the petiole; if two segments are present, the first is called the petiole and the second, or posterior, segment is called the postpetiole

SUBFAMILY PONERINAE

One-segmented waist, the petiole. Sting present and conspicuous.

Hypoponera punctatissima (Roger)

The workers of this leaf litter- or soil-dwelling species and other *Hypoponera* species are usually inconspicuous. Worker length ranges from 2–3mm. Workers are elongated and narrow. Color is yellow or brownish yellow. Head is shiny with very fine punctures. Pronotum is longer than it is broad. Workers have one-segmented waist, "twice as broad as thick, and of the same height as the first gastric segment" (Smith 1936). The small projection under the petiole is rudder-like, with no central window.

Females are slightly broader than workers and are approximately 2.7–2.9mm long. In general, females have the same characteristics as workers. During mating flights, the alate (winged) female may sting. People stung in Pasco, Putnam, and Palm Beach counties complained of red, itchy welts. Mating flights occur during the summer. Because most females fly in the late morning and afternoon, one may avoid being stung by restricting outdoor activity to early morning and after dusk. The use of repellents may be helpful, but they have not been tested.

This species has not been found nesting indoors in Florida. In Iceland, however, these ants have invaded houses, their nests often found under basement floors. Only winged queens were observed and were present in the thousands.

Other *Hypoponera* species, including *opaciceps,* are also occasional pests during their mating flights.

Pest Status: uncommon, mating flight, stings
Distribution in Florida: widely distributed

SUBFAMILY PSEUDOMYRMECINAE

Two-segmented waist. Eyes very large and elliptical, approximately half the length of the head. A distinct sting.

Pseudomyrmex mexicanus Roger

Large size (8–10mm long), bicolored orange and black. Head broad; petiole and postpetiole long, with the petiole narrowed in front into a stalk. Hairs common on most of the body. Gaster and most of head is black; alitrunk, petiole, and postpetiole orange, with varying amounts of black.

P. mexicanus nests in hollow plant cavities such as shrub and tree thorns or twigs, and stems of grasses, herbs, and vines. Food consists of insects (including sugarcane borer eggs and larvae) and honeydew. It can be found when aphid and mealybug populations increase in plantings around houses and fence rows. *P. mexicanus* is not a serious pest because it is a solitary forager (Whitcomb et al. 1972). The authors have included it in this bulletin because it can be found near the home and they have received it for identification. Other Florida species, *P. cubaensis* and *P. ejectus*, may occasionally be considered pests because of random incidents resulting in stings.

Pest Status: uncommon, stray forager; may wander into home
Distribution in Florida: widely distributed

SUBFAMILY MYRMICINAE

Two-segmented waist. Eyes always less than half the length of the head.

Pogonomyrmex badius (Latreille)

Florida harvester ant. Color dark rusty red. A polymorphic species (having many sizes), with some workers having extremely large heads. Workers have a basket-shaped group of hairs (psammophore) on the underside of the head. Two-segmented waist. Twelve-segmented antennae. This species is without spines on the propodeum.

This ant removes or "harvests" seeds from plants for food. The Florida harvester ant nests in sandy soil. Nests are often found within gardens and lawns, and are obvious because of the vegetation cleared around the nest.

This ant's sting has been referred to as the most painful sting of any ant species (Creighton 1950). Fortunately, the ant is non-aggressive. Baits in the shape of seeds (corn grits) provide adequate control (Nickerson 1987).

Pest Status: uncommon, yard pest
Distribution in Florida: widely distributed

Genus *Pheidole*

Big-headed ants. Dimorphic species (two sizes—major and minor workers). Major workers with enlarged heads. Twelve-segmented antennae with a three-segmented club. Propodeum with spines. Although the ants in this genus have stings, they rarely injure humans. To detect major workers when only minor workers appear to be present, bait with peanut butter and observe. If many ants respond to the bait, a major will usually be seen.

Pheidole floridana (Emery)

Small ant, workers 1.5–2.6 mm long. Body color yellowish or very light brown. Majors with distinct lateral connules (pointed, lateral projections) on postpetiole. Postpetiole of minors about two times as wide as petiole.

Nest sites are variable; nests may be found on exposed soil, under cover of objects, in logs and stumps, in or under litter, on tree bases, and even in chimneys. This species occurs in or around houses and is attracted to grease and peanut butter. Workers may feed on germinating seedlings (Smith 1965).

Pest Status: uncommon, perimeter pest
Distribution in Florida: widely distributed

Pheidole moerens Wheeler

P. moerens is a small species, like *floridana*. Color varies from reddish yellow to black. The postpetiole of the major worker lacks distinct connules. Postpetiole of minor worker equal in width to petiole.

This species nests under boards, at the base of oak trees and fence posts, along roots, under palm leaves, and inside wall crevices, but rarely in the soil. It is a monogynous species with a small, blackish female. Most mating flights occur in July. Several queens may start a colony, but a single dominant queen will survive once the first brood emerges. Chambers are built with soil or small debris particles. A colony may contain 600 workers of which one hundred are majors. These ants feed on seeds and small dead or living arthropods. They forage short distances from the nest. A major may be found foraging along with minor workers.

Pest Status: uncommon, perimeter pest
Distribution in Florida: widely distributed

Pheidole dentata Mayr

Workers 2.4–3.8mm long. Back of head with two rounded margins. Lower surface of major worker's head with a pair of obvious spines on front edge (when viewed from the side). Much of the middle alitrunk in the minor is in the form of a step-like indentation (when viewed from the side). Top surface of gaster with erect hairs, some possibly long. Body light to dark brown.

Usually the most common *Pheidole* encountered in Florida. The minor workers can sometimes be confused with *Paratrechina longicornis* because of their dark color and unusually fragile appearance. A close look at the petiole will easily distinguish these two species. Colony size varies from small to large. Nest sites include rotting wood, exposed soil or places under stones, logs, wood, or debris. These ants feed on living and dead insects, seeds, and honeydew. Indoors, this species has been found to feed on meats, grease, liver, molasses, peanut butter, and fruit juices. These ants may prefer high-protein foods (Smith 1965).

Pest Status: uncommon, perimeter pest
Distribution in Florida: widely distributed

Pheidole megacephala (Fabricius)

Majors are approximately 4mm long. Heart-shaped head, narrowed toward the mandible. Color is dark yellow to brown. Mesonotum of minor not pinched in from sides (Naves 1985).

P. megacephala is a well-known pest ant throughout the world. It occurs in central and southern regions of Florida. When reported as a pest, it usually appears in high numbers and infests a large proportion of neighborhoods. Large "bone piles" (piles of dead ants) are often present and can be found indoors under carpets. Nests have been found in decaying tree stumps and under railroad ties, in soil near structures, and in mulched beds. Although it may be confused with the fire ants, the epinotal spines on propodeum distinguish the two species.

Pest Status: common
Distribution in Florida: Hillsborough County and farther south, although it has been reported in St. Johns County.

Genus *Crematogaster*

Acrobat ants. Eleven-segmented antennae with a three-segmented club. Propodeum with a pair of spines. Postpetiole somewhat heart shaped and attached to top of heart-shaped gaster. Sting present but not always exerted. For further description of the acrobat ants, see Johnson (1988).

These ants live in branches and stems of trees and other plants, and also in rotten logs and stumps. Workers feed on insects (living and dead) and honeydew. Ants will feed on household meats and sweets. Smith (1965) reported they have short-circuited telephone wires. In houses, they can nest in and damage wood in rafters and posts, shingles, insulation, and fiberboard.

Pest Status: common
Distribution in Florida: widely distributed; however, distribution varies with species

Genus *Monomorium*

Twelve-segmented antennae with a three-segmented club. Head is distinctly longer than it is broad. No spines on propodeum. Waist composed of two segments. Control of all *Monomorium* species should be similar to *M. pharaonis* control.

Monomorium pharaonis (Linnaeus)

Pharaoh ant. Monomorphic species (workers all one size), approximately 2mm in length. Each segment of the antennal club increases in size towards the end of the club. Body color ranges from yellowish or light brown to reddish. Gaster with varying amounts of black, which is largely confined to the posterior end.

An introduced species thought to have originated in Northern Africa or tropical Asia and spread to nearly all parts of the world active in international trade. Pharaoh ants are found in houses, apartments, motels, hotels, bakeries, and hospitals. In the Tampa area and farther south, these ants can nest outdoors. Nests are located in any suitable crack and crevice where heat and humidity are or can be maintained. This includes areas under toilets and sinks, under windowsills, near pipes and heating ducts, in cardboard boxes, etc. These ants are extremely troublesome in hospitals, where they infiltrate sterile areas.

Colonies contain a few to several hundred queens. Baits placed where the ants are actively foraging (which may include outdoor areas) provide the best control.

Pest Status: major
Distribution in Florida: widely distributed

Monomorium floricola (Jerdon)

Workers are 1.4–1.8mm long. Body usually slender, smooth, shiny and obviously bicolored. Head and gaster are dark and other parts decidedly lighter.

Monomorium floricola was introduced from Africa or the Orient. According to Smith (1965), this species is arboreal, nesting in dead or living twigs or branches as well as under tree bark. Colonies contain numerous female reproductives. Workers feed on honeydew, insects, and floral and extrafloral nectaries of plants. Smith (1965) doubts they can damage woodwork because of their small size.

Pest Status: minor
Distribution in Florida: probably widely distributed

Monomorium destructor (Jerdon)

Workers vary in size and might be described as dimorphic. Head in larger individuals broader than it is long. Workers 1.8–3.0mm long. Top of head and propodeum with fine transverse wrinkles. Body color pale yellowish or very light brown, gaster with variable amounts of black.

Monomorium destructor is also polygyne (containing numerous queens). Nests are located in soil or buildings. This is an omnivorous species feeding on insects, honeydew, and seeds. Indoors, these ants have fed on sweets (including cookies), bread, meat, oil, and grease. This is also a destructive species, attacking fabric and rubber insulation surrounding wires. Smith (1965) reports people have been stung or bitten while in bed.

Pest Status: minor
Distribution in Florida: reported in Manatee, Monroe, Nassau and Pinellas counties.

Monomorium trageri Dubois

A black species, *Monomorium trageri*, has been found infesting houses and schools in the Gainesville area. The species *trageri* was previously confused with *minimum* in north Florida; however, *minimum* has not been found in Florida (DuBois 1986).

Pest Status: uncommon
Distribution in Florida: probably widely distributed

Genus *Solenopsis*

Fire ants. Polymorphic or monomorphic. Ten-segmented with a two-segmented club. Propodeum without spines. Sting present but not always exerted. See Oi et al. (1994) for further discussion of fire ants.

Solenopsis invicta Buren

Red imported fire ant. Polymorphic. Mandibles have four teeth, mesopleuron is striped or rough, front bottom edge of petiole is smooth, and antennal scape almost reaches occipital corner of the head. Color of head and alitrunk usually light reddish and gaster darker. Nest a characteristic dome shape. Colony may include one queen (monogyne) or several queens (polygyne). When stung by this species, one usually develops a pustule within a day (Vinson & Sorensen 1986).

Pest Status: major
Distribution in Florida: widely distributed

Solenopsis geminata (Fabricius)

Native Fire ant. Workers 2.4–6mm long. Polymorphic. Color highly variable: some individuals largely yellowish or light reddish, others largely blackish, still others with mixed light and dark colors. This species is easily distinguished from other *Solenopsis* by the large-headed major workers and strongly incurved mandibles.

Pest Status: uncommon
Distribution in Florida: widely distributed

Solenopsis (*Diplorhoptrum*) spp.

Thief ants. These are small (1.5–2.2mm), monomorphic ants; the second and third funicular joints of the antennae are as broad as or broader than they are long. Color ranges from brown to yellow, depending on species. The most common thief ant in the United States, *S.* (*Diplorhoptrum*) *molesta*, is not found in Florida (Thompson 1989).

These small ants were thought to steal brood from other ant colonies. We now know they are predators of fire ant queens and other insects. These species are often found in homes during mating flights and have been found at bathroom lights in the morning.

Pest Status: minor
Distribution in Florida: varies with species

Genus *Tetramorium*

Monomorphic. Twelve-segmented antennae with three-segmented club. Posterior border of clypeus forms a sharp ridge. First segment of alitrunk with angular shoulders. Propodeum with a pair of short spines of variable length. Femora noticeably enlarged. Sting present but not always exerted (Smith 1965). These ants are not a major pest in Florida.

Tetramorium bicarinatum (Nylander)

Ant is 3.5–4.5mm in length. Head, alitrunk and waist vary from light yellow-brown to orange-yellow, the gaster always much darker. This species is similar in size and color to the imported fire ant, but can be easily differentiated by the spines on the propodeum (Bolton 1979).

The small- to medium-sized nests of this species are found in exposed soil, under stones and other objects, in rotting stumps and logs, on stems and branches of plants, or under bark (Smith 1965). These ants also nest in structures where furniture drawers may provide a suitable nest site. In structures, they feed on fruit, vegetables, grease, and meats. Outdoors, they feed on honeydew and tend aphids and mealybugs. They also feed on dead and living insects (Smith 1965).

Pest Status: uncommon, a yard pest
Distribution in Florida: reported from Alachua, Broward, Dade, Gadsden, Hernando, Highlands, Hillsborough, Lake, Marion, Monroe, Pinellas, Putnam, St. Johns, Taylor, and Walton counties.

T. simillimum (Fred Smith)

Frontal carinae (ridge) unbroken to occiput (back of head), with the ridge more strongly developed than any of the wrinkles on the head. Surfaces of the head dull. Antennal scrobes shallow but wide and obvious. Head, when viewed from front, broader in back than in front. Full length is 2.1–2.5mm. Cosmopolitan tramp species (Bolton 1979).

Pest Status: uncommon, a yard pest
Distribution in Florida: peninsular; Alachua, Dade, Glades, Hendry, Highlands, Hillsborough, Manatee, Marion, Martin, Palm Beach, Polk, St. Johns, and St. Lucie counties.

T. caldarium (Roger)

Frontal carinae (ridges) strongly developed to the eye, after which they become broken or flatter, or fade. Surfaces of the head dully shining. Antennal scrobes not obvious. Tramp species mostly in tropics and subtropics. *T. caldarium* was recently separated from *T. simillimum* (Bolton 1979).

Pest Status: uncommon, a yard pest
Distribution in Florida: peninsular; Broward, Dade, Hardee, Hernando, Highlands, Lake, Martin, Monroe, Palm Beach, Sarasota, and St. Johns counties.

Wasmannia auropunctata (Roger)

Little fire ant. Workers are approximately 1.5mm in length. Eleven-segmented antennae with a three-segmented club. Because the last two segments are enlarged more than the third segment, the club appears to have two segments. Shoulders of the first segment of the alitrunk are angular. Spines of the propodeum long and pointed. Node of petiole large and subrectangular when viewed in profile. Body ranges from light to golden brown. Queens are a darker brown.

This very slow-moving species has an irritating sting, but usually will not sting unless caught or pressed by clothing. People who have an allergic reaction may become pale, nervous, and/or shaky.

The little fire ant often nests under the bark of trees, in rotting wood, in pine cones, at the base of leaves, in soil under objects or exposed soil, and in structures. Nests are found in areas ranging from very dry to very moist; their depth in the soil will vary according to moisture conditions. Colonies are usually polygyne (containing more than two queens). This ant is sensitive to the cold and typically is found in Florida from Ocala south. Workers tend Homoptera (aphids, mealybugs, scales, and white flies). They also feed on dead organisms such as insects, other arthropods, and small animals and they may feed on living insects.

In structures, they can be found in clothing, food, or beds. These ants feed on bacon, beef, peanut butter, oils (avocado, cottonseed, and olive), milk, and orange juice. They seem to prefer fats, meats, and oil.

This ant is distinguished from the Pharaoh ant, which is similar in color, by its slower movements. *W. auropunctata* also has spines on the propodeum, which the Pharaoh ant lacks. This species may also be confused with *Tetramorium* species. *Wasmannia* has an 11-segmented antenna with a three-segmented club that appears to have two segments. *Tetramorium* has a 12-segmented antenna with a three-segmented club. *Wasmannia* is also smaller than any of these species.

Pest Status: minor, locally abundant, and important because of possible allergic reaction to sting
Distribution in Florida: Alachua, Broward, Collier, Dade, Glades, Hardee, Hendry, Highlands, Indian River, Lake, Marion, Martin, Okeechobee, Palm Beach, Polk, and Sarasota counties.

SUBFAMILY DOLICHODERINAE

The ants in this subfamily have a transverse, slit-shaped cloacal orifice (common chamber of the anus and oviducts) that is located ventrally (on the underside of the ant) and is not surrounded by a fringe of hairs. Workers can emit a moldy or rotten coconut odor. Workers are one size (monomorphic). Few hairs on top of thorax. No sting.

Genus *Dorymyrmex* (=*Conomyrma*)

Pyramid ants. Propodeum with a cone-like projection; gaster of workers laterally compressed. These ants build a distinct crater surrounding their nest opening (Trager 1988). They are not usually pests, but because of their fast movement and obvious nest opening, they are often inquired about.

Dorymyrmex bureni (Trager) (=*Conomyrma*)

Color is mostly yellow, but may have brown head and gaster with variable blotching of alitrunk.

Pest Status: uncommon, yard ant
Distribution in Florida: widespread

Dorymyrmex medeis (Trager) (=*Conomyrma*)

A dark species, usually brown to black. Often found near *D. bureni.* This species may have many nest openings in one area.

Pest Status: uncommon, yard ant
Distribution in Florida: locally abundant, but rather spottily distributed

Other *Dorymyrmex* species in Florida include *elegans, flavopectus, bossuta, grandula* and *reginicula.*

Linepithema humile (Mayr) (=*Iridomyrmex humilis*)

Argentine ant. The workers are 2.2–2.6mm in length. Body hairs usually absent from thorax. Body light brown to brown. Workers emit a musty odor when crushed.

Large infestations recently have been found in Apopka, Crestview, and Pensacola with reported infestations in Tampa and Tallahassee. These colonies probably consist of more than several million ants. In Apopka and Tallahassee, the infestations are associated with heavily landscaped apartment complexes.

Nests occur in mulch and in soil that is exposed, under objects, or near tree roots; in rotten wood and trees; in garbage piles; and in other similar places. One of the most common nest sites encountered is at the base of pine trees, with some nests spreading into the tree itself. The ants nest under the bark and soil they have transported into the trees. This species is also found in rural areas.

Few other species are present where the Argentine ant is abundant. Argentine ants are polygynous and there seems to be no aggression between colonies. Hence, colonies may function as one supercolony. New colonies appear by budding. In winter, colonies may come together to make several large colonies that split the following spring or summer.

Workers are omnivorous. They tend plant-damaging Homoptera (aphids, mealybugs, and scale insects) to collect honeydew. Homoptera tended by ants can cause severe damage to citrus and sugarcane. Argentine ants also feed on floral and extrafloral nectaries, fruit tree buds, or ripened fruit. In structures, they feed on many foods, including sweet foods (pastry, candy, fruit, etc.), oils (animal and vegetable), dairy products including eggs, and meats. In our laboratory, they seem to prefer sugars.

Pest Status: uncommon, but locally abundant
Distribution in Florida: reported from Alachua, Duval, Escambia, Leon, Okaloosa, Pinellas, Putnam, Seminole, and Washington counties.

Forelius pruinosus (Roger)

Workers are 1.8–2.5mm long. A few erect hairs are present on the upper surface of the alitrunk. Body with fine appressed hairs. Body dark brown or black or with a lighter gaster. When crushed, this species smells of rotten coconut. *Forelius pruinosus* can be distinguished from the Argentine ant by its rectangular head shape and by the erect hairs on the alitrunk.

Nests are found in fields, meadows, and pastures, alongside roads, in bare areas, and in open woods. Nests may also occur in houses. The nests are made in soil and in soil under objects. Nests may or may not have an irregularly shaped crater. Winged reproductives have been observed from May to July. Food includes living and dead insects, and honeydew. Indoors, they feed on many items, but seem to prefer sweets.

Pest Status: uncommon
Distribution in Florida: widely distributed

Tapinoma melanocephalum (Fabricius)

Ghost ant. Workers extremely small, 1.3–1.5mm long (Smith 1965). Four gastral segments visible when viewed from above. They have a unique coloration—head and thorax are dark and the gaster and appendages are light, almost translucent.

Nests are found in soil, rotten wood, and decayed parts of trees, and under bark, plant cavities, houses, and greenhouses. In Florida, these ants often nest at the base of palm fronds where decaying organic matter has accumulated. Colonies can be large and contain numerous queens. They probably reproduce by budding. These ants move erratically and very quickly. Their movements resemble those of small spiders. They also emit a rotten coconut odor.

Workers are reported to feed on eggs and larvae of the housefly. These ants also distribute mealybugs on the roots of sugarcane. Although they will feed on other items, they appear to prefer sugars.

They often gain entry into structures from surrounding vegetation, especially palm fronds. Trimming branches away from structures can reduce entry into homes. Boric acid baits have shown promise in controlling these pests; however, the bait must be present for long periods of time and should be renewed often.

Pest Status: major
Distribution in Florida: southern Florida and, indoors, farther north

Technomyrmex albipes (Smith)

White-footed ant. This black ant with yellow tarsi looks like a *Tapinoma* but has five visible gastral tergites. It also has no node on the petiole. "*T. albipes* strongly resembles species of *Paratrechina*, especially *P. bourbonica* (Forel), another exotic species now widely distributed in south Florida. *T. albipes* shows more size variation than *P. bourbonica*" (Deyrup 1991).

Deyrup indicates this 2.7mm-long species is attracted to sweets and may become a pest around food and beverages, much like the crazy ant. It also tends Homoptera that produce honeydew.

Pest Status: increasing in occurrence
Distribution in Florida: Dade and Palm Beach counties

SUBFAMILY FORMICINAE

"Cloacal orifice terminal, surrounded by a fringe of hairs. No sting. Waist consisting of a single segment, the petiole. Eyes well developed, seldom rudimentary. Antennae 12-segmented except in the genus *Brachymyrmex* in which it is 9-segmented; funiculus without a club" (Smith 1947).

Brachymyrmex spp.

Monomorphic. Length 1.5–2mm. Nine-segmented antennae. Petiole inclined, usually hidden by the gaster (Smith 1947). Possibly five species present in Florida, color is either yellow or black. Ants usually form colonies in rotting wood or soil. The workers may forage below the soil surface, feeding on honeydew produced by Homoptera on the roots of plants. Recently, these ants have been found in structures and in boxes near water heaters. Foragers were found in kitchens and rest rooms. Alates (winged form) are attracted to lights, and are often found in bathrooms in the early morning.

Pest Status: minor
Distribution in Florida: probably widely distributed

Genus *Paratrechina*

"Monomorphic. Antennae 12-segmented, without a club. Eye large, strongly convex, placed closer to base of mandible than to the posterior border of head" (Smith 1965). Conspicuous, robust hairs on head, alitrunk, and gaster.

Paratrechina longicornis (Latreille)

Crazy ant. Workers 2.3–3mm long. Body thin, with remarkably long antennae and legs. (Scape surpasses the posterior border by at least half the scape length.) Erect hairs not on scape. Legs with shorter hairs. Head, alitrunk, petiole, and gaster dark brown or black, ground color with a gray or purplish shine (Smith 1965). Rapid and erratic movements are characteristics that aid in the identification of this ant.

Nest sites include trash piles, depressions in plants and trees, rotten wood, and soil under objects such as pavement or cement blocks. Workers feed on many items, including living and dead insects, seeds, honeydew (from aphids, scales, etc.), fruits, and plant exudates (Smith 1965). These ants are found at gasoline stations, convenience stores, and sidewalk cafes. Here, the ants collect dead insects attracted to lights and to crumbs left by humans. During the summer months they reject sugar baits, presumably because they are searching for protein. In the spring and fall, honeydew is more likely to be collected (Trager 1984).

Colonies are moderate to very populous. In south Florida, production of alates (winged sexuals) occurs throughout the year; however, in Gainesville, this occurs from May to September (Trager 1984).

In colder climates, the ants may nest indoors, contributing to their year-round pest status. Many household items are fed upon, such as meats, grease, sweets, fruits, vegetables, and liquids (Smith 1965; Nickerson 1986).

Pest Status: major
Distribution in Florida: widespread

Paratrechina bourbonica (Forel)

Total length 2.6–3.2mm. A large introduced species found in disturbed habitats and also in marshes and mangroves. Dark brown to nearly black and entire body covered with dense grey pubescence (Trager 1984). Scape with many conspicuous hairs, which differentiates *P. bourbonica* from *longicornis.*

Pest Status: major

Distribution in Florida: peninsular

Other *Paratrechina* species found in Florida include *phantasma*, *wojciki*, *pubens*, *guatemalensis*, and *concinna*. See Trager (1984) for further descriptions of *Paratrechina*.

Prenolepis imparis (Say)

False honey ant or winter ant. Monomorphic workers 2–4mm long. Twelve-segmented antennae without a club. Eyes closer to back of head than to mandibles. Strong impression in alitrunk, causing it to take on hourglass shape when viewed from above. Body hairs white or yellow. Scape with many fine hairs. Body shiny and smooth. Color ranges from red-brown to black with red; the gaster is darker than the head and alitrunk (Smith 1965).

Nests are in soil or under objects in dark or shaded sites such as woodlands. On the surface, a single central entrance is surrounded with earthen pellets. Colonies are small, seldom containing more than a few thousand ants.

This ant forages at lower temperatures than do any of the other ants of Florida. It forages at night, during cool or cloudy days, and during rains at temperatures between 40 and 65°F. This is one of the few ant species seen during the winter months. Brood is not present in the colony in the winter.

These ants are not aggressive and are very attracted to honeydew. They tend aphids, scales, and other Homoptera but do not guard them. They are often so full of honeydew that their gasters become enlarged and appear heart shaped. The heart-shaped gaster may cause them to be confused with *Crematogaster*, but *Crematogaster* has a two-segmented waist while *Prenolepis*' is one-segmented.

Other food items include living and dead insects, well-ripened or fermenting fruit, flower nectar or extracts, immature growth on plants, and germinating seedlings. Usually an outdoor nester, this ant may nest indoors, as indicated by the presence of sexuals during a mating flight. Household items fed upon include sweets (cakes, breads, honey, syrup, watermelon, and fruits) as well as corn, corned beef, and other meats.

Pest Status: uncommon, seasonal pest, active in winter
Distribution in Florida: north Florida

Genus *Camponotus*

Carpenter ants. Alitrunk viewed from the side is continuous and evenly convex. Alitrunk in dorsal view usually wedge shaped and tapering posteriorly. Workers are polymorphic (Hölldobler and Wilson 1990). Workers can emit a distinct formic acid odor.

Camponotus abdominalis floridanus (Buckley)

Florida carpenter ant. Polymorphic. Clypeus with a distinct ridge. Workers are 5.5–10mm long. Scape with irregularly dispersed, erect hairs. Head and alitrunk reddish, gaster black. Legs with many long, erect hairs (Smith 1965).

The Florida carpenter ant nests in the ground beneath dead tree branches and other objects, in rotting logs and tree stumps, in dump sites along roadways, and in abandoned fire ant nests. A colony can contain several thousand workers. In Florida, the authors have collected newly mated queens from mating flights, mostly from June to August. Colonies are monogyne. Food sources are honeydew from Homoptera such as aphids, scales, and mealybugs, and both living and dead insects. These ants forage throughout the day, with a greater percentage of the colony foraging at night.

These ants don't sting, but they have very sharp mandibles for chewing through wood and can subject a curious observer to a sharp, painful bite. Two common names for these ants in Florida are "bull dog" and "bull" ant.

Quite often these ants nest outdoors and either forage indoors for water and food or form satellite nests indoors. Satellite nests may contain unmated sexual forms, but usually do not contain the queen. Carpenter ants do not consume wood, but excavate galleries in wood to form their nests. These

carpenter ants have damaged or nested in voids such as hollow porch columns, curtain rods, wall voids and porches, roofs, kitchen sinks, paneling, insulation in walls, and in areas near water sources such as showers. Household food items have included liver, honey, and molasses.

Control is best achieved by locating the nest and putting a dust formulation into void spaces, using an insecticide labeled for such use. The dust adheres to the ants' hairy bodies, and during the process of grooming, the ants spread the dust to most other members of the colony, including, hopefully, the queen. To locate nests, small cups of honeywater or sugar-soaked bread can be placed around a structure. This should be done around dusk. Foraging workers then can be followed back to the nest.

Pest Status: major
Distribution in Florida: widely distributed

Camponotus pennsylvanicus (DeGeer)

Black carpenter ant. Polymorphic. Head of large workers as wide as long, and wider in back than in front. Clypeus without ridges or scarcely ridged. Workers are 6–13mm long. Body color typically black, the gaster covered with dense, long, yellowish hairs close to body (Smith 1965).

The black carpenter ant is monogyne and a mature colony may contain a queen, males, winged females, immature stages, and a few thousand workers. It has been estimated that a colony must contain about 2,000 workers before it can produce sexuals. It may take a colony 3 to 6 years to reach this size.

Nest sites include living and dead trees, rotting logs, stumps, telephone poles, hollow doors, and wood support columns in structures. Indoors, these ants feed on fruits, meats, sweets (honey, syrup, sugar, jam, preserves, jelly), etc. Outdoors, food sources include honeydew, living and dead insects, and fruit and plant juices.

Pest Status: major
Distribution in Florida: north Florida

Camponotus tortuganus Emery

Head of major worker is as long as or longer than wide. Clypeus with a distinct ridge. Workers about 6–11mm long (Smith 1965). Tibia lacking erect hairs. Body red-brown; head and gaster darker. Gaster color variable but often with light spots. In general, this ant is paler and less contrasting in color than the Florida carpenter ant.

A native of south Florida, this species occurs as far north as Orlando. *C. tortuganus* is closely associated with houses in Florida and can tolerate a dry microclimate. These ants have been found in windowsill voids, siding, rafters, porch roofs, trailers, and outdoor appliances such as air conditioners or heat pumps.

Pest Status: major
Distribution in Florida: south Florida

Other species of *Camponotus* that may be pests include *castaneus* (mostly as a result of huge mating flights that leave large accumulations of alates on windows or other areas near lights), *C. decipinens*, and *C. planatus*. *C. nearcticus* is a common pest in the northern United States, but is rarely a problem in Florida.

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