



**DEM**  
RHODE ISLAND



RHODE ISLAND DEPARTMENT  
OF ENVIRONMENTAL MANAGEMENT  
DIVISION OF FISH & WILDLIFE

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# OUR BUZZING NEIGHBORS

## LIVING WITH WASPS



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THIS PROJECT WAS SUPPORTED by State Wildlife Grants administered by the U.S. Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program:  
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*This document was created by the Rhode Island Department of Environmental Management, Division of Fish & Wildlife. It is intended as a tool to educate the public on wasp biology and behavior and to help the public live safely alongside these important insects.*

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*Photo: Great black digger wasp,*

# Glossary

**Abdomen** – Rear segment of an arthropod's body

**Arthropod** – Invertebrate animals that have an exoskeleton, a segmented body, and paired jointed appendages (includes insects, spiders, and crustaceans)

**Biocontrol** – The control of a pest by the introduction of a natural enemy or predator

**Decomposition** – The process in which dead organic materials are broken down into simpler organic and inorganic materials, such as water, minerals, and proteins

**Caste system** – A system in which an insect colony is organized by different subsets of individuals (e.g. queen, worker, and drone) that are anatomically distinct and have specific roles and responsibilities within the colony

**Ecosystem** – A community of living things interacting with each other and with their physical environment

**Ecosystem service** – The many varied benefits to humans provided by the natural environment and from healthy ecosystems

**Environment** – The natural world, containing all living and non-living things, either as a whole or in a specific geographical area

**Habitat** – The place where a living thing (or a population of living things) resides and obtains its food, shelter, and mate(s) for reproduction

**Insect** – A small arthropod animal that has six jointed legs and a body formed of a head, thorax, and abdomen

**Invertebrate** – Any animal that lacks a spinal column, or backbone

**Larvae** – An immature, juvenile form of an insect before it metamorphoses into an adult, such as a caterpillar or grub

**Ovipositor** – A tubular organ through which a female insect deposits her eggs

**Parasitoid** – A living thing that lives in close association with its host at the host's expense, eventually resulting in the death of the host

**Pesticide** – A chemical that incapacitates, kills, or otherwise deters insects, plants, or fungi that are harmful to cultivated plants or animals

**Pollination** – The transfer of the male part of a flower (pollen) to the female part of a flower (stigma), resulting in fertilization and the production of seeds and fruits

**Thorax** – The mid-section of an insect's body

**Vertebrate** – Any animal that possesses a spinal column, or backbone

## Introduction

The Rhode Island Department of Environmental Management (RIDEM), Division of Fish & Wildlife (DFW) is responsible for managing the state's natural resources in an equitable, sustainable, and ecologically sound way. From early spring until late fall, RIDEM receives many inquiries from the public about the wasps that they find on their property or while out on walks. Unlike their close cousins, the bees, which are universally beloved by humans, wasps are largely considered a pest species. Therefore, many people become concerned that the wasps that they encounter may harm them or their children, pets, or property. Human safety is a priority of RIDEM so, to this end, the following guide is designed to both protect Rhode Island residents and visitors from potentially dangerous situations involving wasps, while also protecting declining populations of native wasp species.

It is important to note that, despite their unfortunate depictions in popular media, wasps are largely uninterested in humans and are not inherently cruel creatures. Often, wasps pose no threat to the public, and actually provide ecological services, such as biocontrol, pollination, and decomposition, which help to maintain balance in the environment. Therefore, this guide also offers insight into the wonderful world of our buzzing neighbors, in terms of their fascinating life histories, colorful diversity, and important role as ecosystem service providers.

## Life History

Wasps are close relatives of bees, ants, and sawflies, which all fall into a large order of organisms called Hymenopterans. Wasps are typically hairless or sparsely bristled with slender bodies and narrow waists, however they can vary in size, coloration, nest type, and sociality.

## Diet

Adult wasps feed on nectar from flowering plants, as well as honeydew (a sugary secretion produced by aphids), rotting fruit, and other sugary substances. Some species also eat pollen or scavenge for dead insects and other dead animals. Wasp larvae (young wasps) are carnivorous, which means they feed on animal protein.

## Habitat

Wasps can be found in almost every type of habitat, including meadows, forests, orchards, playgrounds, cemeteries, and both urban and suburban settings. Depending on the species, wasp nests can take many different forms (see "Diversity").



*Photo: Dark paper wasp, Spencer Hardy*




## Threats

Wasp populations, like many other insect species, are in decline. Many of the same threats that contribute to bee declines are also affecting wasp populations. These threats include climate change and land use changes, such as urbanization and agricultural intensification. Additional threats, resulting from land use change, include habitat loss, disease spread, and an increase in pesticide use.

Luckily, because bees and wasps are threatened by many of the same factors, the conservation measures to protect these species are also very similar. These measures include:

- Protecting and restoring natural habitats
- Reducing pesticide use
- Removing invasive plants
- Growing vegetable and native plant gardens
- For current beekeepers: Practicing responsible beekeeping by regularly inspecting hives for pests and disease so that they won't spread to wild wasp and bee populations

Table 1: Is it a wasp?

Wasps	<ul style="list-style-type: none"> <li>• Four wings</li> <li>• Long antennae</li> <li>• Eyes on the side of the head</li> <li>• Mostly hairless</li> <li>• Slender bodies with distinct “waist”</li> </ul>	
Bees	<ul style="list-style-type: none"> <li>• Four wings</li> <li>• Long antennae</li> <li>• Eyes on the side of the head</li> <li>• Very hairy</li> <li>• Chunky bodies with a short “waist”</li> </ul>	
Flies	<ul style="list-style-type: none"> <li>• Two wings</li> <li>• Short antennae</li> <li>• Eyes on the front of the head</li> <li>• Can be hairy or hairless</li> <li>• No distinct “waist”</li> </ul>	

## Wasp Diversity

There are over 700,000 species of wasp worldwide and ~18,000 in North America (north of Mexico). However, most wasps are small-bodied and don't live in colonies, so they are not readily recognized as wasps by the public. Many of these species are also currently undescribed, which means that they don't have formal names yet.

### Solitary Wasps

There are over 1,500 species of solitary wasps described in North America. Depending on the species, solitary wasps make their nests in underground burrows, hollow stems, or nests constructed out of mud, which is where a female solitary wasp lays her eggs and raises her offspring alone. Some solitary wasps also live in aggregations, with many females constructing nests in close proximity to one another. These nesting strategies are very similar to that of solitary bees.

Female solitary wasps hunt for food (usually arthropods, such as insects or spiders) to feed their larvae by using their stingers to immobilize their prey. Their venom will paralyze their prey so that they can carry it back to their nest. They are very unlikely to sting humans or other vertebrates, as they don't have a colony to defend.

### Parasitic Wasps

There are ~540 species of cuckoo wasps and ~740 species of parasitoid wasps in North America. Cuckoo wasps lay their eggs in the nests of other wasps or bees, so that their offspring can eat the host egg or larva and then consume the resources intended for the that larva. Parasitoid wasps lay their eggs either on or in a host species so that when the eggs hatch, the larvae will have an immediate food source. These wasps have a long ovipositor (egg-laying anatomy) that they use to lay their eggs and inject venom into their hosts. Common host species include caterpillars, flies, and other insects, as well as spiders.

For both cuckoo and parasitoid wasps, a parasitic wasp's behavior eliminates the need for it to build a nest or gather food for its offspring. Since they don't have to defend a colony, they pose no danger to humans because they are not motivated to sting. They also do not lay eggs in or on humans, dogs, or cats.

### Social Wasps

There are approximately 850 species of social wasps worldwide and ~40 species in North America. Less than 1% of wasp species are Vespines (i.e. yellowjackets and hornets) though these species are the most recognizable to the public. Social wasps utilize a task-partitioning caste system, similar to honeybees or bumblebees, in which a queen and workers live together in a colony.

In addition to nectar and other sugary substances, adult social wasps feed on the sugary secretions made by the colony's larvae. Worker wasps hunt for insects and other arthropods to feed to their larvae by landing on their prey and quickly chewing it up.

Social wasp colonies are annual, which means that they exist for one season only, with only the new queens overwintering. Their nests are constructed out of paper, which the wasps construct using chewed up wood fibers mixed with their saliva, and nests are used only once by a colony. Female social wasps have stingers that they use to defend these nests.

# *Social Wasps Through the Seasons*

## Spring

A mated, wasp queen emerges from hibernation (which is why you might start to see lots of wasps in your home!) and begins looking for a suitable nesting location to start building her nest. Once she has built a small nest, she will begin stocking it with dead insect material, on which she will lay her eggs.

## Summer

The wasp queen will cease to leave the nest and will devote her time to laying eggs. Female worker wasps will be busy at work enlarging, cleaning, and guarding the nest, tending the eggs and larvae, drinking flower nectar for energy, and hunting for insects and other protein sources to feed the larvae. The larvae secrete a sugary substance, which provides the workers with a reward for feeding them.

## Fall

Starting in the late summer, the wasp queen will produce males and new queens, which will leave the nest to mate. At this time, there are far fewer larvae for the workers to take care of and, therefore, fewer larval sugary secretions. Also, since many flowers are no longer in bloom, they don't have easy access to nectar. Therefore, worker wasps will be more active on rotting fruit and any other sugary substances they can find during the fall and, because food is scarce, much more aggressive.

## Winter

Old queens, workers, and male wasps will die and the newly mated queens will seek out a discrete, protected location, such as under tree bark, in natural crevices, or inside your shed, to wait out the winter.



*You can identify paper wasp nests by their umbrella shape.*



*You can identify bald faced hornet nests by their egg shape. .*



# Wasps Are Important!

Ecosystem services are the multitude of benefits that the natural environment and healthy ecosystems provide to humans - free of charge! Some well-known examples of ecosystem services are pollination, photosynthesis, and carbon sequestration.

Wasps are foragers, hunters, and scavengers, which means that they interact with their environment in many different ways. This means that they perform many different services that aid in keeping our outdoor spaces safe and clean, ensuring that ecosystems are in balance, and supporting human health.

## Biocontrol

Wasps are important agents of biological pest management for humans, especially farmers and gardeners. Solitary and social wasps prey on common garden pest insects, such as caterpillars, to feed their larvae. Parasitic wasps lay their eggs in or on insects that like to feed on crop species, such as aphids, caterpillars, and whiteflies, which kills those insects. By preying on these pest insects, they protect your garden flowers and vegetables from getting nibbled!

In addition to garden pests, some social and solitary wasps prey on common household pests, such as houseflies, and biting insects, such as horseflies. Parasitic wasps are also important predators of the Emerald Ash Borer, an invasive beetle that is present in Rhode Island and attacks ash trees (*Fraxinus* spp.).

## Pollination

The ecosystem service of pollination is vitally important to both the function and health of ecosystems, as well as our food security.

Adult wasps visit flowering plants regularly to feed on nectar and, in some cases, to eat and gather pollen from flowers. Therefore, they often get pollen stuck to their bodies which allows them to carry pollen from flower to flower, facilitating pollination. Pollination allows these plants to produce seeds and fruits, which not only helps the plant reproduce, but also provides food for other animals, such as birds and mammals.

Wasps tend to specialize on small, shallow flowers with concentrated nectar (a.k.a., lots of sugar!) because, unlike bees, they have very short mouthparts. They are very efficient pollinators of some milkweed and orchid species and contribute to the pollination of many other wildflowers as well. They are also important pollinators of certain foods that humans enjoy, like mangos and figs.

## Decomposition

Many wasps supplement their diet by scavenging for food, either to feed themselves or their larvae. These scavenged items may include rotting fruit, dead animals, or your lunch! Though we may not appreciate them crashing our picnic, scavenging wasps play an important role in nutrient recycling.

By scavenging for food, wasps aid in breaking down (i.e. decomposing) dead plant and animal material. By eating dead organisms and then excreting them, they help return organic material and nutrients to the soil, which aids in the growth of new living things. This scavenging behavior also helps to keep the environment clean of any dead animals or rotting plants.



Photo: Fraternal potter wasp, Spencer Hardy

# Living with Wasps

## Why do wasps sting?

While wasps are incredibly beneficial for maintaining ecosystem health and supporting our food systems, unfortunately they are mostly known for their ability to sting. Contrary to popular opinion, however, wasps are not inherently cruel creatures. The wasps that you see visiting flowers or simply flying around are very unlikely to sting you if you do not swat at them or otherwise bother them. They will only sting to either protect themselves, their nests, or a valuable food source.

The nest is an extremely valuable object to social wasp workers, as this is where the colony's eggs, larvae, and food stores are located. There are many animals, such as rodents, raccoons, and bears, that raid social wasp nests to eat the protein-rich larvae. If the nest is under attack, wasp workers will emit alarm pheromones to alert other workers in the colony, which will prompt more workers to attempt to sting the nest assailant. Social wasps can also mark nest assailants with alarm pheromones through their stings, which will let the other workers know which creature specifically attacked their nest.

## How do I avoid getting stung?

The best way to avoid wasp stings is to avoid bothering wasps! If a wasp seems interested in you or your food or drink, cover any potentially attractive food sources and walk calmly away. If a wasp lands on you, simply hold still until it flies away. Try not to flail or run, as this may make the wasp think that you are a threat that it needs to defend itself against.

If you are allergic to wasp stings, it may be useful to take extra precautions to avoid attracting wasps. These may include avoiding sweet smelling perfumes and shampoos or bright colored clothing, which may make the wasps think you are a flower! Also, if you are allergic, carry an epinephrine injection pen that you can use in emergencies, especially in the late summer when social wasps become more active and aggressive because their food is running out.

To avoid disturbing a nest, be aware of any social wasp nests on your property. If you see wasps returning to the same area again and again, there's likely a wasp nest there. Make sure to give them plenty of distance when performing yard work or house maintenance. Also, it's important to keep children and pets from interacting with the nest to prevent accidental disturbances.

## What to do if I get stung?

Wash the stung area with soap and water and check the sting site to see if the stinger is still in your skin (this may happen if you slapped at the wasp when it stung you). To reduce swelling, ice and elevate the stung area and take an oral antihistamine. You may also want to take a pain reliever to reduce your discomfort. The sting site will likely be itchy for a few days.

Though uncomfortable, wasp stings are highly unlikely to result in a severe reaction. However, if you experience any symptoms of anaphylaxis, such as difficulty breathing, severe swelling, nausea, a fast heart rate, dizziness, or difficulty swallowing, call 911 immediately.

## Escaping a Wasp Swarm

**If you accidentally step on or otherwise disturb a social wasp nest, it's important to leave the area as fast as you can.**

Most people are familiar with honeybee stings, which remain in the skin and result in the bee's death. However, wasps can sting multiple times without dying. This, and the fact that wasps can emit alarm pheromones, is why it's important to leave the area promptly if you are stung by a wasp or disturb a nest.

To escape wasp nest defenders, run in a straight line from the area until the wasps stop following you. Luckily, the wasp workers are unlikely to fly too far from the nest. If many wasps are following you, pull your shirt over your head as you run to protect your face, mouth, and eyes. **Do not** seek shelter in bodies of water, because the wasps will simply wait for you to emerge from the water. Once you are out of the area and have made sure the wasps aren't following you, check to see if there are any wasps stuck in your hair or clothing before going indoors.

# Social Wasps on Your Property

## Consider sharing your space!

If there's a native wasp nest on your property that isn't in direct danger of being disturbed (i.e. in a tall tree or a secluded corner of your property) you may consider just leaving it! Simply give the nest space and don't allow children or pets to go near it to avoid disturbing the wasps. Wasps are great neighbors to gardeners, as they offer both pollination and pest control services for your flowers and vegetables.

## Close off potential entry points

To prevent wasps from building their nests in your home, close off or block any areas that wasps could get into by fixing and sealing old fences and decks on your property and by replacing any damaged siding on your house, shed, or garage. You can also prevent wasps from flying into your home by installing screens on your doors and windows or by keeping those entry points shut.

## Remove human food sources

Wasps are attracted to sugary or rotting food, so keep your trash bin lids tightly fastened and tie up your trash bags tightly. Also, avoid leaving pet food outside as this may also attract your buzzing neighbors. If you have a hummingbird feeder, set it up away from your house in a more secluded part of the yard to avoid attracting wasps in the vicinity your home. If you have a barbecue or other outdoor gathering, keep your food covered and make sure to clean up any spills quickly, so as not to invite unwanted guests to the party!

## Keep an eye out for early spring nests

Nests are much easier to remove from inconvenient locations in the early spring when they are still small and there are few wasp workers. Keep an eye out for wasps returning to the same location over and over – there is likely a nest there. If the nest is very small, simply knocking it down may give the queen time to start a new nest in a more suitable location. However, only attempt this if you know that you are not allergic to wasp stings. If you do try to knock it down, wear protective clothing and only approach the nest at night when the wasps are not as active.



*Planting a variety of flowers, including native plants, in your home garden can help support pollinators and other beneficial insects. Supporting insects helps feed a wide variety of wildlife, from birds to salamanders!*

**The safest option for removal is to call a professional (see our recommended list of Rhode Island pest controllers under “Resources for Issues With Wildlife” - <http://www.dem.ri.gov/programs/fish-wildlife/wildlifehunter/wildlifemanagement/>).**

## Rhode Island's Wasps—Common Social Wasps

### Dark Paper Wasp (*Polistes fuscatus*)

Dark Paper Wasps range in size between 1.5 and 2 cm long. Though the color patterns of this wasp are highly variable, they are usually dark reddish-brown in color with an abdomen (rear section) segmented by yellow bands. When they fly, their legs trail behind them. Their colonies tend to be fairly small and they are one of the least aggressive social wasps.

Paper wasps prefer wooded areas but will also nest in urban and suburban habitats. Their nests are made out of paper, but can be distinguished from other wasp nests by the nest's "umbrella" shape and the lack of covering over the hexagonal comb. These gray, papery nests are usually located in protected areas, such as shrubs and under tree branches, as well as vents, windows frames, and the eaves of buildings.



Photo: Spencer Hardy

### Eastern Yellowjacket (*Vespula maculifrons*)

There are several species of yellowjacket in RI, all of which have yellow and black coloration (except for the Bald-Faced Hornet). The most common yellowjacket species is the Eastern Yellowjacket, which is less than 2 cm long with a distinctive yellow anchor-shaped mark on the first section of its abdomen. These wasps are the most aggressive out of the common social wasps found in RI and will voraciously defend their colony from potential threats.

Yellowjackets commonly nest in forests and near rivers, but can also be found in urban and suburban areas. Nests are usually located underground, but can be found in tree stumps, old logs, and occasionally in the walls of buildings. Their paper nests are made up of hexagonal comb surrounded by a paper covering (or "envelope"). Though uncommonly seen aboveground, these nests can get quite large because colonies can grow as large as 5,000.

### Bald-Faced Hornet (*Dolichovespula maculate*)

Contrary to its name, the Bald-Faced Hornet is not a hornet and is actually a type of yellowjacket wasp. However, unlike other common yellowjackets in Rhode Island, which are black and yellow, the Bald-Faced Hornet is black and white. These wasps are usually around 2 cm long and have a distinctive white face and three white bands on the end of their abdomen. Though they look a bit intimidating, they are unlikely to sting unless their nest is disturbed.

Bald-Faced Hornet nests are one of the largest wasp nests that you'll see in Rhode Island because their colonies are quite large (~700 workers). By the end of the season, these egg-shaped, paper nests can reach the size of a basketball! The layers of hexagonal comb are covered with a paper envelope. These gray, papery nests are usually located in trees and bushes, but can also be found on buildings, sometimes as high up as 20 feet.



Photo: Spencer Hardy

## Rhode Island's Wasps—Common Invasive Social Wasps



### European Paper Wasp (*Polistes dominula*)

Native to Europe, Northern Africa, and Asia, the European Paper Wasp was first discovered in Massachusetts in the 1970s and has since spread extensively throughout the Northeastern United States.

European Paper Wasps have black and yellow stripes, which is why they are commonly confused with yellowjackets. However, they have longer, slenderer bodies than yellowjackets and have orange-tipped antennae. Like the native Dark Paper Wasp, their legs trail behind them in flight.

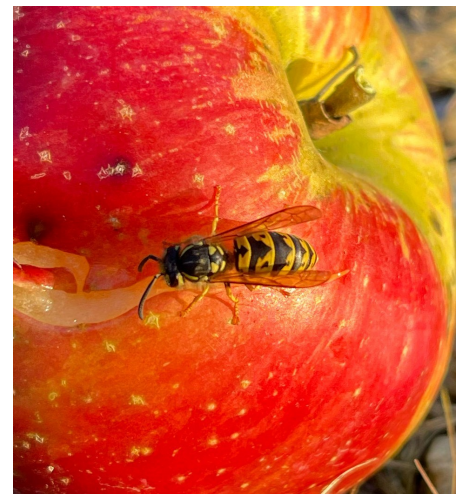
European Paper Wasps are very common in urban environments and regularly make their nests in protected, man-made structures such as the eaves of houses, attics, and behind window shutters. Their nests are fairly small and have the characteristic “umbrella” shape of the Dark Paper Wasp, with comb uncovered. While they will defend their nests, they are not extremely aggressive and don't tend to swarm.

### German Yellowjacket (*Vespula germanica*)

Native to Europe, Northern Africa, and temperate Asia, the German Yellowjacket first arrived in the Northeastern United States in the 1970s and has since spread across the Northern and Western United States.

The German Yellowjacket is typically around 1.5 cm long and has the yellow and black striping of other yellowjacket species. However, their abdominal markings differ slightly from the other commonly observed yellowjacket species found in RI. Like other yellowjackets, they are aggressive nest defenders.

This invasive species prefers to nest in urban and suburban areas, choosing wall voids, attics, crawlspaces, and other enclosed cavities as their nesting areas of choice. These nests tend to have a sprawling appearance to them, instead of a distinct, round shape, and can be quite large. German Yellowjackets have also been observed reusing their nests year after year (an uncommon trait in social wasps) which may explain the large nest size.



### European Hornet (*Vespa crabro*)

Native to Europe, the European Hornet has been established in North America since the 1840s. It is the only “true” hornet in North America.

The European Hornet workers are around 2.5 cm long, however queens can be up to 3.5 cm long. They are characterized by a red and yellow head and a brown and yellow striped abdomen, which is why they are often confused with Asian Giant Hornets (“Murder Wasps”) and Eastern Cicada-Killer Wasps. They can be territorial and aggressive around their nests and potential food sources.



European Hornets are mostly found nesting in forests, however they can also be found in urban and suburban areas. Unlike other Rhode Island wasp species, their papery nests are usually constructed in enclosed aerial areas, particularly tree hollows. The nests can also occasionally be found underground or in the wall cavities of houses.

## Asian Giant Hornets (“Murder Wasps”)

**The Asian Giant Hornet (*Vespa mandarinia*) is not present in Rhode Island.**

As of 2022, there is no evidence of an established population anywhere in the United States outside of Washington State.

The two insects that are most mistaken for this hornet are the **Eastern Cicada Killer (*Sphecius speciosus*)** and the **European Hornet (*Vespa crabro*)**.

For more information about the Asian Giant Hornet, check out the “Pest Alert” page on RI DEM’s website: <http://www.dem.ri.gov/programs/agriculture/pests-ornamental.php>



## Rhode Island’s Wasps—Common Solitary Wasps

### Eastern Cicada-Killer Wasp (*Sphecius speciosus*)



The Eastern Cicada-Killer Wasp is a large wasp, ranging in size between 1.5 and 5 cm. Their head and thorax are reddish in appearance and their abdomen is black with yellow bands. Since the Eastern Cicada-Killer Wasp is a solitary species, and therefore does not have a large nest to defend and primarily uses its sting to incapacitate prey (cicadas), this wasp is mostly harmless and will only sting if handled roughly.

Female Cicada-Killers dig burrows in sandy soils in bare or grass-covered banks, especially in areas of full sun. Their burrows may also be found on lawns, next to sidewalks and driveways, or anywhere that vegetation is sparse. These wasps tend to nest in aggregations and males can often be seen hovering near these aggregations (note: these males have no stinger and pose no threat to humans).

## Rhode Island's Wasps—Common Solitary Wasps



### Digger Wasps (*Sphex* genus)

There are several species of Digger Wasps in RI, the most common of which are the Great Golden Digger Wasp (*Sphex ichneumoneus*) and the Great Black Digger Wasp (*Sphex pensylvanicus*). The Great Golden Digger Wasp is about 2.5-3.5 cm long, has golden hairs on its head and thorax, and has reddish orange legs, and partly reddish orange body. The Great Black Digger Wasp is about 2-3 cm long and has an entirely black body and smokey wings. To feed their larvae, both species specialize in preying on crickets, grasshoppers, and katydids, which they paralyze with their stinger before bringing the insect back to their nest. Like other solitary wasps, these wasps will

only sting humans or pets if stepped on or handled roughly.

Females of both Digger Wasp species build underground burrows in gardens and parks, or anywhere that is sunny with sandy soils. Females will stock the nests with live, paralyzed prey before sealing the nests up again.

### Mud Daubers (*Sphecidae* or *Crabronidae* family)

Mud Daubers are long, slender wasps that have distinctive nesting habits. The most common Mud Daubers found in RI are the Yellow-legged Mud-dauber Wasp (*Sceliphron caementarium*) and the Common Blue Mud-dauber Wasp (*Chalybion californicum*). The Yellow-legged Mud-dauber Wasp is about 2-3 cm long and is mostly black with yellow legs. The Common Blue Mud-dauber Wasp is about 1-2 cm long and metallic blue. Both specialize on spiders to feed their larvae and the Common Blue Mud-dauber is known for its predation of Black Widow Spiders. Neither is likely to sting, however Yellow-legged Mud-dauber wasps have been known to defend their nests if disturbed.



Females of both Mud Dauber species are capable of building nests, which they construct out of mud. These nests are cylindrical in shape and often built in shaded, protected places, such as on rock ledges, the sides of buildings, or under bridges. Common Blue Mud-daubers will sometimes parasitize the nests of Yellow-legged Mud-daubers, by softening the sealed entrances of their nests with water that they collect, removing all larvae and collected spiders of the original nest owner, and replacing them with their own larvae and collected spiders.



Photo: Spencer Hardy

### Potter Wasps (*Eumeninae* subfamily)

There are several species of Potter Wasps in RI, the most common of which is the Fraternal Potter Wasp (*Eumenes fraternus*). This species has a very long, thin first abdominal segment, which gives it the appearance of having an elongated waist and round abdomen. The wasp is about 1.5-2 cm long and is mostly black, with small white markings. Adults of this species feed on both nectar and pollen, but prey on caterpillars to feed their larvae. These wasps are not aggressive and will only sting if handled roughly.

Like other members of the Potter Wasp group, female Fraternal Potter Wasps construct pitcher-shaped nests out of mud. These wasps usually construct their mud pot nests on vegetation, but also can build them on windows or other human structures. One female may make several of these nests, each with a single egg and several provisioned caterpillars inside.

*Table 2: Common Social Wasps of Rhode Island*

Species	Description	Size	Status	Prey	Habitat	Nest type	Aggression
Dark Paper Wasp ( <i>Polistes fuscatus</i> )	- Highly variable - Dark reddish-brown with an abdomen segmented by yellow bands - Legs trail behind them during flight	1.5 - 2 cm	Native	General arthropods	- Forests and other wooded areas - Urban and suburban areas	- Paper, grey - "Umbrella" shape - Small, uncovered - Protected areas (e.g. shrubs, tree branches, vents, windows frames, and building eaves)	Medium
Eastern Yellowjacket ( <i>Vespula maculifrons</i> )	- Yellow and black - Black anchor-shaped mark on first section of abdomen	1 - 2 cm	Native	General arthropods and carrion	- Forests - Riparian areas - Urban and suburban areas	- Paper, grey - Large, covered - Usually underground - Tree stumps, old logs, and walls of buildings	High
Bald-Faced Hornet ( <i>Dolichovespula maculate</i> )	- Black and white - White face - Three white bands on end of abdomen	2 cm	Native	General arthropods	- Forests - Urban and suburban areas	- Paper, grey - Egg-shaped - Large, covered - Trees, bushes, and buildings (high up)	Medium
European Paper Wasp ( <i>Polistes dominula</i> )	- Yellow and black - Orange-tipped antennae - Legs trail behind them during flight	2 cm	Non-native (Europe, Northern Africa, and Asia)	General arthropods	Urban and suburban areas	- Paper, grey - "Umbrella" shape - Small, uncovered - Protected human structures (e.g. house eaves, attics, and behind window shutters)	Medium
German Yellowjacket ( <i>Vespula germanica</i> )	- Yellow and black - Black arrow-shaped mark on first section of abdomen	1.5 cm	Non-native (Europe, Northern Africa, and temperate Asia)	General arthropods and carrion	Urban and suburban areas	- Paper, grey - Sprawling shape - Large, covered - Wall voids, attics, crawlspaces, and other enclosed cavities	High
European Hornet ( <i>Vespa crabro</i> )	- Red and yellow head - Brown and yellow striped abdomen	2.5 - 3.5 cm	Non-native (Europe)	Large insects and other arthropods	- Forests - Urban and suburban areas	- Paper, grey - Enclosed aerial areas (e.g. tree hollows) - Occasionally found underground or in wall cavities	High



### Table 3: Common Solitary Wasps of Rhode Island

Species	Description	Size	Status	Prey	Habitat	Nest type	Aggression
Eastern Cicada-Killer Wasp ( <i>Sphecius speciosus</i> )	- Large wasp - Reddish head and thorax - Abdomen black with yellow bands	< 5 cm	Native	Cicadas and other insects	- Areas with sandy soils - Urban and suburban areas	- Burrows in soil - Found in areas with sparse vegetation (e.g. lawns and next to sidewalks and driveways) - Often nest in aggregations	Low (males territorial, but no stinger)
Great Golden Digger Wasp ( <i>Sphex ichneumoneus</i> )	- Golden hairs on head and thorax - Reddish orange legs	2.5 – 3.5 cm	Native	Crickets, grasshoppers, and katydids	- Areas with sandy soils - Gardens - Parks	Burrows in soil	Low
Great Black Digger Wasp ( <i>Sphex pensylvanicus</i> )	- Black body and legs - Smokey wings	2 – 3 cm	Native	Crickets, grasshoppers, and katydids	- Areas with sandy soils - Gardens - Parks	Burrows in soil	Low
Yellow-legged Mud Dauber ( <i>Sceliphron caementarium</i> )	- Black body - Yellow legs	2 – 3 cm	Native	Spiders	- Caves and rocky areas - Urban and suburban areas	- Cylindrical mud nests - Protected areas (e.g. rock overhangs, house eaves, and barns)	Low/ Medium
Common Blue Mud Dauber ( <i>Chalybion californicum</i> )	Metallic blue	1 – 2 cm	Native	Spiders (especially Black Widow Spiders)	- Caves and rocky areas - Urban and suburban areas	- Cylindrical mud nests - Protected areas (e.g. rock overhangs, house eaves, and barns) - Also parasitizes Yellow-legged Mud Dauber nests	Low
Fraternal Potter Wasp ( <i>Eumenes fraternus</i> )	- Long, thin abdominal segment (thin “waist”) - Round abdomen - Black with small white markings	1.5 – 2 cm	Native	Caterpillars	- Forests - Shrubby areas - Urban and suburban areas	- Pitcher-shaped mud nests - Mostly on vegetation - Windows and other human structures	Low

## *For More Information...*

### **RIDEM DIVISION OF FISH & WILDLIFE (DFW)**

The DFW can provide technical advice and information, however DFW does not remove wasps from properties. For assistance, contact:

DFW Great Swamp Field Office  
277 Great Neck Road, West Kingston, RI 02892  
Phone: (401) 789-0281.

### **For more information about wasp species, their life histories, and their importance:**

- **Book:** “*Wasps: Their Biology, Diversity, and Role as Beneficial Insects and Pollinators of Native Plants*” by Heather Holm
- **Video:** “Wild Ones Presents ‘WASPS’ by Wild Ones Honorary Director Heather Holm”  
<https://www.youtube.com/watch?v=rTfowlGStcA>
- **Article:** “*Why we love bees and hate wasps*” by Seirian Sumner, Georgia Law, and Alessandro Cini  
<https://resjournals.onlinelibrary.wiley.com/doi/full/10.1111/een.12676>
- **Website:** [www.discoverlife.org](http://www.discoverlife.org)
- **Website:** <https://www.inaturalist.org/home>

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