

The Ultimate Caresheet

Genus: **Formica**



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Acknowledgement

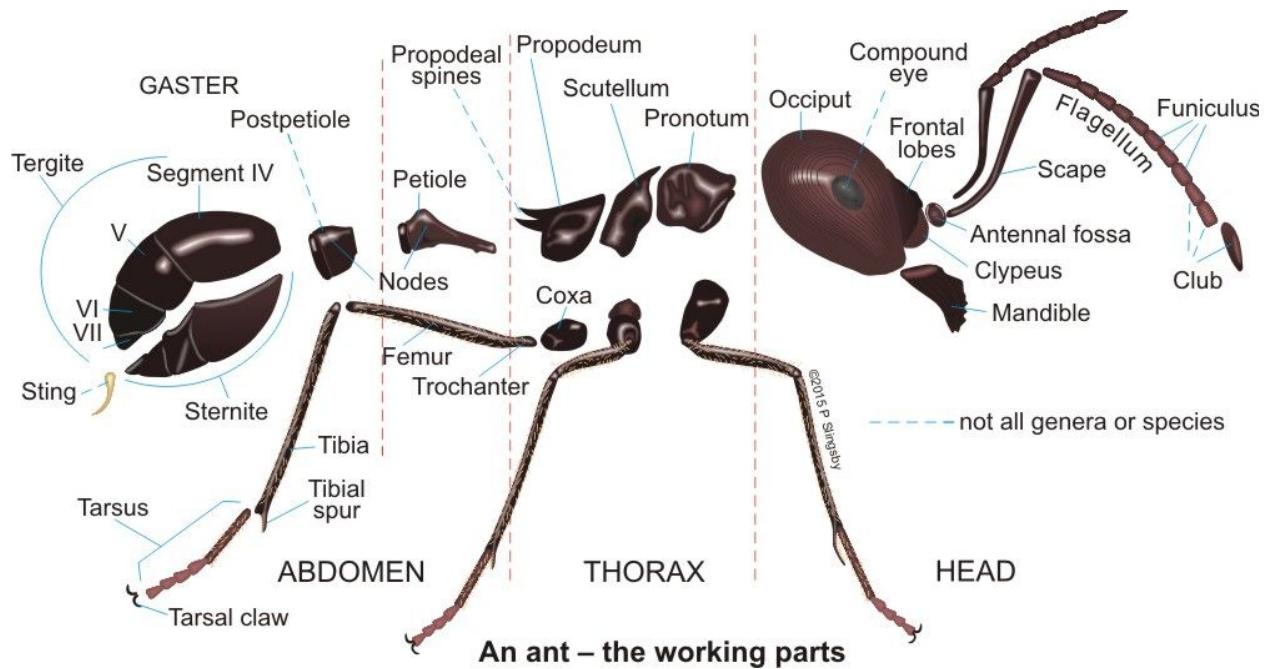
It is proper to note the various resources applied in this e-book and to recognize contributions from others made to its development. The writer would like to thank ***AntWeb*** and ***AntWiki*** for the images and information sourced. The writer would also like to acknowledge the external journal-keeping sources of online community of hobbyists at AntStore Germany's online forum and its contributors for the excellent experiences shared [here](#). Other resources available can be found at the end of this e-book in the "[Further Reading](#)" section.

Taxonomy

The genus of *Formica* belongs to the family Formicidae, which include mound ants, thatching ants, field ants and wood ants. There are at least 290 extant (known) species [[click here](#)] and 59 extinct species in this genus. These ants tend to be 4-9mm in size, with queens generally ranging around 10-16mm in size. The proper, basic scientific classification of the genus *Formica* is as follows:

Domain:	Eukarya
Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Hymenoptera
Family:	Formicidae
Genus:	Formica

Anatomy & Distribution

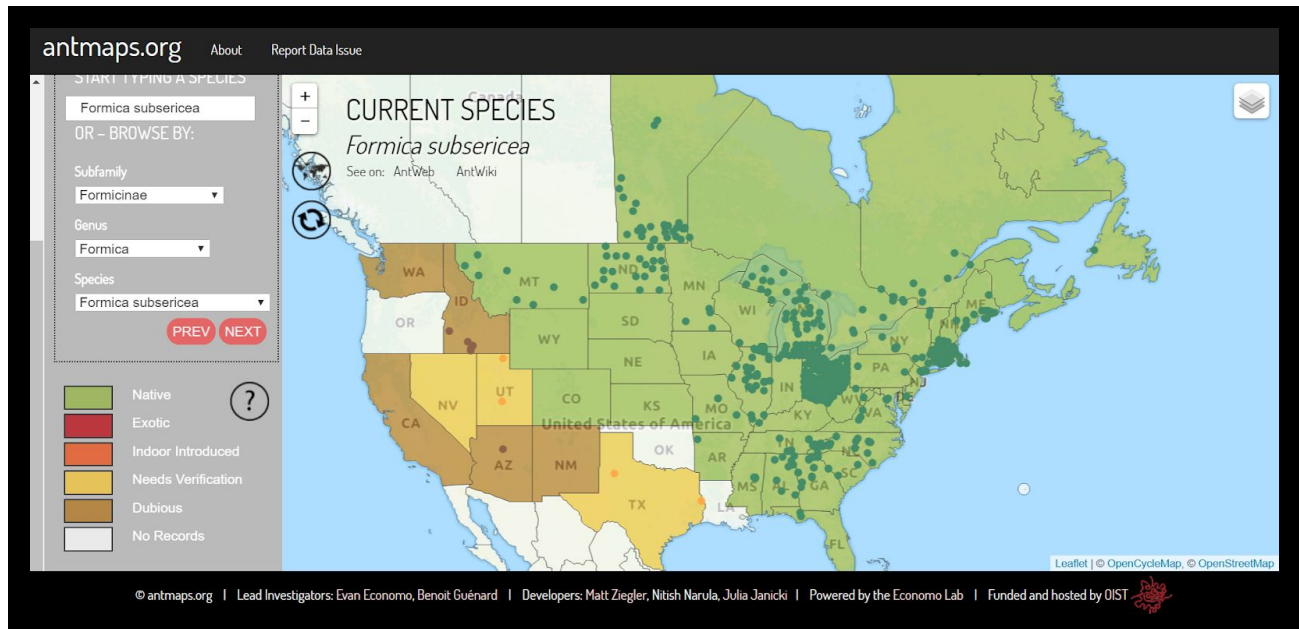


Anatomy

The photo above [location link [here](#)] shows the basic body structure of the proverbial ant. Ants, like other insects, are broken into three main body parts. The head, thorax, and abdomen. Even within a genus, some species can show striking differences in anatomy. As previously stated in this caresheet guide, I will be focusing on *Formica subsericea*. One can also use the website *Identification Key by D. M. Sorger and discoverants.com / theantlife.com* to discern the *Formica* genus [here](#).

Distribution

The *Formica* genus occurs in most places worldwide, however, if you're looking to collect a colony for your classroom or for a display as a pet ant colony, you'll want to know a few general things about them. They generally take to the edges of woodland areas near grasslands or grasslands where lots of sun can penetrate their nest mounds. *Formica ants love sunlight!* The sunlight warms up their bodies which enables them to go about their daily business. In Southern Ontario, *Formica* ants can be found in these locations as well as within cities where sandy areas are present. They will also nest under flat stones or sidewalks where the sun can heat up the flat rock. *Formica subsericea* are no exception to any of these habitats and can be found in areas where the green dots are present. Click on the photo to access the website it came from to see if they occur near you!



Nuptial Flights



A nuptial flight is the term in Myrmecology when the reproductive caste of a social colony of insects (such as ants, termites, and some bees) reproduces. Winged reproductives, or *alates*, fly away from the parent nest and seek out members of the opposite sex from either the same parent nest or nests nearby. After mating, male ants generally die off rather quickly whereas new foundress queens typically shed their wings and begin to search for a place to start raising their colony.

Observations

Generally speaking, for Southern Ontario, I have observed flying reproductive *Formica* alates (winged queens and males) sparsely in small 4-7 day periods during June, July and August. I have also observed *Formica* alates in early September back in 2016 as well. My hypothesis is that these colonies fly out at different times due to fluctuating seasonal changes and annual weather patterns as opposed to just monthly schedules. The most common time to find *Formica subsericea* alates in comparison from 2015, 2016, 2017 and 2018 was mid-July to mid-August in the *late afternoon after a rain or thunderstorm*. The optimal atmosphere is *very humid and windless*. This pattern has remained consistent for the Golden horseshoe area on several accounts from 2012--2018, although I haven't kept notes until 2015. I am confident that next year the pattern will continue.

Foundress Queen: How to Find One



Locations can greatly vary as to where queens can be found. In my searches, most exposed queens were found in areas which included sidewalks, pavement, grassland and near evergreen trees. It is in the late afternoon after a rain in which the sandy soil or loam is damp and soft enough for the newly fertilized queens to dig a founding chamber. It is also not uncommon to find Formica queens in the morning from 8am to 11am as well. Queens which had already tunnelled

underground could be found under flat stones which weren't too deep as well as in between bricks -- if you're careful.

It is also possible to purchase ant queens online, however, be sure that you're not breaking any level of laws if your ants have to cross national, state, provincial, or territorial borders. Also be sure to either consult with a parent or guardian when buying anything online!

Queen Mortality & Colony Founding Methods

Queen Mortality



During the nuptial flight, the alates are vulnerable to a multitude of predators which include all manners of birds, reptiles, insects, arthropods and mammals.

(Photo: *Lasius alates* flying on their nuptial flight).

Normally, a colony will release hundreds of alates in the hopes that some will survive the rigors of the flight. Out of the many millions released each summer, only a few hundred thousand will survive to lay their first egg.

After she has successfully mated with one or several males, our *Formica subsericea* queen will descend to the ground and will proceed to shed her wings. She won't need them anymore, as they will prove to be more a hindrance than help underground.

Colony Founding Methods



(Photo: A Formica queen tends to her first brood in her Test Tube founding chamber).

There are several styles of colony founding that different types of queen ants will undertake. These are all perilous and more often than not lead to death. However, they are listed in three generalized categories:

Fully-Claustral, **Semi-Claustral**, and **Parasitic**. There are significant

variances in between the three and also many similarities. They are listed below.

Fully-Claustral



(Photo: A *Formica fusca* queen inspects the corridors of her founding chamber).

A foundress queen which is fully-claustral does not have the need to forage and leave her nest during the founding stage. These types of queens are typically the bulkiest of the three types. Fully claustral queens seal

themselves off in a founding chamber and raise their first workers (nanitics) from their own body reserves. Examples of fully-claustral foundress queens that we seasonally carry at AntsNational include *Formica incerta*, *Formica fusca*, *Formica subsericea*, *Crematogaster cerasi*, *Prenolepis imparis*, *Camponotus novaeboracensis*, *Camponotus pennsylvanicus*, *Solenopsis molesta*, *Aphaenogaster fulva*, *Lasius neoniger*, *Lasius nearcticus* and *Tetramorium immigrans*. Fully claustral queens are usually the easiest types of queens to start colonies from and are recommended for beginners.

Semi-Claustral



(Photo: A *Myrmica* queen carries an egg into her new test tube chamber).

Unlike fully-claustral queens, semi-claustral queens are usually leaner and require a foraging area to raise their first brood. These queens generally can

subsidist on soft-bodied insect prey and liquid sugars. Although they are not easy to raise, they are a great challenge for beginners who want to progress to something a little more difficult in the ant-keeping hobby. Raising a colony from a semi-claustral queen(s) is very rewarding, yet also riskier. Examples of semi-claustral queens that we seasonally carry at AntsNational include *Ponera pennsylvanica* and *Myrmica incompleta*. It is very important to research the food requirements for semi-claustral queens!

Parasitic



(A parasitic *Lasius* queen is fed by her host workers. This queen lives alongside the resident queen).

The third strategy within differentials of ant queen founding is the social parasite. The social parasite does not raise her own brood, nor does she forage. Unlike the previous two, a socially parasitic queen's mission is to

infiltrate a host colony of a different species and kill its resident queen. If successful, the parasite queen will chemically mimic the pheromone scent of the host queen and thus assume her identity. In some cases, she may co-exist with the resident queen as well. These ants are only recommended for the most expert keepers and even then are a monumental challenge. An example of a socially parasitic queen that we seasonally carry at AntsNational is *Lasius claviger*.

How To Raise Your Foundress Queen

Once you have collected or purchased your queen, you will need to know how to keep her alive, happy, and feeling safe. To do this, you must first appropriate the correct resources for her. To read up on proper nutrition, visit the ***Feeding Requirements*** section of this E-Book. At this point of this guide, you should now have an idea of how Formica queens and most other ant queens generally begin the founding process for their future colony. What you need now is a substitute for an ant nest, otherwise known as an ant farm (or *Formicarium*).

There are a number of popular and cost-efficient ways to begin your ant keeping journey. We have listed and rated them generally speaking for their effectiveness at keeping ants based on years of personal use by either myself or one of my colleagues. *You can find that blog post [here](#).*

The Basics for Starters

If you're not looking to purchase or make an ant farm just quite yet, technically speaking, ants could be kept in a simplistic terrarium of soil or wood, depending on your research and what they'd naturally live in. Ants will naturally make a home out of the best possible situation, which is why they've found ingenious ways to survive for millions of years. The most basic method for keeping a founding queen is known as the *Test Tube Setup*.

The Test Tube Set-Up

Iconically, the Test tube setup is arguably the best method for starting a colony. It is comprised of two pieces of cotton with water held in one end. You can even put some substrate inside for a more naturalistic feel, like the



Formica subsericea queen shown in the photo here. Your queen ant should move the substrate around to customize her founding chamber. Here are ten reasons why the test tube setup is optionally the best. :

- 1) The glass makes your queen's progress visible and photographable.
- 2) The cotton at one end retains a water reservoir.
- 3) The cotton at the other end keeps your queen in.
- 4) They're easily storable.

- 5) They're very affordable.
- 6) They're portable if you're looking to catch queens.
- 7) They're washable and reusable.
- 8) They're customizable (you can add sand and such).
- 9) They're breathable.
- 10) They're easy to find (both online and in hobby and laboratory supply stores).

Preparing Your Test Tube Set-Up

It is important to have a parent (or guardian) help you with some of these steps if you are a child!

To prepare your test tube setup, follow these steps in order:

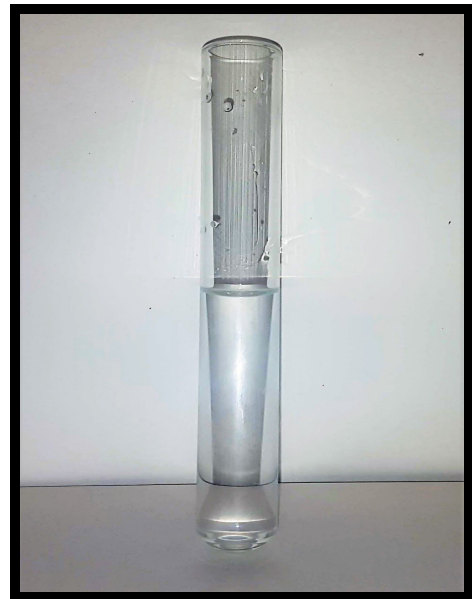
- 1) **Gather all of your materials required. You will need:**
 - **1 Test Tube**
 - **1 Pen (or Pencil)**
 - **2-5 Cotton Balls**
 - **1-2 Cotton Pads**
 - **Paper Towel / Toilet Paper**
 - **Loose Substrate (Sand)**



2) Rinse your test tube(s) with lukewarm water before you put anything in them! It's optimal to soak them for 5-10 minutes in boiled water so they're disinfected. *Do not use soaps or chemicals of any kinds.*

3) Let your test tube(s) cool to room temperature and then dry if needed. A paper towel will work just fine!

4) Fill just under $\frac{1}{2}$ of your test tube with room temperature water.



5) Wrap a cotton pad around your pinky finger. Keep the tip of your finger at the center of the pad.



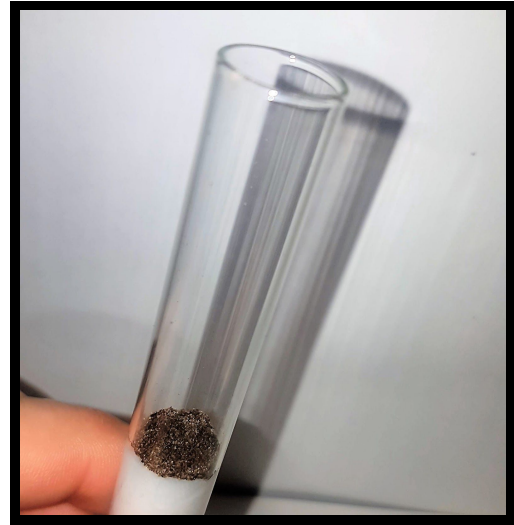
-
- 6) Place either 1 cotton pad (folded with ends facing outwards) or 1-2 cotton balls. You'll want a tight fit so no water leaks out.



- 7) At this point, push the cotton into the test tube at good pace. Try to avoid bubbles by pushing the cotton in at a brisk pace. Wipe any excess water in the test tube with a paper towel or with toilet paper.



8) OPTIONAL: Add some fine grain substrate if you wish. Although this portion is not necessary, it does give a more naturalistic feel for your queen ant. Wipe excess dust inside and out with paper towel or toilet paper. At this point, it is also welcome to place a few springtails inside as they will help keep your colony's waste levels at a manageable level.



9) Place a cotton ball at the end. When you are ready, you can place your queen in the test tube!



Colony Growth

Stage 1: The Egg Stage



Within a test tube setup, your Formica queen's progress can vary. She may take up to a month or longer to lay her eggs. During the entire founding stage, it is recommended that viewing is kept extremely limited as queens are photophobic (sensitive to light) and sensitive to vibrations. If viewed too often, a queen may eat her

own eggs to conserve energy until things settle down and appear safe. Once she has laid her first egg, she will continue to lay 1-2 eggs per day until she has a small clutch of about 5-15 eggs. The queen mother will care for them, guard them and will keep them clean by coating them with an antibacterial saliva. This will also keep the eggs from drying out. After about 1½ to 2½ weeks, these eggs will hatch into white, grub-like larvae.

Stage 2: The Larval Stage



These larvae are actually baby ants. They are completely defenseless and almost immobile during this phase. They are voracious eaters and will need to pack on as much weight and grow as quickly as possible. During the founding stage, the queen will feed these larvae from her own body reserves [Remember: [**Fully-Claustral Founding**](#)].

These queens will even break down their wing muscles which once powered them to fly during their nuptial flight. After about 2 to 4 weeks, these larvae will be ready to enter the next phase of their development -- The Pupal Stage.

Stage 3: The Pupal Stage



Driven by instinct, the queen mother will know when it comes time for her larvae to begin the final phase of development. At this time, she will bury each of her larvae in dry sand and debris to help them anchor their cocoons. These larvae will spin a silk cocoon inside the sand bedding. The silk made from these cocoons

is water-repellant and is meant to keep them relatively dry and protected during their most vulnerable time. These cocoons can resemble tiny rice grains and will often be coined as “*Ant Eggs*”, but they are not eggs! Once the silk dries, the sand particles will fall off and the larva inside will undergo metamorphosis. Metamorphosis is the process in which a larva will undergo a complete cellular-reconstruction of its body to assume its adult form. It is at this time that they are at their softest and most vulnerable period. The pupal phase lasts in some species for over a month, but in *Formica*, it usually takes about 2-4 weeks. During this time, it is advised that you decide on a small-sized formicarium for your ants. Visit the [***Housing***](#) section of this E-book for more guidance.

Stage 4: Eclosion / Emergence



After about 2-4 weeks, the larva within has completely reconstructed into its adult form and is now ready to enter a brave new world. The queen

(and if other workers are already present) will delicately tear open the cocoon and pull the light-colored ant out. She cleans off the remaining larval skin over the newly emerged ant so it can move. These ants are known as *Callow* ants. Initially, even things such as walking are not an easy feat. After a few days, the exoskeleton will darken as it hardens and the ant will be able to take on more roles. The first generation of ants raised by the queen mother are known as *nanitics*. **All worker ants are born female, and sterile.** Their role in the colony is to care for the queen, the next generation(s) of brood, keep a clean house, and to defend home and land.

Stage 5: The End of Colony Founding & Tube Life



At this point of her journey, the queen mother is near starvation from raising her first workers from her body reserves. Although it isn't necessary to feed her during the founding stage, it is definitely necessary now. With her first workers present, it's recommended that your ant colony moves into a new home. Worker ants will begin to forage for food which can be tricky within a test tube. They will pull at the cotton to attempt to escape and go foraging. The water reservoir on your test tube may be almost done at this point. The queen mother requires liquid food rich in proteins and sugars to restore her energy and within a test tube, feeding will be difficult as these ants are fast and skittish. Therefore, at this point, you will hopefully have chosen a formicarium.

Choosing A Formicarium:



(Photo: The Edge™ V.1.2019, an “All-in-one” Formicarium great for Foundress Queens & Growing Colonies)

There are a number of popular and cost-efficient Formicarium types to move your new colony into. If you’re looking to save time, you can also purchase handmade formicariums in the AntsNational Webstore [here](#). As previously

mentioned, I have listed and rated them generally speaking for their effectiveness at keeping ants based on years of personal use by either myself or one of my colleagues. *It's important to beware of "pop-up shop" formicariums. You can find that blog post [here](#).* Depending on the formicarium that you've chosen, it's important to read up on that ant farm's instructions.

Moving Your Ants In

Before you move your ants anywhere, be sure to slick the inside 1-2cm with a very thin (non-dripping) layer of vegetable oil. This will prevent escapes.

Moving ants into a new formicarium may seem like a daunting task, but don't worry. We've figured out how to foolproof it to avoid any escapees and potential ant casualties. The safest way to move your ants into a new nest is to place the test tube into a formicarium that it would fit in and remove the cotton entrance. Make sure that the formicarium's "underground" nest section is well covered and dark. Your ants may take some time to move out, but eventually they will. Let them move at their own pace. Shining a light on them may work, however, it can still cause them stress.

Wait...

What if the test tube doesn't fit? Well, it is recommended to put your ants in the fridge for about 5 - 10 minutes so they become very sluggish. At this point, open the test tube and gently tap your ants in. Once in, any remaining

brood can be carefully scooped up either by gently rolling a toothpick or a cue-tip to stick to them. At that point, they can be gently tapped into the formicarium as well. During this process, you'll be happy to know that the thin layer of vegetable oil will keep your ants from escaping during this time.

Cyclical Growth & Formicarium Maintenance

As your colony brings in more food, your queen will lay more eggs. With more workers on hand to help the queen, the colony will exponentially grow (given their needs for appropriate resources are met). As for Formicarium maintenance, although most ants do naturally live underground, they are obsessed with keeping their home clean. Ants are sensitive to mold and bacteria, which can kill off a colony within a few short weeks. With the appropriate sized formicarium, they will move all refuse (debris, dead ants, leftover foods) into a neat pile outside of the nest usually in a corner furthest from the nest. This makes it easy to pick up their garbage! Sometimes, if the nest is too large for them, they will pile it into an empty chamber which can lead to rot and mold. IF your formicarium is too small, the lack of fresh air can also lead to rapid mold growth. As your colony grows, your nest should grow with them so they can manage their home and arena.

Diet & Feeding

As there are many types of ants, there are many different types of diets. Some ants are so extreme with their diets, they've lost the ability to live on virtually anything else. It is extremely important to research the feeding requirements of any pet, as it is for ants. Ants require three main things: Protein, Water & Sugar.

Protein:

In the wild, all species of ants require some sort of protein to grow and thrive. This is no different for your ants. There are tons of protein-rich food options available which can be broken down into two categories: Live Prey & Prepared Meals. These types of food will mainly feed the growing larvae which require protein-rich foods in order to properly develop. Protein foods are also fed to the queen mother by her workers so she can maintain egg production as her colony grows. It is recommended that a diverse selection of food is offered.

Live Prey

For the most part, live prey is usually taken down by hunting teams of ants. Therefore, it is not at all recommended for Fully-Claustral queens. More often than not, they can be subject to fatal injury due to their bulk and inability to hunt/kill. It is recommended that live prey is only offered to colonies which have grown into the strength to take down such animals. ***The Rule of Thumb is to match prey size to half of your ant colony's queen size. Never feed a prey item that is larger until your colony has at least 25-30 worker ants.***

Live prey animals can vary in preference but some commonly accepted, found and sourced prey insects include:

- **Crickets** (Of all sizes)
 - *Most pet stores carry these.*
- **Mealworms & SuperWorms** (Of all sizes)
 - *Most pet stores carry these.*
 -

- **Soft-bodied Cockroaches** (ie. *Blatta lateralis*)
 - *Only where they're legally available as they're restricted in many countries.*
- **Blue-Bottle & Green-Bottle Flies**
 - *You can source these at certain bait & tackle shops. You can also grow your own generation.*
- **Wax Worms**
 - *High in fats and proteins, wax worms are excellent for small colonies. It's again recommended that small wax worms are offered to smaller colonies.*
- **Various Spiders & Outdoor Insects**
 - *I have found that various spiders and small insects are a great addition to any colony's diet. Caterpillars and other small larvae are also accepted.*

Important Note: *Although live prey is a great way to go for any ant keeper, sometimes this prey can carry harmful properties such as chemicals, bacteria/viruses, mites etc. It is important to always drop any live insects into a small cup of boiled water for a few seconds to quarantine it.*

Prepared Meals

Prepared meals can be an ant-keeper's save and grace for a pet ant colony. There are many different homemade remedies that will work just fine for your ants. Some of these which have been tried, tested and true include:

- **Egg Yolk:**
 - *There are many different ways in which to include egg yolk into your ants' diet. Whether hard-boiled or soft-boiled, it's imperative that your egg is first cooked to prevent any types of molds and bacterial contaminants like*

salmonella getting hold. For optimal results, simply mix your egg whites into the recipe of our ALL PURPOSE ANT BOOSTER™ recipe [here](#).

- **Egg Whites:**

- In some parts of the world, powdered egg whites are the staple to ant keepers. Personally, they are not as effective as Egg Yolks, but they are nonetheless excellent. Again, it's imperative that your egg whites are first cooked to prevent any types of molds and bacterial contaminants like salmonella getting hold. For optimal results, simply mix your egg whites into the recipe of our ALL PURPOSE ANT BOOSTER™ recipe [here](#).

- **Betta Fish Pellets:**

- High in vitamins, proteins and nutrients, betta fish pellets are an excellent source of food for many species of ants and are readily accepted. Other variations include frozen krill and other pellet-shaped fish foods. For optimal results, simply mix your pellets into the recipe of our ALL PURPOSE ANT BOOSTER™ recipe [here](#).

- **Seafood & Poultry**

- High in protein, shellfish, crustaceans, snails, fish and poultry are also excellent for ants. For these variations, it's *extremely* important that they are always cooked to avoid dangerous molds and

bacterial outbreaks. Widely accepted examples include small pieces of chicken, turkey, whitefish, herring, minnows, salmon, tuna, unsalted anchovies, and trout. *Raw fish gets smelly fast, so if unavoidable, make sure to put it on a small plate or bowl.* Shellfish, poultry & crustacean examples include cooked chicken, turkey, mussels, clams, oysters, scallops, shrimp, lobster, crayfish tails, crab, and even squid.

Water:

- **Fresh Water:**
 - Fresh water is an absolute necessity for every ant colony to survive. Ants can derive water in many different forms, but it's important that it's always available. Like most animals, ants prefer a fresher source of water. They will drink from nest condensation to water bowls so long as it's readily available. Watering your formicarium is also extremely important and should be followed to the guide of your select formicarium.

Sugars & Nectars:

- **ANT BOOSTER™:**
 - High octane lives require concentrated vitamins and sugars. Our FREE ALL PURPOSE ANT BOOSTER™ recipe is widely accepted by ants and can be found [here](#).

Hibernation:

For most species of ants, a full or slight hibernation will be necessary for your ants to undergo a natural rest period from their high-energy lives. This period is always done in the winter months of their season. Depending on where you are in the world, your ant colony will vary in hibernation. For Southern Ontario, we implement a hibernation of about 5° centigrade from the months of late October to Mid-March or early April. Cellars and fridges work well as makeshift hibernation stations. Always check to see that your formicarium(s) is hydrated before hibernation.

Further Reading:

Further reading can be found almost anywhere. The best places to visit are online ant forums by just searching :

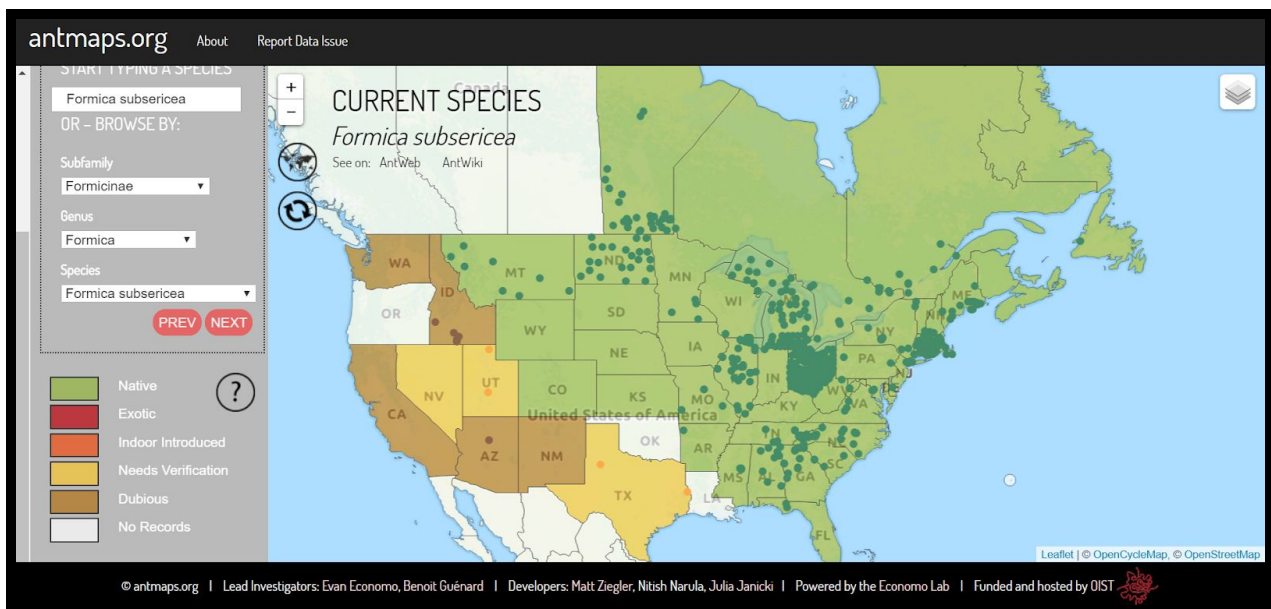
Your Ant → “Keeping” → “Journal”

Don't be afraid to look into international forums of different languages! Google translate always helps! Everyone must start somewhere, some excellent and concise forums include:

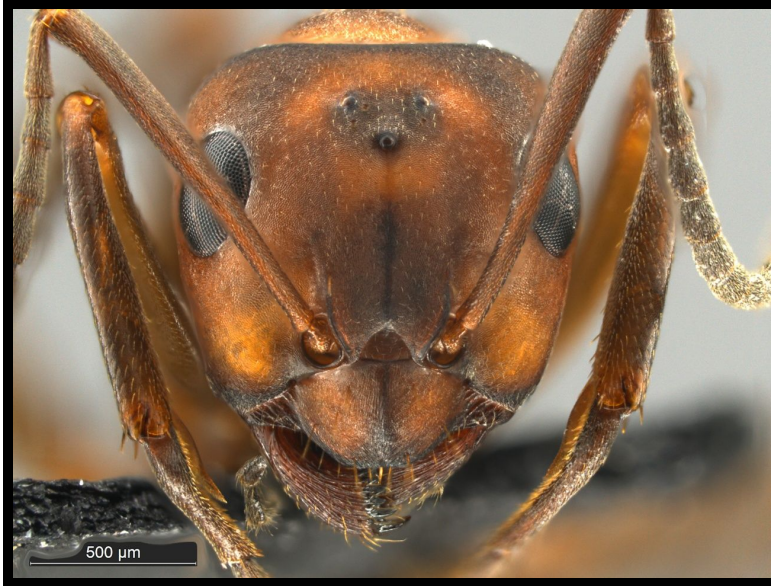
- AntStore Germany Online Forum** → [click here](#)
- FormiCulture here** → [click here](#)
- Ant Keeping Forum** → [click here](#)
- AntsCanada Forum** → [click here](#)
- The Ant Farm & Myrmecology Forum** → [click here](#)
- AntArk's Forums Guide** → [click here](#)

Ontario Formica Species Identification:

There are at least 25 listed known species of Formica in Ontario alone, which you can find some of them listed [here](#). Listed below in alphabetical order are some of the 25 listed species that have been found in Southern Ontario with an image and link for more info. To go to the full distribution map below provided by antmaps.org, click on the photo. This map depicts the range of *Formica subsericea*.



I. *Formica aserva*



Key Notes: This is a brood raiding *Formica* species. This *Formica* species preys on other *Formica* species in order to *steal* their pupae (cocoons). The pupae which are successfully raided are then brought back to the *F. aserva* nest where they emerge and unwittingly

become members of the *F. aserva* colony through colonial scent assimilation. More info:

AntWeb [here](#).

AntWiki [here](#).

II. *Formica fusca*



Key Notes: This *Formica* species is similar in view to other black *Formica* species in Ontario, but with more brownish legs than black. These ants will nest in rotten logs, soil, and in tree stumps. Workers are generally timid, but are avid hunters of small insects. These

ants tend to, herd, and protect aphids for the honeydew which the aphids excrete. This symbiosis is noted in multiple different species of *Formica*.
More info:

AntWeb [here](#).

AntWiki [here](#).

III. *Formica impexa*



Key Notes: This *Formica* species is not as commonly studied as other *Formica* species. Of the 8 specimens collected in Canada, only 1 was collected in Ontario in a Mixed-wood habitat near Lake Nipissing near North Bay. This mysterious little *Formica* also has an unusually small Queen, at

about 5-7mm in total length. More info:

AntWeb [here](#).

AntWiki [here](#).

IV. *Formica incerta*



Key Notes: This *Formica* species prefers grasslands and other open habitats over anything else. They are gorgeously colored and are a personal favourite of mine. These ants join most other *Formica* where they tend to aphids and hunt small

and large insect prey in a group effort. This species of ant is subject to brood predation by other *Formica* as well as the bane of *Formica*, *Polyergus*. The queens of this species are very nimble and quick. It is strongly recommended to corner them as opposed to picking them up. More info:

AntWeb [here](#).

AntWiki [here](#).

V. *Formica neorufibarbis*



Key Notes: This *Formica* species is found almost everywhere in the continental North America. It is THE most common species of *Formica* as well as holds the record for elevational tolerance at 14,269 ft on Mt. Evans in Colorado. It has been collected as far North as

Reindeer Station in the Northwest Territories as well as far South as San Antonio, Texas. More info:

AntWeb [here](#).

AntWiki [here](#).

VI. *Formica pallidefulva*



Key Notes: This beautifully colored *Formica* species is sought out by many ant keepers for its beginner-friendly keeping level. Unlike most *Formica* species, *F. pallidefulva* workers will sometimes lack cocoons whereas other members of the colony (Males & Queens) will spin cocoons. These ants also display a color change as they range more north. The southern variations are a more

yellow-orange, whereas the northern variations are darker. More info:

AntWeb [here](#).

AntWiki [here](#).

VII. *Formica podzolica*



Key Notes: This *Formica* species doesn't seem to be picky as to where it wants to nest. It has been located in soil, mounds, grassland and under flat rocks. It is also quite common across all of Canada as well as the US minus most of the Central and South-Eastern states.

The queen of this ant is stocky and quite large. More info:

AntWeb [here](#).

AntWiki [here](#).

VIII. *Formica subsericea*



Key Notes: This is THE feature ant of this entire e-book caresheet. The workers of this species are quite large and strikingly beautiful under any form of bright light. The minute hairs on their abdomen gives off a iridescent silver sheen which makes them my favourite species of

Formica. The queens are quite large, however, they are very fast and can turn direction very quickly. More info:

AntWeb [here](#).

AntWiki [here](#).

IX. *Formica ulkei*



Key Notes: Although this beautifully-colored *Formica* species occurs in Canada and most Northern US states, the stronghold of its existence is near the lower Great Lakes. These are a mainly mound & thatch nest building species which will spray formic acid

on their nest if disturbed. More info:

AntWeb [here](#).

AntWiki [here](#).

Glossary:

Directly linked from the Glossary Section of our website ([here](#)).

A

Abdomen: the third section of the insect body (head, thorax, abdomen).

Alate: in ants and termites a winged, sexually mature individual.

Antennae [Singular: Antenna]: a pair of segmented sensory appendages located on the head.

Arboreal : nesting above ground in trees or shrubs.

B

Brood: the immature members of the colony including eggs, larvae and pupae.



C

Caste: within a colony, any set of individuals having both a distinct form and specialized behaviors.

D

Dimorphic: having two distinct forms; example: major and minor workers.

E

Entomologist: a scientist who studies insects.

Entomology: the scientific study of insects.

F

Family: one or more genera that share a common ancestor but are less closely related to each other than species within a genus.

Formic Acid: an acid (CHO₂H) secreted from the poison gland of ants, used for defense.

Formicidae: the Ant family, in the Order Hymenoptera.

Formicinae: a sub-family of Formicidae with sting replaced by glands that secrete noxious chemicals.

G

Gaster: The enlarged part of the abdomen behind the pedicel in hymenopterous insects (such as ants)

Genus [Plural: Genera]: a set of similar, related species having a single common ancestor.



H

Honeydew: a sugar-rich fluid excreted by plant sap-sucking insects (such as aphids, whiteflies, mealybugs).

I

Integument: a tough outer protective layer, especially that of an animal or plant.

L

Larva [*Plural: Larvae*]: the immature stage of insects with complete metamorphosis, it has a completely different form than the adult (examples: maggot/fly, caterpillar/butterfly).

M

Mandibles: the second set of mouthparts in insects; in layman's terms: the jaws; used by ants for chewing, biting and manipulating objects.

Metamorphosis: a change in form during insect development.

Monomorphic: having only a single form; for example - ant species with all workers having the same form.

Molt: the casting off of the outgrown skin (exoskeleton) during growth.

Myrmecology: the scientific study of ants.

Myrmecologist: a scientist who studies ants.

Myrmicinae: sub-family of Formicidae with petiole and post-petiole (2 nodes), workers rarely have ocelli.

N

Nanitic: The first wave of workers in an ant colony. These are usually much smaller than the waves of workers to follow because the food they required was not as abundant.

Nectar: a sweet fluid secreted from a gland in flowers.

Nectary: a gland in flowers that secretes nectar, a sweet fluid.

Nocturnal: to be active at night.

Node: a swollen or enlarged knob- or knot-like or rounded segment(s) between the gaster and propodeum.

O

Ocellus [Plural: Ocelli]: the simple eye of some insects, sensitive to light but does not form visual images.

P

Pathogen: a disease-causing organism or agent..

Petiole: the second abdominal segment; the segment directly behind the propodeum; followed by the post-petiole in some species.

Pheromone: a chemical substance or blend of substances secreted by an organism and elicits a response by a member of the same species.

Polymorphic: having more than two distinct forms.

Propodeum: the first abdominal segment of ants; it is fused to the thorax and is immovable.

Pupa [*Plural: Pupae*]: inactive stage of insects with complete metamorphosis during which development into the final adult form is completed.

Q

Queen: the principal female reproductive of the colony (in some species).

S

Satellite Colony or Satellite Nest: colony forming away from the main body of the colony but still remaining connected with it.

Serrate: with teeth along the edge; saw-like. Example: *Serrated mandibles*.

Soldier: a member of the caste within the colony that is specialized for colony defense.

Species: a group of similar organisms whose members can breed with one another to produce fertile offspring.

Sub-family: genera within a family sharing similar characteristics and forming a natural division - but not different enough to form a distinct family.

Swarming: in ants, colony reproduction in which alates fly from the nest to mate and establish a new colony.



T

Thorax: the second section of the insect body.

Trophic Egg: a special type of egg, usually non-fertile, produced for consumption.

W

Waist: another term for the petiole.

Worker: a member of the non-reproductive, laboring caste.

Summary:

In finale, after reading the entirety of this handbook, you are now prepared to begin your journey into the fascinating *World of Ants* ! For any questions, concerns, comments or reviews, please submit them to:

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Thanks for reading & Good luck!