Ants are everywhere! An estimated one quadrillion (that's 17 zeros!) of these amazing insects are on the planet at any one time. Put another way, they make up a large proportion of the animal biomass — up to 25% in tropical environments. There are an estimated 22,500 species globally, but only around 12,500 have been identified.

Ants have been able to exploit virtually every environment on the planet (excluding Antarctica, which is ironic given the name)! Their success is attributed to the social organisation of their colonies, which allows them to efficiently exploit changing food resources and colonise new environments. It is this flexibility in diet and adaptability to new environments that have made ants among the worst invasive species, causing environmental headaches around the world.

For homeowners and business owners, ants are not really associated with any disease transmission, although they can cause some problems in hospitals and health establishments. However, some species are certainly capable of nasty stings and bites, which can be painful and may cause allergic reactions. But for most, ants are just a plain nuisance and are actually considered the number one pest in the US, primarily due the difficulty in gaining control.

Ant control can be difficult — but is not impossible! Until relatively recently, pest professionals may have been able to blame the lack of suitable products for their inability to gain control. However, this is certainly not the case now. With the arrival of the next generation of sugar based ant baits (gels as well as liquids) and the use of non-repellent insecticide sprays, the pest professional now has the tools to control almost any ant problem.

The key point for ant control is to avoid the use of pyrethroid sprays. Although these will kill ants that contact the spray, they tend to be repellent. The result is that the ants often avoid treated areas and the problem is then moved elsewhere on the property, solving nothing. Sometimes it can actually make it worse, as nests may move to a new location and indeed the queens in some species increase egg production when disturbed in this way. Furthermore, the repellent action is weak and is generally of short duration. It's not surprising that the use of pyrethroid sprays often result in callbacks, and why some pest professionals avoid ant jobs.

However, with the products available now, there's no excuse to turn down ant jobs, but remember, many control programs may require more than one visit, so cost the treatment accordingly. Success though is not down to having good products; you need to know how to use them. As with any pest treatment, a full inspection is needed to determine the full extent of the problem.

Correct identification of the species present and location/size of the nest(s) are essential before planning your control strategy and deciding on your choice of products. To this end, we have provided identification tips and control recommendations on the key ant species in Australia. Hopefully this article will provide the knowledge to give you the confidence to take on ant jobs, and even offer a service free period!

(Note: With the lack of non-repellent dusts labeled for ants, there is still a role for permethrin dusts, for example around electrical areas).

Know your ants and be "confidant" of control...

There are thousands of ant species in Australia, some of which have not even been identified. However, pest control professionals will only regularly come into contact with a handful of the common species. Ants can be grouped in various ways, often scientifically or by feeding preferences. Here we group the common ant species by the location they are commonly found; indoor, indoors/outdoors, and outdoors.

**INDOOR ANTS**

**Black House ant** *(Ochetellus glaber)*

**Identification:** Small black ant, 2-3mm long. Legs and antennae brownish (which can cause confusion with white-footed ant). Petiole is thin and high, 2.5 x as high as long (absent in white-footed ant).

**Distribution:** East coast of Australia

**Nest locations:** Under rocks and wood in gardens. Often make nests in roof voids under insulation and in wall voids.

**Food preference:** Sugary foods

**Recommended control:** Use of sugar-based baits delivers great results

**Key point:** Take time to locate the nest and ensure correct identification.

**White footed ant** *(Technomyrmex albipes)*

**Identification:** Small brown/black ant, 3mm long. Legs pale, ends white. Petiole is very reduced/absent.

**Distribution:** QLD, NSW

**Nest locations:** Typically under rocks and logs but can also be arboreal. Will build nests in wall voids.

**Food preference:** Strong sugar preference, but also like protein.

**Recommended control:** Sugar based baits alone do not often provide complete control. Treat nest sites
(especially nests in wall voids) and active areas with non-repellent liquid insecticides and dusts.

Key point: The most difficult "house ant" to control. Nest can be very large with multiple reproductives (up to half the colony can be made up of fertile female workers called inter-castes), spread over multiple locations. New colonies can also start up through budding. As such control with baits is difficult. (There is some debate as to whether trophallaxis occurs in this species).

Other "black" ants

There is a range of other species of small black ants found in and around homes. Most can be controlled with high quality sugar based baits, sometimes in combination with non-repellent sprays.

Singapore ant

*(Monomorium destructor)*

Identification: Light brown (head and thorax) to dark brown (gaster) ant, 1.8 - 3.5mm long. Variable worker size - polymorphic.

Distribution: QLD, WA, NT (Tropical Australia).

Nest locations: In gardens and roof/wall voids, forming large colonies with multiple queens.

Food preference: Generalist feeder.

Recommended control: Granular baits, non-repellent sprays and dusts.

Key point: Tropical ant capable of extensive economic damage – chewing through insulation (plastic and rubber), damaging electrical cables (causing fires) and phonelines.

**Pharaoh ant**

*(Monomorium pharaonis)*

Identification: Yellow to reddish brown ant, 2.0 – 2.5mm long.

Distribution: QLD, NSW

Nest locations: Tropical/sub-tropical ant rarely found outdoors, preferring to nest indoors in a wide variety of location near warmth and water.

Food preference: Generalist feeder/scavenger, will even catch and kill invertebrates and small vertebrates.

Recommended control: Granular baits and non-repellent sprays.

Key point: Where a high population exists the whole area needs to be treated to achieve control.

**Argentina ant**

*(Linepithema humile)*

Identification: Monomorphic workers, 2-3mm. Medium to dark brown ant with smooth/shiny body surface.

Distribution: NSW, VIC, TAS, SA, WA

Nest locations: Surface nests in leaf litter, under sheeting and rocks. Also nest in and around houses.

Food preference: Generalist feeders, changing diet through the year. Protein preference higher in warmer months, when egg production highest.

Recommended control: Due to nesting habit and size of colonies, control often requires using multiple products. Baits should be used to control nest sites in and around houses – use of sugar based baits can deliver good results, depending on size of colony and time of year.
Use non-repellent sprays to keep ants out of buildings.

**Interesting point:** Colonies have multiple queens and new colonies form through budding. Colonies can develop over large areas, supercolonies stretching up to 6,000km have been identified in various parts of the world making eradication impossible.

### Carpenter ants

**Identification:** There are a number of carpenter ant species, perhaps the most common is the banded sugar ant (*Camponotus consobrinus*), which is easily identified by its large size (>1cm) and black and orange/brown banded coloration.

**Distribution:** Australia wide (except WA)

**Nest locations:** Outdoor and indoor in moist/decaying wood, soil and under rocks.

**Food preference:** Generalist feeders but have a preference for sugar.

**Recommended control:** Sugar based gel baits work well, but with larger colonies (which can be spread over multiple sites), use in combination with non-repellent sprays.

**Interesting point:** Nocturnal species.

### Green-headed ant (*Rhytidoponera metallica*)

**Identification:** Black ant with metallic green sheen, 5-7mm long.

**Distribution:** Australia wide

**Nest locations:** In soil in open areas (such as lawns) or under rocks.

**Food preference:** Generalist feeders but a preference for animal material (they are scavengers and predators).

**Recommended control:** Non-repellent insecticide spray or granular bait.

**Key point:** These ants can deliver a painful sting (not bite). In some it can cause an allergic reaction, for which medical attention should be received.

### Funnel ant (*Aphaenogaster pythia*)

**Identification:** Small brown ant up to 4.0mm long. In contrast to the big-headed ant, it has monomorphic workers. Nests with obvious funnels above ground.

**Distribution:** Australia wide (excluding Tasmania)

**Food preference:** Feed on seeds and sugar excretions from aphids that feed on the roots of grasses.

**Recommended control:** Treat nests or affected lawn areas with a non-repellent spray.

**Key point:** Treatments can last several months but re-invasion of treated areas will eventually occur. Treatment of neighboring areas will increase residual performance.

### Meat ants (*Iridomyrmex purpureus*)

**Identification:** There are a number of meat ant species in Australia, perhaps the most common is the common meat ant or gravel ant (*Iridomyrmex purpureus*), a large purple/black ant around 1cm.

**Distribution:** Australia wide

**Nest locations:** Build nests underground and make obvious mounds of dirt and stones (also called gravel ants).

**Food preference:** Generalist, but preference for animal material.

**Recommended control:** Non-repellent insecticide spray.

**Interesting points:** Sometimes apparently individual nests are actually interconnected parts of the same colony, spreading over hundreds of metres. Only forage during the daytime. Able to kill cane toads!

### Bulldog ant (*Myrmecia sp.*)

**Identification:** Large ants with very obvious eyes and large jaws. Up to 40mm. Brown, red or black.

**Distribution:** Australia wide

**Nest locations:** Builds discrete nests underground, in a variety of natural habitats. Small nest entrance.

**Food preference:** Although they do feed on plant nectar and other plant juices, they target animal prey.
Bulldog ant (Myrmecia subterranea)

Identical with reddish brown ant with dark brown/black abdomen. Highly polymorphic with ants ranging from 2-6mm.

Distribution: SE QLD

Nest locations: In undisturbed open areas, if available, next to another object on the ground. Mound is sometimes obvious, made of fine soil material with no obvious entrance. Sometimes found in buildings next to electrical equipment.

Food preference: Generalist feeder including oily and sugary foods. However, prefers a protein-rich diet.

Recommended control: No products are specifically labeled for Bulldog ants, but non-repellent insecticide sprays are suggested.

Key point: Can deliver very painful stings, occasionally results in severe allergic reaction that requires medical treatment. Also known as Bull ants or Jumper ants, due to their capability for sudden, "jumping" movements.

Fire ant (Solenopsis invicta)

Identification: Reddish brown ant with dark brown/black abdomen. Highly polymorphic with ants ranging from 2-6mm.

Distribution: SE QLD

Nest locations: In undisturbed open areas, if available, next to another object on the ground. Mound is sometimes obvious, made of fine soil material with no obvious entrance. Sometimes found in buildings next to electrical equipment.

Food preference: Generalist feeder including oily and sugary foods. However, prefers a protein-rich diet.

Recommended control: Refer any suspected fire ant activity to Biosecurity Queensland.

Key point: Biosecurity Queensland is managing an "eradication" program. So far the infestation has been relatively contained.

*Dr Phil Ridley was formerly Asia Pacific Business Manager for DuPont Professional Products. He has a PhD in entomology, has vast experience with ants, and is well placed to provide tips on their identification and control. He now runs Vanguard Pest Solutions, which provides pest control services to residential customers and consultancy services to the pest industry as well as Bug Doctor Media, which develop marketing and technical material for the pest industry and educates the public on all matters pest control. Phil can be contacted at phil@vanguardpest.com.au

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