

SOME ANT MACROS

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Introduction

See the article “Some Fly Macros” in the April 2015 issue of Micscape Magazine for an introduction to my macro photography. Here 12 of the ant genera found locally are imaged to show some of the various forms these tiny insects exhibit. In other parts of the world there are some really bizarre ants; many illustrated in AntWeb.

The common names used here are from Ellison *et al.* 2012. “A Field Guide to the Ants of New England”. Yale University Press.



The Ants

Ants, of course, are Insects in the **Order: Hymenoptera** which includes the bees, wasps, and sawflies as well as the ants. The ants are placed in their own **Family: Formicidae**. The family is further subdivided into Subfamilies, Genera, and finally Species.

In North America there are 10 Subfamilies, 73 Genera, and about 1,000 species. Where I live in New Brunswick, Canada, there are perhaps 15 genera and about 60 species. Within genera species identification is often difficult. However, it is relatively easy to place an ant into its correct genus.

Most local ants are small, about 5mm or less for the workers and perhaps 13mm for the queens of some of the larger species. At 5mm the workers make interesting subjects for macro-photography; here I will show some of the different genera I have been able to find in the last couple of years.

1] Subfamily Ponerinae, The Wretched, Laboring Ants, *Ponera*

These are regarded as primitive ants more closely related to the wasps than are the other subfamilies. Note the constriction between the true 2nd and 3rd abdominal segments (Fig.1 , c) and the rather large sting (Fig. 1, s). These are tiny ants, about 3mm, living in leaf litter and beneath rocks.



Fig. 1 . *Ponera pennsylvanica*

2] Subfamily Dolichoderinae

Locally, there are 2 genera in this subfamily:

2.1 The Long-necked Ants, *Dolichoderus*

None of the local species has a long neck but all have the overlapping arch at the rear of the anterior body division (Fig. 2, a) and thus go by the common name of ‘bottle-opener’ ants. This *D. plagiatus* is about 4 mm and lives in small colonies (<100 workers) in clumps of grass or hollowed-out twigs.

Fig. 2 . *Dolichoderus plagiatus*



2.2 The Odorous House Ant, *Tapinoma sessile*

The other genus in the Subfamily Dolichoderinae includes this very common species. In contrast with *Dolichoderus*, species of *Tapinoma* have a reduced petiole (waist) (Fig. 3, a) which is also hidden by the overhanging 1st segment of the gaster (Fig. 3, b). This species often enters houses where it forages for sugar on kitchen counters. Said to smell of over-ripe bananas when squeezed, hence the common name.

Fig. 3. *Tapinoma sessile*



3] Subfamily Formicinae

Locally, there are 4 genera in this subfamily:

3.1 The Short Ants, *Brachymyrmex*

Only one species is found locally, **The Little Hairless Ant** - *Brachymyrmex depilis*. These ants are minute, a body length of about 1.5 mm and can be separated from other members of the subfamily by their 9-segmented antennae (Fig. 4, a); 12 segments in other species. Nests under moss, stones, wood on or just below the soil surface.



Fig. 4 . *Brachymyrmex depilis*

3.2 The Ants with Bending Backs, *Camponotus*

Of the several species in this genus the one I find most commonly is **The New York Carpenter Ant** – *Camponotus novaeboracensis*. The female workers are of three sizes (castes): majors with a body length of about 13 mm, intermediates, and minors with a body length of about 5mm. Nests are in living trees, tree stumps, downed wood, and under rocks.



Fig. 5. *Camponotus novaeboracensis*

3.3 The Ants, *Formica*

Of the many species in this genus by far the commonest is **The Somewhat Silky Ant** – *Formica subsericea*. Nests are mainly underground and may appear as flat discs of excavated soil on the surface. Found just about everywhere including roadsides, gardens, and lawns.

Note the “saddle” , somewhat offset dorsally between the 2nd and 3rd legs. A feature of species in this genus that helps separate them from *Camponotus*.



Fig. 6. *Formica subsericea*

3.4 The Fuzzy Ants, *Lasius*

These are small, <4 mm, subterranean brown, orange, or yellow ants (Fig. 7) with small eyes and indistinct, or not visible ocelli (Fig. 8, left); compare with face of *Formica* with 3 distinct ocelli (Fig. 8, OC). One rare local species, *Lasius minutus*, is unusual in that it builds large mounds in cedar bogs.



Fig. 7. *Lasius* sp.



Fig. 8. Faces of *Lasius* & *Formica*

4] Subfamily Myrmicinae

Ants in this subfamily are recognized by the presence of a postpetiole Fig. 9, a) showing the ‘waist’ as a two-segmented structure. Several (as yet undetermined) genera are found locally including:

4.1 The Dull-gastered Ants, *Aphaenogaster*

Ants in this genus are recognized by their profile referred to as “broke-backed ants” (Fig. 9, b). I have found only one species in this genus:

The Pitch-black *Aphaenogaster* – *Aphaenogaster picea* is recognized as having the last four segments of the antenna paler (Fig. 9, c) than the preceding segments and a mesanotal peak (Fig. 9, d) raised above the pronotum.



Fig. 9. *Aphaenogaster picea*

4.2 The Thin Ants, *Leptothorax*

The common name for these ants is based on their slender mesosoma (Fig. 10, a). Several species, including some undescribed, that are not easy to identify to species. The ants are similar to species in the genus *Temnothorax* but can be separated by several features including the shorter peduncle (Fig. 10, b)



Fig. 10. *Leptothorax* sp.

4.3 The Ants, *Myrmica*

Species in this genus differ from others in the subfamily by having very fine teeth on the tibial spines (Fig. 11, a; Fig. 12, a). They also have heavy sculpturing on the body (Fig. 11, b) and usually long propodeal spines (Fig. 11, c). Of the few specimens I have collected I have found it almost impossible to identify them to species.

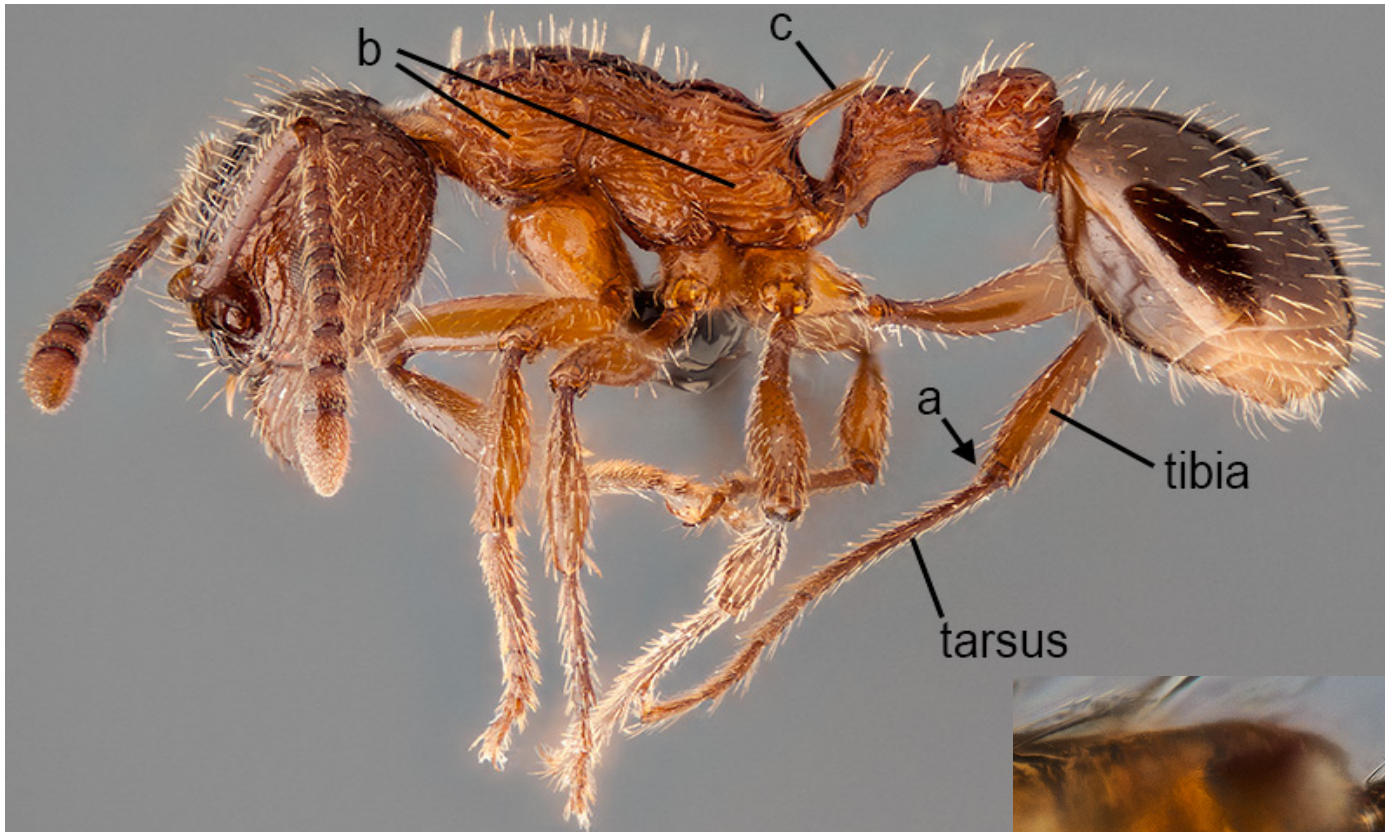


Fig. 11. *Myrmica* sp.

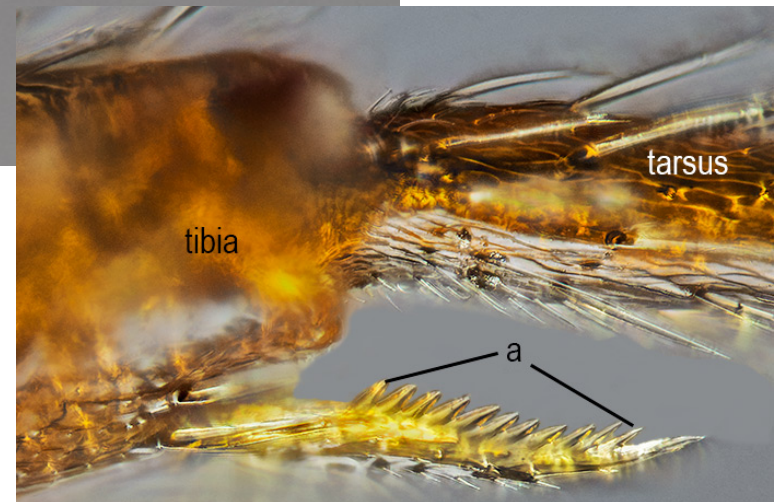


Fig. 12. Tibial spine of *Myrmica* showing toothed margin (a)

4.4 The Slender Ants, *Stenamamma*

A genus of small, <4 mm, litter-dwelling ants not commonly collected with 3 species known from my area. Recognized by their 4-segmented antenna club (Fig. 13, a), short antennal scapes (Fig. 13, b), eyes with very few facets (Fig. 13, c), and short propodeal spines (Fig. 13, d).

4.5 The Divided Ants, *Temnothorax*

The common name is not especially appropriate as only one species in NA has a constriction between the 2nd and 3rd segments of the thorax. Very similar to *Leptothorax* species but distinguished by having five-toothed mandibles (Fig. 14, a); 6 teeth in other genera. *Temnothorax longispinosus* is a small, 3 mm, black ant with long propodeal spines (Fig. 15, a) and with the top of the head smooth and shiny (Fig. 15, b). Found under rocks, tree bark, and even nesting in acorns.



Fig. 13. *Stenamamma* sp.



Fig. 14. *Temnothorax* mandibles



Fig. 15. *Temnothorax longispinosus*