One of the best-studied ant fossil deposits dates from the Middle to Late Eocene period (34–42 myo): the Baltic amber. Mayr (70) and Wheeler (111) produced the first taxonomic treatments, but a host of more recent studies have followed. This deposit is important from a number of perspectives, such as its high species diversity (with 118 species; 29), and a significant portion of its identified genera (9%; 29) known today only from the tropics, including *Oecophylla*, *Gesomyrmex*, *Pristomyrmex*, and *Tetraponera*, among others. Wheeler (112) first noted that the Baltic amber was unusual in part because it contains a mixture of both thermophilic and temperate genera. Archibald & Farrell (2) addressed this observation, considering two possibilities that either the Baltic amber forests were tropical/subtropical or that there was less pronounced seasonality in this area than is observed today (the area had milder winters). They concluded that the latter hypothesis was more likely the explanation for this seemingly strange mixture of ant faunas. This is an interesting observation because it implies that what are considered tropical ant genera today may in fact have been associated originally with a more mild, temperate climate.

The first record of polymorphism among worker ants is noted in specimens from Baltic amber. Dimorphic worker specimens (majors and minors) of *Gesomyrmex hoernesi* and *Pheidologeton* sp. have been discovered (31, 111). Ergatoid conditions have been reported for both a male ant (*Anonychomyrma constricta*; 111) and a gyne (*Plagiolepis klinsmanni*; 25) from Baltic amber fossils. Baltic amber fossils have also given insights into other aspects of ant biology. For instance, several fossil ant species (*Ctenobethylus goepperti*, *Lasius schiefferdeckeri*, *Prenolepis henschei*, and *Monomorium mayrianum*) have been found as syninclusions with aphids (Hemiptera: Aphididae: *Germaraphis*), which may be an indication of trophobiotic interactions between the ants and the aphids (e.g., 79). However, due to the presence of wax-secreting structures on the aphids, some authors have doubted that the ants and aphids were associated (50). Wheeler (112) reported a mite on *L. schiefferdeckeri*.

If we examine the three most-speciose extant ant subfamilies (Dolichoderinae, Formicinae, and Myrmicinae), approximately 50% or more of the species from the Eocene are from genera that are extant (**Supplemental Figure 8**). In fact, some fossil species look remarkably similar to extant species. A classic example involving apparent morphological stasis in worker morphology from the Eocene is observed in the common Baltic amber species *Prenolepis henschei*. Wheeler (112) was the first to note that workers of this species looked morphologically very similar to the extant and widespread Nearctic *Prenolepis imparis* (which is also incidentally morphologically very similar to the extant European *Prenolepis* species, *P. nitens*). LaPolla & Dlussky (64) noted differences between the male genitalic structures of *P. henschei* and *P. imparis*, but the morphological similarities among the workers of these two species broadly links the modern fauna back to the Eocene.

From the Oligocene onward (23–34 myo) the percentage of ants as a total of insects found in fossil deposits rises. In the Florissant shale, 20% of insects are ants (13). Carpenter (13) reports a dominance of two subfamilies in the Florissant: Dolichoderinae (ca. 63%) and Formicinae (ca. 33%). In the French deposit of Aix-en-Provence, the Dolichoderinae and Myrmicinae are among the most common ants, each composing approximately 36% of the ants. The Formicinae are the third most commonly encountered ants (ca. 27%) (106).

The Dominican amber (16–19 myo) found in Hispaniola is arguably the best-studied ant fossil deposit in the world. In fact, ants are the largest single group of arthropods known from Dominican amber, with upward of 24%–36% of all fossil insects being ants. Dominican amber in many respects is essentially a modern ant fauna, but there have been notable extinctions since the amber was formed (113). Although fewer than 10% of the genera known from Dominican amber are globally extinct (113), some groups that existed on Hispaniola in the Miocene are absent today. For instance, there were army ants on Hispaniola in the Miocene, but today army ants are not found in the Greater Antilles (113). An interesting dolichoderine putatively placed in the genus *Leptomyrmex* (*L. neotropicus*) was discovered from Dominican amber (5). Today *Leptomyrmex* is