



Fig. 6. Queen petiole shape and pilosity. Drawing scales are adjusted to equalize petiole size in figure. A. *beltii*. B. *pittieri* complex (JTL-007 and *longiceps* are the same). C. JTL-003. D. JTL-001. E. JTL-002.

occupy dead nodes of a *C. alliodora* tree. In the Neotropics these include members of the genera *Crematogaster*, *Dolichoderus*, *Tapinoma*, *Camponotus*, *Leptothorax*, *Pseudomyrmex*, *Brachymyrmex*, *Zacryptocerus*, *Paratrechina*, and others. A smaller number of generalist inhabitants of live stems may be available to occupy live nodes, and part or all of a crown may be inhabited by one or more colonies of these generalists. These include some species of *Crematogaster*, *Pseudomyrmex*, *Zacryptocerus*, and *Azteca*. These live stem generalists may have small colonies in one or a few nodes, or they may form large, dominant colonies that occupy much of the tree. Generalist inhabitants of *C. alliodora* show no obvious specialization for use of the plant. They are often scavengers and omnivores, and forage both on and off the plant. Species that form large, dominant colonies are not necessarily restricted to a single tree. Their large, polydomous colonies may extend into the surrounding vegetation.

In contrast to these generalists, a smaller

pool of available colonists make specialized use of *C. alliodora*. They usually form large, dominant colonies, occupying most or all of a live crown, and they are typically the most common inhabitants in an area. Their nest space is entirely within a single tree (or tight cluster of trees if from stump sprouts), and they do not forage off the tree. In spite of their local abundance in *C. alliodora* trees, they are never found nesting elsewhere, which suggests that they are obligate host specialists. The *Azteca pittieri* complex and, at least locally, *Azteca* JTL-003 appear to be the dominant or primary host specialists in Costa Rica.

Not all host specialists are dominant ants. The most ubiquitous inhabitant of *C. alliodora* is *Zacryptocerus setulifer* (Emery). This myrmicine ant has phragmotic soldiers which plug the entrance to the nest with their perfectly circular heads. They are inconspicuous and timid ants. They are capable of coexisting in the same tree with any of the above dominant ants, and they can live in trees without a dominant ant colony. They appear to be an obligate