

## *Ectatomma ruidum* (Cayenne Ant)

Order: Hymenoptera (Ants, Wasps and Bees)

Class: Insecta (Insects)

Phylum: Arthropoda (Arthropods)



**Fig. 1.** Cayenne ant, *Ectatomma ruidum*

[<http://www.pbase.com/ctranter/image/144565075>, downloaded 6 March 2015]

**TRAITS.** This is a medium sized species with the worker measuring about 7-9 mm in length (Schatz et al., 1997) and the large queen 11-12 mm (Weber, 1946). The average weight is about 8 mg (Schatz et al., 1997). Its body is a dark reddish brown to blackish brown in colour with the appendages a lighter, rust-like colour (Fig. 1). The body is coarse and irregularly wrinkled with hair protruding from the surface, and the mandibles (the appendages projecting near to the mouth) have a serrated edge (Weber, 1946). Some individuals, either male or female, possess wings with the macrogynes (large queens) having a larger wing surface than the microgynes (small queens) (Lachaud et al., 1999).

**DISTRIBUTION.** This is a Neotropical species with its distribution ranging from southern Mexico to Brazil (Schatz and Wcislo, 1999). Some places in which it has been recorded are Honduras, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Nicaragua, Guadeloupe, Trinidad and Tobago and Guyana (Weber, 1946).

**HABITAT AND ACTIVITY.** This ground nesting species (Weber, 1946) is typically found in disturbed habitats where the ground is exposed to the sun (Breed et al., 1999). It is abundant in both tropical moist and dry forests, savannahs and cultivated areas such as cocoa plantations (Santamaría et al., 2009). Their nests are very simple being just a hole in the ground (Weber, 1946) not much wider than the ant itself (Fig. 2). The opening is on average about 3mm wide (Passera et al., 1994). It is a diurnal species (Vasquez-Ordonez et al., 2012) which means that they are active during the day time. Despite the climate, they prefer to be in open spaces that are exposed to the sunlight (Santamaría et al., 2009). It has been observed that the activity of workers peak about three times per day suggesting that their rhythm of activity is triphasic (Schatz and Wcislo, 1999).

**FOOD AND FEEDING.** It is considered to be a generalist consumer (Passera et al., 1994). This means that they do not depend solely on one food source and is capable of adapting to the variety of available resources. It is an omnivore feeding mainly on nectar (Fig. 3) and small invertebrates (Breed et al., 1990) such as bees. It is also described as a multi-trophic agent (Santamaría et al., 2009) which means that it has the ability to fill different trophic levels.

**POPULATION ECOLOGY.** It has been described as a dominant species (Vasquez-Ordonez et al., 2012) due to its presence in such a variety of habitats and the large number of nests that is usually found in any given area where they exist. On average nest density can range between 2700 and 11200 nests/ha (Lachaud et al., 1999). Individual nest can typically have anywhere from 50 to 100 individuals (Passera et al., 1994). The colonies are described as monodomous (Breed et al., 1999) simply meaning that all the ants of one colony live in a single nest. The workers are known to be solitary hunters (Passera et al., 1994) foraging for food by themselves. However, they are known to occasionally utilise mass recruitment techniques based on the weight and size of their prey (Schatz et al., 1997). This species is known to be parasitized by two species of *Kapala* wasps (Eucharitidae) (Vasquez-Ordonez et al., 2012)

**REPRODUCTION.** Colonies are mostly monogynous (Breed et al., 1999) that is, having only one reproductive queen but some mature colonies may be polygynous (Lachaud et al., 1999), having more than one reproductive queen. Insemination of a queen occurs via a single male (Passera et al., 1994). After insemination, a queen can either remain in the colony or move on to form a new colony (Lenoir et al., 2011). A reproductive strategy utilized in polygynous colonies is the presence of microgynes, which are miniature queens (Lenoir et al., 2011).

**BEHAVIOUR.** Individuals are divided into different categories based on their function. For example the foraging ants are divided into sugar-collectors, hunters, nest-maintenance workers, patrollers and unspecialized intermediates (Schatz et al., 1996). Workers usually forage in the areas around their nest and will continue to forage in this area as long as food is present (Passera et al., 1994). An interesting behaviour exhibited by this species is that of cleptobiosis (Guénard and McGlynn, 2013). Cleptobiosis is where specialized foragers steal food from other colonies

by either intercepting the other ants as they enter their nest or themselves enter the nests of other colonies and steal the food (Breed et al., 1999). To enter the other colonies, they use camouflage and/or chemical imitation (Breed et al., 1999). Foragers use this as an alternative strategy in the face of competition or limited food availability (Guénard and McGlynn, 2013). This species is largely known as predatory (Weber, 1946). They rely on visual cues and chemical or pheromone trails (Schatz and Wicslo, 1999) to search for prey. They use an ambush tactic as they wait at the nest entrances of their prey in order to attack them. Upon successful seizure, the ant stings their prey and transports them back to the nest (Schatz and Wicslo, 1999). These ants are observed to utilise a chemical communication system (Jaffé and Marquez, 1987).

**APPLIED ECOLOGY.** Because it is an efficient predator and has an ecological impact on insect pests, this species has been proposed as a potential biological control agent (Weber, 1946).

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Posted online: 2015



**Fig. 2.** *Ectatomma ruidum* emerging from a nest.

[<http://www.pbase.com/ctranter/image/144565209>, downloaded 22 March 2015]



**Fig. 3.** *Ectatomma ruidum* feeding on the nectary of an *Inga* leaf.

[<http://www.photoextract.com/plus-extract/2012/11/24>, downloaded 22 March 2015]