

This document was produced by the COLEACP Research and Innovation department as part of (i) the Fit For Market SPS programme, implemented by the COLEACP to promote development cooperation between the Organisation of African, Caribbean and Pacific States (OACPS) and the European Union and (ii) STDF Cameroon funded by the Standards and Trade Development Fund (STDF).

## IDENTITY

Latin name	<i>Wasmannia auropunctata</i>
Common name	Little fire ant or electric ant
Taxonomic classification	<i>Insecta: Hymenoptera: Formicidae: Wasmannia auropunctata</i>



Figure 1 - Little fire ant

## MORPHOLOGY

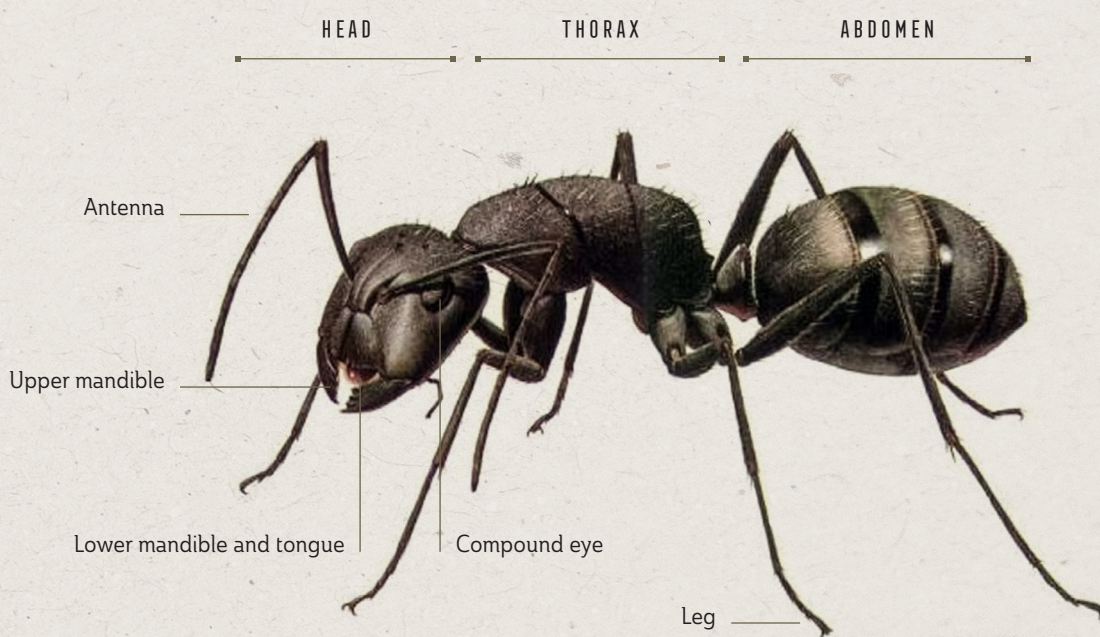


Figure 2 - Anatomy of a little fire ant



## DESCRIPTION

- Body made up of three main parts: head, thorax and abdomen.
- Average total length: 1.5mm.
- Main colour of insect: pale brownish-yellow.
- Abdomen darker than the rest of the body; smooth cuticle.
- Body covered in long, patchy, upright hairs.
- Ant's life span: 11-14 months

## DEVELOPMENT CYCLE

- Eggs
  - Maximum fertility: 70 eggs per day.
  - Oval shape, around 1mm long.
  - White or yellowish.
  - Period between eggs being laid and hatching: 1 to 2 weeks.
  - Length of maturation from egg to adult:  
Around 60 days depending on the temperature.
- Larvae
  - White, usually with a dark mark in the centre.
  - They are metamerised, meaning they are made up of different segments.
  - Ringed body, often with bristles.
  - Length of larval stage up to nymph:  
2 weeks to 1 month
- Pupa/nymph
  - Adult forms emerge.
  - Various parts of the adult's body take shape.
  - Unlike the larvae, the nymphs do not feed.
  - From the nymph to the adult: one week to one month.
- Adult
  - Workers:
    - 1.2mm-1.5mm, golden brown to dark brown.
    - Monomorphic species (a single caste), average life span: 45 days.
  - Sexual females (Queens):
    - 4.5mm-5mm, darker colouring than the workers, life span 11-14 months, high number of eggs laid (up to 73 eggs in 24 hours), which gradually falls over the life span (down to only five eggs at the end of the life span).
  - Males:
    - 4.5mm-5mm, darker colouring than the workers, life span between a few days and a few weeks.



Figure 3 - Cluster of ant eggs



Figure 4 - Ant larvae in an anthill



Figure 5 - Ant nymphs

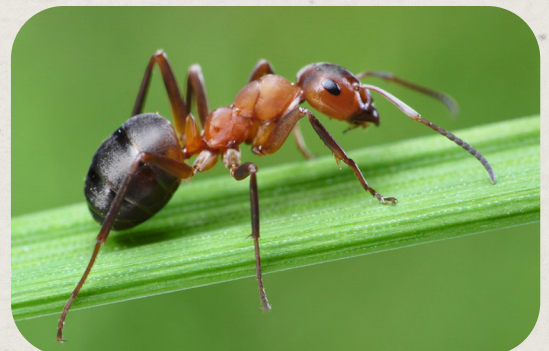


Figure 6 - Adult ants



## HABITAT AND CONDITIONS CONDUCTIVE TO ITS DEVELOPMENT

- Habitat: soil (leaf litter); clusters of leaves; rotting wood; underneath rocks; underside of branches of certain trees; pepper plant support trees.
- Period when insect most likely to appear: dry season (November to May: pepper harvesting period).
- Mutually beneficial relationship with mealybugs (especially *Coccus viridis*): insects which bite into sap and secrete large amounts of honeydew. This honeydew is an excellent nutritional substrate for a fungus that blackens leaves with a felt-like coating called sooty mould. This secondary pest alters the function of chlorophyll and can lead to dieback in plants (pepper plants and support trees).



Figure 7 - Mealybugs: *Coccus viridis*:  
Mutually beneficial relationship with ants

## SYMPTOMS AND DAMAGE



Invasive, biting ants: their bites are venomous, very painful and can trigger allergic reactions in people. Bites from little fire ants *Wasmannia auropunctata* can cause an extremely itchy skin reaction lasting several days.

Figure 8 -  
Swelling and rash on skin:  
Ant bites

## MONITORING STRATEGY

Careful inspections should be carried out regularly on pepper plants, support trees (between clusters of leaves and undersides of branches), leaf litter, rotting wood and under rocks because the ants do not build anthills or nests and can move location easily when necessary.

During this inspection, it is also important to look for mealybugs living in symbiosis with ants.

Swift detection of the presence of ants enables pepper plant producers to take timely decisions to reduce the level of infestation throughout the orchard.

- **Penja pepper producers are advised to carry out this inspection using an observation and monitoring sheet provided in the appendix.**



## GOOD FARMING PRACTICES TO COMBAT PROBLEM

- **Crop control:** regular maintenance of the farm and the surrounding area reduces the impact of ants in the orchard. This maintenance includes:
  - Pruning pepper plants and support trees (April/May, July/August) as well as ant host plants (coffee and fruit trees, etc.) nearby or combined with the pepper plants to prevent any excess shade.
  - Reducing the size of self-propagating plants and borders of the plots, where ants tend to settle.
  - Complying with planting density standards (spacing between plants).
- **Organic control:** no form of organic control against Formicidae has yet been successful (Ulloa Chacón & Cherix, 1994).
- **Control using plant protection products:** chemical treatment is the most common method used to combat infestations of little fire ants. It should be noted that no product is currently approved to combat ants on pepper plants (List of pesticides approved in Cameroon consulted on 4 March 2021). However, there are some commercially-available solutions authorised for other crops (see table below) that could be used on Penja pepper plants subject to prior authorisation from the competent authorities.

Solutions	Method of use	Status as per Regulation (EC) No 1107/2009	Crop-pest combination for which the active substance is approved in Cameroon	EU MRL for pepper
Imidacloprid 30g/l + Lambda-cyhalothrin 60g/l	0.75L cp*/ha	Imidacloprid: Not approved Cyhalothrin: Not approved	Miridae/cacao trees	Imidacloprid: 0.05* Lambda-cyhalothrin: 0.3
Cypermethrin 12g/l	4L cp*/ha	Cypermethrin: Approved	Caterpillars, lepidoptera and fruit flies/cacao trees	Cypermethrin: 0.1*
Deltamethrin 25g/l	0.5L cp*/ha	Deltamethrin: Approved	Fruit flies/tomato plants	Deltamethrin: 15

(\*) cp: Commercial product

(\*) Indicates the lower limit of the analytical determination



## APPENDIX: OBSERVATION AND MONITORING SHEET

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Campaign: .....

Date: .....

Plot code: .....

Vegetative stage: .....

Date of last treatment: .....

Product(s) used: .....

Observations: .....

## INFESTATION LEVEL

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Ants: .....

Comments: .....