

The Little Fire Ant

Wasmannia Auropunctata

(Also known as the Electric Ant)

General Overview

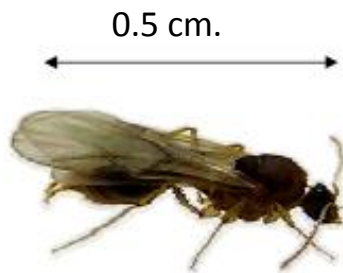
The ant in Israel: distribution, hazards and handling

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October 2009

The Little Fire Ant - Overview



Male



Winged queens



**A queen and (female)
worker**

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A comparison between workers

The Little Fire Ant
(*Wasmannia Auropunctata*)

1.5 mm.



Pharaoh Ant
(*Monomorium Pharaonis*)

2- 2.5 mm.



The Little Fire Ant - Overview

General biology

- **Omnivores**

Plants, bugs, honeydew of aphids

- **The ants nest in the ground, on vegetation**

They are affected by temperature – they like heat

They are affected by moisture – they like humidity

In the winter – workers and queens rise from deep underneath the soil, in-between the ground and rocks in order to keep warm.

In the spring – the workers bring the “children” up to the ground to keep warm, which also facilitates growth.

In the summer – nest are dug deeper into the ground, in search of moisture. The workers enter houses, searching for food and water.

The Little Fire Ant - Overview

General biology – cont.

- **Multiple queens in the nest:**

Numerous queens reside in the same nest.

- **Creation of Super-Colonies:**

There is no aggression between the different nests; there are tolerant relations between them.

- **Reproduction by budding:**

Non-flying queens.

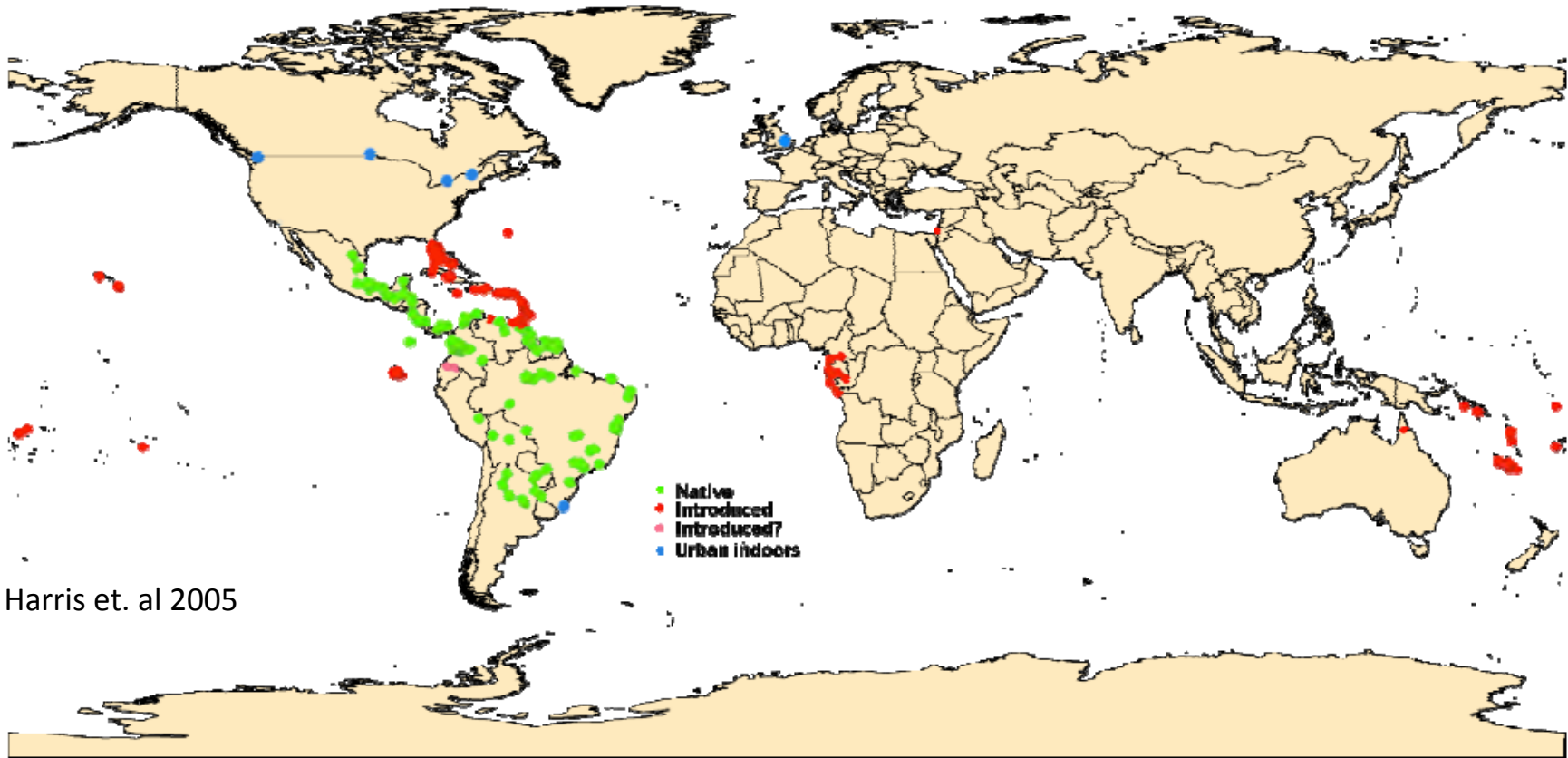
The workers drag the queen through a distance that is several meters long.

- Their sting is located at the tip of their abdomen; injection of venom

(Clark et. al. 1981; Passera 1994).

The Little Fire Ant – Overview

Global Distribution



After: Harris et. al 2005

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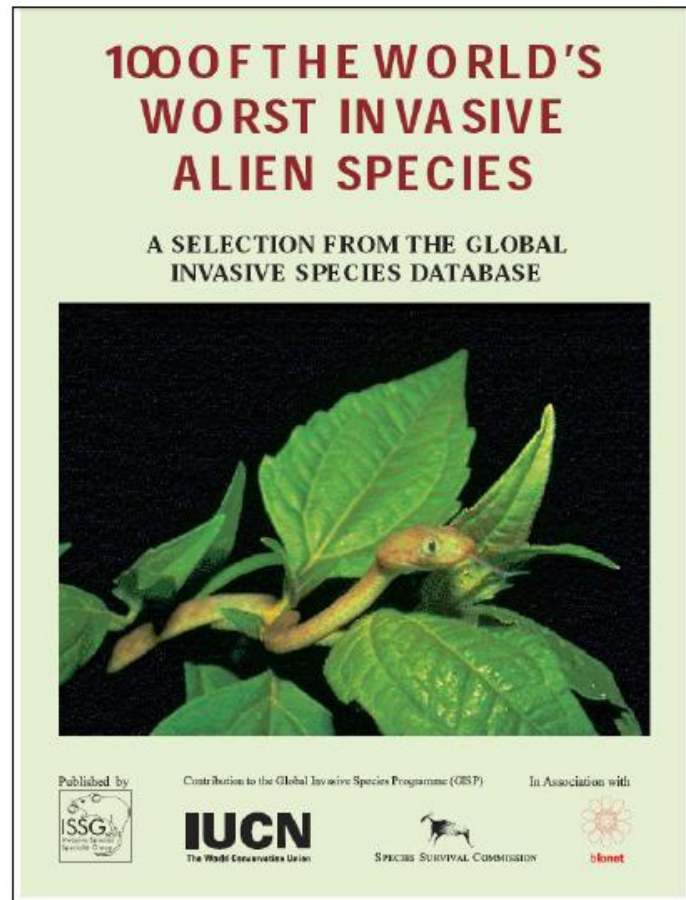
Appears on the 100 worst invasive species list



IUCN
The World Conservation Union



SPECIES SURVIVAL COMMISSION



The Little Fire Ant - Overview

Damages

Harm caused to humans:

- The ants penetrate homes in the summer.
- They bite numerously: in the home, the back yard and in the pool.
- The bite: a stinging sensation – like a burn, may last for hours and even days.
- May cause an allergic reaction.
- Hurts the quality of life.
- High treatment costs.

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Damages – cont.

The ants harm the composition of species: a decline in species diversity and in the overall number of species.

- Harm to invertebrates – mainly to other ants, as well as to spiders and beetles:
 - There are no natural predators in Israel (wasps).
 - Successful breeding – there are many worker ants – food is well preserved.
 - They eat other ants.
 - They use their sting to keep other ants away and to invade the nests of other ants.
- Harm to vertebrates – damage to the eyesight of domestic, farm and wildlife animals.



The Little Fire Ant - Overview

Damages – cont.

Agricultural crops:

- The ants cause damage to the agriculture of 35 countries.
- They cultivate harmful aphids.
- They are an extreme nuisance to gardeners and farmers.

The economy:

- The ants impair trade (plant nurseries, tree products, soil).
- They hurt tourism (guest houses, beaches).



The Little Fire Ant in Israel - Distribution

Cont.

- The ant is found in about **40** nationwide **towns and localities**.
- It is found on **one nature reserve** – the Jordan Rebel Legion Reserve.
- Found in **6 plant nurseries**.
- The ant was discovered for the first time in the Jordan Valley Settlements.
- Three distribution centers: the Jordan Valley, Hasharon area and the Dan region (“Gush Dan”).
- The ant is most typically found in irrigated gardens located in towns and localities /settlements.
- Found on the periphery of agricultural areas.

The Little Fire Ant in Israel

Distribution and Circulation

- The ants first came to Israel about 10 years ago.
- They presumably made their way on imported tree logs, designated for the Afikim Kibbutz.
- Their population originated with one queen and one male.
- There is one super colony in all of the state of Israel.
- The ants are distributed within Israel by:
 - Humans
 - Trees and tree products (trailer)
 - Plants
 - Soil
 - Tree pruning (?)



The Little Fire Ant in Israel

Measures for Coping with the Hazard

Insecticides:

- Granular ant bait type **siege pro** – contains 0.73% hydramathylnon.
- Effective in **eliminating** nests – effective against workers and **queens**.
- There is not a full, 100%, success rate.
- Not effective on wet surfaces.
- Disintegrates in strong sun light.
- Registered at the Ministry of Agriculture:
 - Useable on agricultural fields and farmlands, gardens and plant nurseries.
- Registered at the Ministry of Environmental Protection:
 - Approved for domestic use.
- The substance is allowed for use **only** when the written instructions on the label are followed.



The Little Fire Ant in Israel

Measures for Coping with the Hazard – cont.

Pest control techniques:

- Localized / spot spraying treatments: in the homes, on trees, in small areas.
- Broadcast spraying - expanded and large areas:

Airborne dispersal – by
helicopter



Source: The Nature and Parks
Authority

Manual/ physical
dispersal – by a disperser



Source: Beit Zera Kibbutz

Mechanic pest control –
by tractor



Source: Beit Zera Kibbutz

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Measures for Coping with the Hazard – cont.

Pest control methods:

- **Do not exterminate on wet surfaces** – do not exterminate in the winter; lawns, gardens and plants should not be watered 2 days prior to the extermination, on the day of the extermination and on the day following the extermination.
- Exterminations should be executed during the **early morning hours** or the **late afternoon hours**, when the sun light is not strong.
- Extermination should be carried out within 2 weeks of the extermination orders.
- The **Ministry of Environmental Protection** should be notified of the planned extermination and of the date on which it will take place.
- The **success of the extermination** should be evaluated a week following treatment and in case needed, **targeted touch-ups** should be performed.

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Measures for Coping with the Hazard – cont.

Pest control – general:

- Other substances:

Other registered pesticide substances are effective against worker ants **only**.

- Cooperation:

The success of these measures depends on the **cooperation** of the residents.

- New substances and coping measures:

Additional substances are being tested in infested areas by the Tel Aviv University labs and by pesticide importers.

All the tests are conducted in coordination with the Ministry of Environmental Protection and the Ministry of Agriculture.

It is strictly prohibited to conduct tests on additional substances in infested areas without coordinating in advance with the Ministry of Environmental Protection and the Ministry of Agriculture!!

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Measures for Coping with the Hazard – cont.

Closure orders / provisions:

- Shutting down infested and untreated plant nurseries.
- Preventing removal of untreated tree pruning / waste from infested areas.
- Preventing passive spreading.

Information for the public:

- The wide public – an information pamphlet on the Ministry's website, various media publicity.
- The professional sector – exterminators, gardeners, plant nurseries, veterinarians; conferences, professional literature publications.
- Residents in infested areas - information pamphlet, conferences.
- Ministry of Health- CEO Circular Document.

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Measures for Coping with the Hazard – cont.

Monitoring:

- A designated national project manager.
- Passive – inquiries made by the wide public and the professional community.
- Active – infested places, before and after pesticide control treatment.
 - New areas and regions suspected of being infested with the ants, as reported by the wide public, authorities, the professional community (exterminators, veterinarians, doctors).
 - New places in accordance with questionnaire findings in the infested regions.

The Little Fire Ant in Israel

2006-2008 Activity Summary

- **Pesticides:** 3 tons.
- **Cost of activity:** approximately 1 million NIS.
- **Success rate of the activities employed in the treated locations:**

High – a reduction in the infested region was observed, as was in the amount of ants – in 50% of the regions.

Moderate – no change was observed in the size of the infected area but there was a decline in the number of ants– in 30% of the locations.

Low – within the same location, some of the regions had a reduction in the infested area and in the number of ants but in other regions, a rise in the infested area and in the number of ants was observed – in 20% of the locations.

In the event that the presence of the Little Fire Ant is suspected, please report immediately to the Ministry of Environmental Protection hotline *7444!!!

Thank you.