Monomorium destructor **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae

Common name Singapore ant (English), Mizo-hime-ari (Japanese), destructive trailing ant (English)

Synonym *Atta destructor* , Jerdon
Myrmica basalis , Smith
Myrmica gracillima , Smith
Myrmica vexator , Smith
Myrmica atomaria , Gerstaecker
Myrmica ominosa , Gerstaecker
Monomorium ominosa , (Gerstaecker)
Monomorium basale , (Smith).

Similar species *Monomorium latinode, Monomorium mayri*

Summary Monomorium destructor (the Singapore ant) is described as a tramp ant as it is renowned for transporting itself around the world via human commerce and trade. Monomorium destructor is known to cause extensive economic damage in urban environments by gnawing holes in fabric and rubber goods, removing rubber insulation from electric and phone lines and damaging polyethylene cable.

view this species on IUCN Red List

Species Description
The length of workers is highly variable (Polymorphic) from 1.8 to 3.5mm. The body, from head to post petiole, is uniformly light yellow to dull brownish yellow. The gaster (swollen part of abdomen) is always darker. The head and body are mostly smooth, shining and unsculptured except on the very top of the head, which has fine transverse ridges (which are inconspicuous). The antennae have 12 segments, including a 3-segmented club. Club segments increase in size toward the apex. The eyes of *M. destructor* are relatively small, with 4-6 ommatidia in the longest rows. Mandibles have 3 strong teeth each; with a fourth tooth that is minute. Sparse body hairs cover the ant (Ferster *et al.* UNDATED; Harris *et al.* 2005).
Please click on AntWeb: *Monomorium destrutor* for more images and assistance with identification. The AntWeb image comparison tool lets you compare images of ants at the subfamily, genus, species or specimen level. You may also specify which types of images you would like to compare: head, profile, dorsal or label.
Please see PaDIL (Pests and Diseases Image Library) Species Content Page Ants: Singapore ant for high quality diagnostic and overview images.
Please follow this link for a fully illustrated Lucid key to common invasive ants [Hymenoptera: Formicidae] of the Pacific Island region [requires the most recent version of Java installed]. The factsheet on *Monomorium destructor* contains an overview, diagnostic features, comparision charts, images, nomenclature and links. (Sarnat, 2008)

Lifecycle Stages
Singapore ant (*Monomorium destructor*) form large colonies with multiple queens (Ferster *et al.* UNDATED).

Habitat Description
Singapore ants (*Monomorium destructor*) nest outdoors or in buildings, depending largely on whether they occur in tropical, semitropical or temperate regions. In northern Western Australia they do not live far from houses where they live above the ground in wall and roof cavities. They are present in some tropical, irrigated, lowland rice fields in the Philippines, and coconut plantations in Sri Lanka. In Florida they nest in soil (lawns) or buildings. On Tiwi Island and in Australia's Northern Territory, *M. destructor* nests were only associated with urban areas; while there was some spread into surrounding bush land, they appear to be unable to establish in undisturbed habitat. In the United Arab Emirates the ants are present in a wide range of habitats, especially irrigated gardens and disturbed habitats close to water. In the Caribbean they were found nesting in trees in citrus orchards (in hollow twigs and branches) and on the ground (Collingwood *et al.* 1997; and Harris *et al.* 2005).

Nutrition
The Singapore ant (*Monomorium destructor*) is a slow moving ant that forages along narrow trails. A generalist with a broad diet of living and dead insects, insect eggs, carbohydrates from tending sap-sucking insects, nectar, seeds; it will forage for sweets, fats and proteins. In households they will feed on almost any food available. *M. destructor* foragers are slow to find food compared with other tramp ants (Ferster *et al.* UNDATED; and Harris *et al.* 2005).

General Impacts
On a local level (and mostly in urban environments) decreases in ant species diversity have been observed with introductions of the Singapore ant (*Monomorium destructor*). Outside of urban environments this species is not a major component of ant communities, but it has been documented displacing native invertebrate fauna through aggression, and as such can be a threat to biodiversity. Foragers gnaw holes in fabric and rubber goods, remove rubber insulation from electric and phone lines, and damage polyethylene cable. Cars parked overnight in infested areas can fail to start the next day after the ants have shorted ignition systems. They also forage for sugars, fats and proteins in houses. *M. destructor* activities can result in high costs in terms of property damage (cars, telecommunication equipment, TVs, etc.) and treatment. Several house and car fires have been attributed to the ant (Harris *et al.* 2005; and Pacific Invasive Ant Group, 2004).
Harris *et al.* 2005 has highlighted the disease-carrying potential of *M. destructor*, reporting that, a study found bubonic plague bacteria in the faeces of foragers that had fed on plague-infected rats. People being bitten in bed by the ants is very common in the Northern Territory, Australia and is an identifying feature of *M. destructor* (B. Hoffmann, pers.comm., 2006).

Management Info
Preventative measures: The Pacific Ant Prevention Programme is a proposal prepared for the Pacific Plant Protection Organisation and Regional Technical Meeting for Plant Protection. This plan aims to prevent the red imported fire ant *(Solenopsis invicta)* and other invasive ant species with economic, environmental or social impacts from establishing within or spreading between countries in the Pacific.
A detailed pest risk assessment for the eight species ranked as having the highest potential risk to New Zealand (*Anoplolepis gracilipes*, \r\n*Lasius neglectus*, *Monomorium destructor*, *Paratrechina longicornis*, *Solenopsis geminata*, *Solenopsis richteri*, *Tapinoma melanocephalum*, *Wasmannia auropunctata*) was prepared as part of 'The invasive ant risk assessment project', Harris *et al.* 2005., for Biosecurity New Zealand by Landcare Research. *Monomorium destructor* scored as a high-risk threat to New Zealand. The invasive ant risk assessment for *M. destructor* can be viewed at *Monomorium destructor risk assessment*. Please see *Monomorium destructor* information sheet for more information on biology, distribution, pest status and control technologies.
Chemical: Dried granular corn grit baits are effective against this species. At least three formulations containing 7.3g/kg hydramethylnon (Drax Ant Kil Granular with Hydramethylnon; Garrards Granular Ant Bait; Faslane Granular Ant Bait), and one containing 10 g/kg hydramethylnon (Maxforce Granular Insect Bait) are registered for use against *M. destructor* in Australia in addition to Amdro (7.3 g/kg hydramethylnon). These baits are also recommended for use against *Pheidole megacephala* and *Solenopsis geminata* or ants in general. Engage® (methoprene) and Distance® (pyriproxyfen) have a lipid attractant and are also likely to be attractive to *M. destructor*. Amdro® has also been used effectively against *M. destructor*. Ascend® (Affirm®) has been effectively used to control *S. invicta* and has shown potential to control *M. destructor* in the field, although some recovery did occur after 2 weeks. Field trials in Malaysia using food attractants found peanut butter was strongly preferred over honey by *M. destructor* and the use of protein or sugar-based attractants is recommended in baits targeting *M. destructor* (Stanley, 2004).
Please follow this link for more detailed information on the management of the Singapore ant *Monomorium destructor* compiled by the ISSG.

Pathway
M. destructor is a successful tramp species that has become very widely dispersed by trade (Harris *et al.* 2005).

Principal source: Harris *et al.*, 2005. Invasive ant pest risk assessment project for Biosecurity New Zealand *Monomorium destructor*

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Dr Ben Hoffmann - Ant community ecologist CSIRO-TERC Australia

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ALIEN RANGE

[1] ANGOLA
[1] ATLANTIC - WESTERN CENTRAL
[1] BRAZIL
[1] COOK ISLANDS
[1] ETHIOPIA
[1] FRENCH POLYNESIA
[1] GUINEA
[1] MADAGASCAR
[1] NEW ZEALAND
[1] NIUE
[1] ARABIAN PENINSULA
[6] AUSTRALIA
[1] CHRISTMAS ISLAND
[2] ECUADOR
[1] FIJI
[1] GHANA
[1] HONG KONG
[1] MOZAMBIQUE
[1] NIGERIA
[2] PALAU

[3] PUERTO RICO
[1] SINGAPORE
[1] SOUTH AFRICA
[1] SUDAN
[11] UNITED STATES
[1] SAMOA
[1] SOMALIA
[1] SPAIN
[1] UNITED ARAB EMIRATES

BIBLIOGRAPHY

26 references found for **Monomorium destructor**

Managment information
AntWeb, 2006. *Monomorium destructor* AntWeb, 2006. *Monomorium destructor*
Summary: AntWeb illustrates ant diversity by providing information and high quality color images of many of the approximately 10,000 known species of ants. AntWeb currently focusses on the species of the Nearctic and Malagasy biogeographic regions, and the ant genera of the world. Over time, the site is expected to grow to describe every species of ant known. AntWeb provides the following tools: Search tools, Regional Lists, In-depth information, Ant Image comparision tool PDF field guides maps on AntWeb and Google Earth and Ant genera of the world slide show.
AntWeb is available from: http://antweb.org/about.jsp [Accessed 20 April 2006]
The species page is available from:
http://antweb.org/getComparison.do?rank=species&genus=monomorium&name=destructor&project=&project= [Accessed 2 May 2006]
Harris, R.; Abbott, K.; Barton, K.; Berry, J.; Don, W.; Gunawardana, D.; Lester, P.; Rees, J.; Stanley, M.; Sutherland, A.; Toft, R. 2005: Invasive ant pest risk assessment project for Biosecurity New Zealand. Series of unpublished Landcare Research contract reports to Biosecurity New Zealand. BAH/35/2004-1.
Summary: The invasive ant risk assessment project, prepared for Biosecurity New Zealand by Landcare Research, synthesises information on the ant species that occur in New Zealand (native and introduced species), and on invasive ants that pose a potential threat to New Zealand.
There is a great deal of information in this risk assessment on invasive ant species that is of global interest, including; biology, distribution, pest status, control technologies.
The assessment project has five sections.1) The Ants of New Zealand: information sheets on all native and introduced ants established in New Zealand 2) Preliminary invasive ant risk assessment: risk scorecard to quantify the threat to New Zealand of 75 ant species. 3) Information sheets on invasive ant threats: information sheets on all ant species scored as medium to high risk (n = 39). 4) Pest risk assessment: A detailed pest risk assessment for the eight species ranked as having the highest potential risk to New Zealand (*Anoplolepis gracilipes*, *Lasius neglectus*, *Monomorium destructor*, *Paratrechina longicornis*, *Solenopsis geminata*, *Solenopsis richteri*, *Tapinoma melanocephalum*, *Wasmannia auropunctata*) 5) Ranking of high risk species: ranking of the eight highest risk ant species in terms of the risks of entry, establishment, spread, and detrimental consequences.
NB. The red imported fire ant (*Solenopsis invicta*) is considered to be the worst ant pest in the world. However, *Solenopsis invicta* was specifically excluded from consideration in this risk assessment as this species has already been subject to detailed consideration by Biosecurity New Zealand
(This invasive ant pest risk assessment was funded by Biosecurity New Zealand and Foundation for Research, Science and Technology. Undertaken by Landcare Research in collaboration with Victoria University of Wellington and Otago Museum)
Available from: http://www.landcareresearch.co.nz/research/biocons/invertebrates/Ants/ant_pest_risk.asp [Accessed 20 May 2007]
Hoffmann, Benjamin D and O Connor, Simon., 2004. Eradication of two exotic ants from Kakadu National Park. Ecological Management & Restoration, August 2004, vol. 5, no. 2, pp. 98-105(8)
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Pacific Ant Prevention Programme, March 2004. Pacific Invasive Ant Group (PIAG) on behalf of the IUCN/SSC Invasive Species Specialist Group (ISSG).
Summary: A proposal prepared for the Pacific Plant Protection Organisation and Regional Technical Meeting For Plant Protection. This plan aims to prevent the red imported fire ant and other invasive ant species with economic, environmental and/or social impacts, entering and establishing in or spreading between (or within) countries of the Pacific Region.
Pacific Invasives Initiative (PII), 2006. Feasibility Study for Singapore ant Eradication in Hatohobei State, Republic of Palau.
Summary: Available from: http://www.issg.org/cii/PII/demo/helenReef.html [Accessed 12 March 2010]
Sarnat, E. M. (December 4, 2008) PIAkey: Identification guide to ants of the Pacific Islands, Edition 2.0, Lucid v. 3.4. USDA/APHIS/PPQ Center for Plant Health Science and Technology and University of California • Davis.
Summary: PIAkey (Pacific Invasive Ant key) is an electronic guide designed to assist users identify invasive ant species commonly encountered in the Pacific Island region. The guide covers four subfamilies, 20 genera and 44 species.
The primary tool offered by PIAkey is an interactive key designed using Lucid3 software. In addition to being fully illustrated, the Lucid key allows users to enter at multiple character points, skip unknown characters, and find the most efficient path for identifying the available taxa. Each species is linked to its own web page. These species pages, or factsheets, are linked to an illustrated glossary of morphological terms, and include the following seven sections: 1) Overview of the species; 2) Diagnostic chart illustrating a unique combination of identification characters; 3) Comparison chart illustrating differences among species of similar appearance; 4) Video clip of the species behavior at food baits (where available); 5) Image gallery that includes original specimen images and live images (where available); 6) Nomenclature section detailing the taxonomic history of the species, and 7) Links and references section for additional literature and online resources.
Available from: http://www.lucidcentral.org/keys/v3/PIAkey/index.html [Accessed 17 December 2008]

Stanley, M. C. 2004. *Review of the efficacy of baits used for ant control and eradication*. Landcare Research Contract Report: LC0405/044. Prepared for: Ministry of Agriculture and Forestry.
Summary: Available from: http://www.landcareresearch.co.nz/research/biocons/invertebrates/ants/BaitEfficacyReport.pdf [Accessed 10 December 2005]
The Ants of Africa, 2006. Genus *Monomorium* - *latinode*-group, *scabriceps*-group & *destructor*-group
Walker, K. 2006. Singapore ant (*Monomorium destructor*) Pest and Diseases Image Library. Updated on 29/08/2006 12:03:32 PM.
Summary: PaDIL (Pests and Diseases Image Library) is a Commonwealth Government initiative, developed and built by Museum Victoria s Online Publishing Team, with support provided by DAFF (Department of Agriculture, Fisheries and Forestry) and PHA (Plant Health Australia), a non-profit public company. Project partners also include Museum Victoria, the Western Australian Department of Agriculture and the Queensland University of Technology. The aim of the project is: 1) Production of high quality images showing primarily exotic targeted organisms of plant health concern to Australia. 2) Assist with plant health diagnostics in all areas, from initial to high level. 3) Capacity building for diagnostics in plant health, including linkage developments between training and research organisations. 4) Create and use educational tools for training undergraduates/postgraduates. 5) Engender public awareness about plant health concerns in Australia. PaDIL is available from : http://www.padil.gov.au/aboutOverview.aspx, this page is available from: http://www.padil.gov.au/viewPestDiagnosticImages.aspx?id=624 [Accessed 6 October 2006]

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Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
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