GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Tapinoma melanocephalum***

Tapinoma melanocephalum **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae

Common name tiny yellow house ant (English), albaricoque (English), black-headed ant (English), tramp ant (English), awate-konuka-ari (English), house infesting ant (English), hormiga bottegaria (English), ghost ant (English)

Synonym
Formica melanocephalum , Fabricius, 1793
Myrmica pellucida , Smith, F. 1857
Formica familiaris , Smith, F. 1860
Tapinoma melanocephalum , (Fabricius): Mayr, 1862
Tapinoma melanocephalum , var. *australis* Santschi 1928
Tapinoma melanocephalum , var. *australe* Santschi 1928
Formica nana , Jerdon

Similar species *Technomyrmex spp., Tapinoma sessile*

Summary Tapinoma melanocephalum is known as a tramp ant as its spread around the globe has been assisted by human activities. It is highly flexible in the habitats it occupies, providing there is some form of disturbance allowing it to establish ahead of more dominant ant species, and it nests readily outdoors or indoors. Tapinoma melanocephalum is a household pest, as well as disturbing greenhouse environments and can transport pathogenic microbes in hospitals.

view this species on IUCN Red List

Species Description
T. melanocephalum workers are extremely small, 1.3 to 1.9mm long and monomorphic. They have 12-segmented antennae with the segments gradually thickening towards the tip. The first segment of the antennal funiculus is longer than the second and third segments combined. Antennal scapes surpass the occipital border. They are distinctively bicoloured: the head (including antennae, except for first 2 segments) and sides of the alitrunk are blackish-brown. The gaster and legs are opaque or milky white giving this species its characteristic \"ghost\" appearance. The gaster has 4 segments on its upper surface and has a slit-like anal opening which is hairless. Eyes are large with each having 9 or 10 facets that span its long axis. The mandibles each have 3 large teeth and about 7 small denticles on them. Stingers are absent on *T. melanocephalum*. The small size, combined with the pale colour, make this species hard to see. When crushed, the workers emit an odor similar to that of rotten coconuts (Harris *et al.* 2005; Nickerson *et al.* 2003; and Onoyama and Terayama, 2003). Please click on *AntWeb: Tapinoma melanocephalum* 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 comare: head, profile, dorsal, or label. \r\n 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 *Tapinoma melanocephalum* contains an overview, diagnostic features, comparision charts, images, nomenclature and links. (Sarnat, 2008)

Notes
Shepard & Gibson (1972) report that a symbiotic relationship has developed in Costa Rica between *T. melanocephalum* and jumping spiders (Araneae: Salticidae) which were found inhabiting the ants nests. It is believed that the spiders provided some protection to the ants from natural enemies and the nest served as a foundation for web construction (Osborne *et al.* 1995.)

Lifecycle Stages
T. melanocephalum have polygynous, unicolonial, colonies that can build up large numbers, with individual nests containing 100-1000 individuals. Generally, the colonies occupy local sites that are too small or unstable to support entire large colonies so the colonies are broken into subunits that occupy different nest sites and exchange individuals back and forth along odor trails. There does not appear to be any fighting between members of different colonies or nests, at least when they originate from the same area. They often occupy temporary habitats (plant stems, clumps of dried grass, debris, under potted plants) and readily migrate if disturbed or conditions become unfavourable. Multiple queens may be spread out in multiple sub colonies. Queens have a very short lifespan of only a few weeks (Harris *et al.* 2005; Nickerson *et al.* 2003).

Uses
Under some conditions *T. melanocephalum* may be beneficial as a biocontrol agent. Studies show that the ant can be a significant predator of the important plant pest, the two-spotted spider mite (*Tetranychus urticae*) (Osborne *et al*., 1995). *T. melanocephalum* was also noted as being useful in orchid greenhouses in the Netherlands, as it controlled vermin (Stärcke, 1943 in Boer & Vierbergen, 2008).

Habitat Description
T. melanocephalum is highly flexible in the habitats occupied, providing there is some form of disturbance allowing it to establish ahead of more dominant ant species. It nests readily outdoors or indoors. Generally, the colonies occupy local sites that are too small or unstable to support entire large colonies. The sites include tufts of dead but temporarily moist grass, plant stems, and cavities beneath detritus in open, rapidly changing habitats. Indoors, the ant colonizes wall void or spaces between cabinetry and baseboards. It will also nest in potted plants. Hölldobler and Wilson (1990) report that ghost ants are opportunistic nesters in places that sometimes remain habitable for only a few days or weeks Usually, nesting occurs in disturbed areas, in flowerpots, under objects on the ground, under loose bark, and at the bases of palm fronds. Indoors, the ant nests in small spaces such as cracks, spaces between books, or wall voids. Indoor foragers often come from outside. This is a very common pest inside homes (Harris *et al.* 2005; Nickerson *et al.* 2003).

Reproduction
T. melanocephalum spreads from focal colonies by colony budding. This occurs when one or more reproductive females, accompanied by several workers and possibly some brood (larvae and pupae) leave an established colony for a new nesting site. This method of dispersal aids spread of this species over relatively short distances and ensures they become dispersed throughout suitable habitat (Harris *et al.* 2005; Nickerson *et al.* 2003).

Nutrition
T. melanocephalum foragers are opportunists. They forage on many household foods, especially sweet foods. They are fond of honeydew and tend honeydew-excreting insects in hot climates and glasshouses. This ant also feeds on dead and live insects and root scales. Foragers locate and recruit to food rapidly, and recruit in numbers, but are displaced easily when more dominate ant species recruit to the same food source in larger numbers (Harris *et al.* 2005; Nickerson *et al.* 2003).

General Impacts
T. melanocephalum is a household pest. It can not only invade houses from outside, but nest inside as well and will compromise food sources. It infests buildings in large numbers and has established in temperate locations. It has become established in heated greenhouses where it can become a problem, especially if it defends honeydew producing, plant pests against introduced biological control organisms. *T. melanocephalum* is capable of transporting pathogenic microbes in hospitals. Some people suffer a slight, red irritation of the skin following contact with this ant (Harris *et al.* 2005; Nickerson *et al.* 2003).

Management Info
Chemical: Ghost ant colonies are highly mobile and frequently move from overpopulated nests, making them difficult to eradicate. Contact insecticides can be used on colonies, but colonies may be composed of many nests, and killing workers is only a temporary solution. The best management technique is poison baits (Texas A&M University, 2008). Presto® (fipronil) and Xstinguish® (fipronil) have been highly effective at controlling certain ant species. These baits might also be attractive to *T. melanocephalum* because the target species have similar food preferences. Boric Acid is another alternative being investigated. The concentration of boric acid is too high in most available commercial baits but at low concentrations it has been shown to be extremely effective at killing laboratory colonies *T. melanocephalum*. Peanut butter and sweet solutions such as honey and sugar water are preferred attractrants of *T. melanocephalum*. There have been very few studies conducted which specifically consider control of *T. melanocephalum* (Texas A&M University, 2008).

Pathway
The dispersal of *T. melanocephalum* is human assisted. In urban environments colonies may occupy, and be transported on, a huge variety of household goods, e.g., laptops, potted plants, luggage, cut flowers, instrument-case lining, piles of clothing. *T. melanocephalum* is so widely distributed by commerce that it is impossible to determine its original home (Smith 1965) (Nickerson *et al.* 2003).

Principal source: Nickerson and Barbara, 2000 *Tapinoma melanocephalum*
Harris *et al.*, 2005 Invasive ant pest risk assessment project for Biosecurity New Zealand.

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

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ALIEN RANGE

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[1] CAMBODIA
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[1] CHRISTMAS ISLAND
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[1] SAMOA
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[1] SIERRA LEONE
[1] SOLOMON ISLANDS
[3] SPAIN
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[1] SWITZERLAND
[1] TANZANIA, UNITED REPUBLIC OF
[1] TOKELAU
[1] TRINIDAD AND TOBAGO
[2] UNITED KINGDOM
[3] UNITED STATES MINOR OUTLYING ISLANDS
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[1] VIRGIN ISLANDS, U.S.
[1] YEMEN

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[5] FRENCH POLYNESIA
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[1] GHANA
[1] GUINEA
[1] HAITI
[1] INDIA
[1] IRAQ
[1] JAMAICA
[1] KENYA
[1] KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
[1] KUWAIT
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[1] MAYOTTE
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[1] SAINT VINCENT AND THE GRENADINES
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[1] VIET NAM
[1] WALLIS AND FUTUNA

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26 references found for **Tapinoma melanocephalum**

Managment information

AntWeb, 2006. *Tapinoma melanocephalum*
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=tapinoma&name=melanocephalum&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]
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Nickerson, J. C., C. L. Bloomcamp, and T. R. Fasulo. 2003. *Tapinoma melanocephalum (Fabricius) (Insecta: Hymenoptera: Formicidae).* Featured Creatures: University of Florida Institute of Food and Agricultural Sciences.
Summary: Available from: http://creatures.ifas.ufl.edu/urban/ants/ghost_ant.htm [Accessed 18 November 2005]
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.
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 &#65533; 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.
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ITIS (Integrated Taxonomic Information System), 2005. Online Database *Tapinoma melanocephalum*
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.
Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=575124 [Accessed 7 September 2005]
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Summary: Cette synth'se sur les invert'br's envahissants et potentiellement envahissants dans l archipel cal'donien a 't' r'alis'e dans le cadre d une expertise coll'giale men'e par l IRD.
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