# Invasive Ant Threat

INFORMATION SHEET Number 10 • *Monomorium destructor* Risk: High

## *Monomorium destructor* (Jerdon)

### Taxonomic Category

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|---|---|
| Family: | Formicidae |
| Subfamily: | Myrmicinae |
| Tribe: | Solenopsidini |
| Genus: | *Monomorium* |
| Species: | *destructor* |

**Common name(s):** Singapore ant (Davis et al. 1993), destructive trailing ant (www5), mizo-hime-ari (www1)

**Original name:** *Atta destructor* Jerdon

**Synonyms or changes in combination or taxonomy:** *Myrmica basalis* Smith, *Myrmica gracillima* Smith, *Myrmica vexator* Smith, *Myrmica atomaria* Gerstaecker, *Myrmica ominosa* Gerstaecker, *Monomorium ominosa* (Gerstaecker), *Monomorium basale* (Smith)

### General Description

*Identification*

*Size*: a relatively large *Monomorium* species. Total length markedly variable, from 1.8 to 3.5 mm.

*Colour*: body from head to postpetiole uniformly light yellow to dull brownish yellow. Gaster always darker, dark brown to blackish brown, and usually with a conspicuous yellow area mediobasally.

*Surface sculpture*: head and body mostly smooth and shining, unsculptured except: very top of head (inconspicuous); dorsal surface of propodeum with transverse rugae; most of lateral surface of alitrunk (except anteriorly); and sections of lateral surfaces of propodeum with fine puncturation.

*General description*: antennae 12-segmented, including a 3-segmented club; club segments increasing in size toward the apex. Eyes relatively small, with 4–6 ommatidia in longest row. Mandibles each with 3 strong teeth, the fourth (topmost) minute. Paired longitudinal carinae on clypeus obscure. Metanotal groove distinct. Propodeum without spines, posterodorsal border angulate; the area of petiolar insertion carinate. Two nodes (petiole and postpetiole) present. Petiole higher and less broadly rounded than postpetiole and its ventral outline less convex than in other species. Postpetiole 1.1–1.2 times as long as broad. All dorsal surfaces of head and body with erect setae.

Note: *M. destructor* is similar to *M. latinode*, but distinguished from it by the presence of 4 teeth on each mandible (versus 5 in *latinode*), the distinct metanotal groove (shallow and indistinct in *latinode*) and the narrower postpetiole (1.5 times as long as broad in *latinode*).

Sources: www1; Bolton 1987.

Formal description and synonymy: Bolton 1987: 324-325, 1 fig.

## Behavioural and Biological Characteristics

### *Feeding and foraging*

A slow-moving ant that forages along narrow trails (www9). A generalist with a broad diet of living and dead insects, insect eggs, carbohydrates from tending sap-sucking insects, nectar, and seeds (Bolton 1987; Jaffe et al. 1990; www5; Deyrup et al. 2000). In households they will feed on almost any food available (Smith 1965). Foragers are slow to find food compared to other tramp ants (Lee 2002). In Sri Lanka, *M. destructor* was recorded primarily foraging in the crown of coconut trees, but was also seen at the base of trees (Way et al. 1989).

### *Colony characteristics*

Form large polygyn colonies (Smith 1965). Within the urban areas on Tiwi Islands some populations became very abundant, with many individuals and nests, giving the appearance of a super-colony (B. Hoffman pers. comm.). They nest anywhere, on the ground or in trees including pot plants (Jaffe et al. 1990; B. Hoffman pers. comm.). They may have relatively mobile nests as they have been observed to move around in the wet season in Darwin (B. Hoffman pers comm.).

### *Dispersal*

There are three methods of dispersal that, combined, aid the spread of *M. destructor* at local, regional, national and international scales. Most significant is human-mediated dispersal, without which it may never have reached its current locations. *M. destructor* also spreads naturally from focal colonies in two ways. First, colony budding (B. Hoffman pers comm.), where queens walk on foot accompanied by workers to a new nesting site. Second, winged dispersal by (likely) inseminated queens to uninfested areas where they start a colony of their own (B. Hoffman pers. comm.). Although the relative importance of these two dispersal mechanisms has not been investigated, it is thought that colony budding is the primary dispersal method (B. Hoffman pers. comm.).

### *Habitats occupied*

In northern Western Australia they do not live far from houses, in which they can live above the ground in wall and roof cavities (Davis et al. 1993). In United Arab Emirates they are present in a wide range of habitats, especially irrigated gardens and disturbed habitats close to water (Collingwood et al. 1997). They are present in tropical irrigated lowland rice fields in the Philippines (Way et al. 1998), and coconut plantations in Sri Lanka (Way et al. 1989). In Florida they nest in soil (lawns) or buildings (www5). In Tiwi Islands and Australia's Northern Territory, *M. destructor* nests were only associated with urban areas (including outstations), but there was some foraging into surrounding bushland (B. Hoffman pers. comm.).

## Global Distribution (See map)

### *Native to*

Probably of Indian origin (Bolton 1987).

### *Introduced to*

Distributed throughout the tropic zones and increasingly into temperate zones (Bolton 1987)

### *History of spread*

A tramp species, widely dispersed by trade (Bolton 1987). A pest in West Australia since the1970s but probably been there since the1950s (Davis et al. 1993). First published Florida record 1933 (Deyrup et al. 2000).

*Interception history at NZ border*

Seventeen reported interceptions to April 2004 originating from a wide range of countries with Fiji being the most common source. Interceptions are mostly of live workers in containers, fresh produce, and the personal effects of airline passengers.

## Justification for Inclusion as a Threat

Widely dispersed by trade and regularly intercepted at our border. Capable of surviving in buildings in temperate areas. Gnaw holes in fabric, rubber goods, remove rubber insulation from electric and phone lines and damage polyethylene cable (Krombein et al. 1979 in Bolton 1987). In urban areas they can cause considerable property damage (cars, telecommunication equipment, TVs, etc.) and are expensive to control ($200,000 annually in one West Australian Shire). Several fires are attributed to the ant (Davis & Van Schagen 1993). There are reports of people being bitten or stung fiercely while in bed (Smith 1965). They also have disease-spreading potential (bubonic plague bacteria found in faeces of ants feeding on infected rats (Smith 1965).

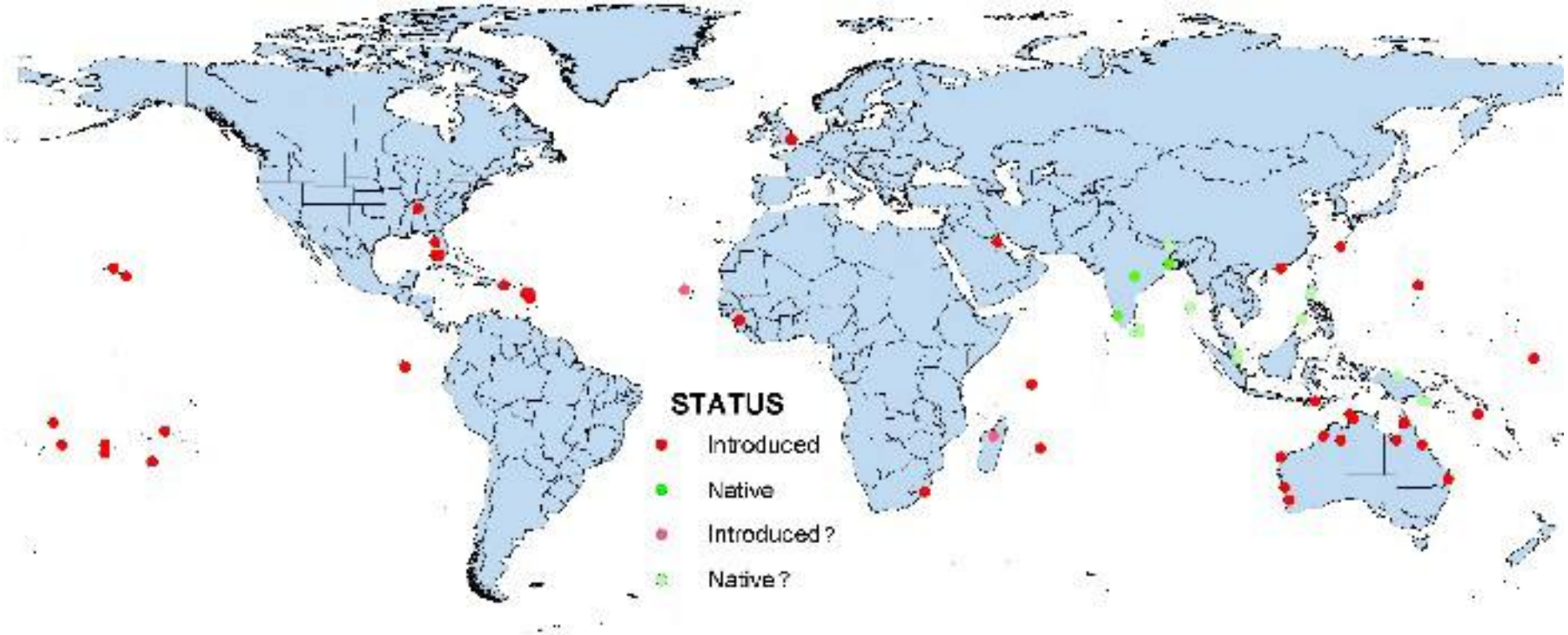
*Mitigating factors*

Unlikely to be a pest outside of urban areas. In New Zealand, may not build up to the populations that are found in tropical areas. In urban Perth (higher temperatures than New Zealand) this species is a minor pest compared with warmer, northern Western Australia (Peter Davis pers. comm.).

## Control Technologies

Dried granular corn grit baits are effective against this species (Davis et al. 1993). At least three formulations containing 7.3 g/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 (www62) 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 (Stanley 2004).

*Compiled by Richard Harris & Jo Berry*




*Global distribution of* Monomorium destructor *(Jerdon)*