

Invasive Ant Threat



INFORMATION SHEET Number 37 • *Tetramorium simillimum*

Risk: Medium

Tetramorium simillimum (Smith)

Taxonomic Category

Family:	Formicidae
Subfamily:	Myrmicinae
Tribe:	Tetramoriini
Genus:	<i>Tetramorium</i>
Species:	<i>simillimum</i>

Common name(s): sazanami-shiwa-ari (Japan), similar groove-headed ant (Deyrup et al. 2000)

Original name: *Myrmica simillima* Smith

Synonyms or changes in combination or taxonomy: *Wasmannia auropunctata* subsp. *brevispinosa* Borgmeier, *Tetramorium simillimum* r. *denticulatum* Forel, *Tetramorium pusillum* var. *exoleta* Santschi, *Tetramorium simillimum* var. *insulare* Santschi, *Tetramorium simillimum* var. *opacior* Forel, *Myrmica parallela* Smith, *Tetramorium pygmaeum* Emery, *Tetramorium pusillum* var. *bantouanum* Santschi

Note: *Tetramorium caldarius* Roger was taken out of synonymy with *T. simillimum* by Bolton in 1979

General Description (worker)

Identification

Size: total length 2.0–2.7 mm.

Colour: body colour yellowish to reddish brown from head to postpetiole; gaster dark brown, shiny.

Surface sculpture: dorsum of head densely longitudinally rugulose, spaces between rugulose sculpture completely filled by dense sculpture so surface appears dull, matt and very granular. Dorsal alitrunk and nodes similarly but less densely sculptured. Sides of alitrunk densely and conspicuously sculptured (reticulate-punctate), gaster smooth.

General description: antennae 12-segmented; including a 3-segmented club. Eyes rounded, moderate in size, with 7 to 8 ommatidia in longest row. Mandibles sculptured, with 2 or 3 enlarged apical teeth followed by a row of smaller ones. Frontal carinae strongly developed, weakly sinuate, extending back almost to occiput. Clypeus with a medial, longitudinal carinae and other carinae; anterior margin without median notch. Area of the clypeus immediately below antennal sockets raised into a sharp-edged ridge, which forms the lower section of a pit around the base of the antennae. Dorsum of alitrunk flat in profile but sloping downwards to the posterior. Metanotal groove not impressed. Propodeum dorsally with 2 short triangular upturned spines, additionally a pair of flanges (metapleural lobes) present near the insertion of the petiole. Two nodes (petiole and postpetiole) present; petiole subquadrate in side view (short, with the anterior and posterior faces near vertical, with small acute subpetiolar spine). Body hairs short, stout and blunt, shorter than their interspaces; hairs on first gastral tergite sparse and short, the longest distinctly shorter than the maximum width of hind tibia. Sting present, tip with a triangular to pennant-shaped extension projecting upwards from the shaft (visible only when

sting is extended).

Note: *Tetramorium simillimum* and *Wasmannia auropunctata* are of similar size, general shape, and colour. Both have a subquadrate petiole in side view. *Wasmannia auropunctata* has longer setae on the face and dorsum, and the propodeal spines are longer.

Sources: www1; www4

Formal descriptions and keys: Bolton 1977, 1979, 1980

Behavioural and Biological Characteristics

Feeding and foraging

In Florida (introduced range), *T. simillimum* is mainly diurnal or crepuscular: in summer there is more foraging activity at dusk, but workers become more nocturnal in autumn (Whitcomb et al. 1982). Lower relative humidity is preferred for foraging; there is little foraging activity early morning or after rains (Whitcomb et al. 1982). *T. simillimum* is a predator, but also farms aphids on cocoa flowers and cherelles near the ground in its native African range, and forms associations with soldierless termites (Sands 1972; www38). Colonies lack a soldier caste and appear to rely on small body size and stealth to reach baits/food (Holldobler & Wilson 1990).

Colony characteristics

T. simillimum may form large, polygynous colonies (Reimer 1994). Its nests, in the introduced range of this species, are usually in soil in open areas, often around buildings, roads or parking lots and orchards (Whitcomb et al. 1982; Wojcik 1994; Deyrup et al. 2000). In Nigeria (native range), *T. simillimum* nests in dead wood in crevices on living trees (www38).

Dispersal

No information found. As it has polygyne colonies dispersal may occur via budding.

Habitats occupied

T. simillimum occurs from sea level to about 1100 m in dry and mesic areas in Hawaii (introduced range) (Reimer 1994). It is limited to disturbed areas; in forested areas it is found along tracks (especially on hill tops) and roads. It has not been found in undisturbed forest (Reimer 1994).

Global distribution (see map)

Native to

The old world tropics (Africa) (Bolton & Collingwood 1975; Bolton 1980).

Introduced to

A widespread, tropical tramp species. It has been spread by commerce throughout the Americas, the Caribbean, Indian and Pacific Oceans (e.g., Wilson & Taylor 1967; Bolton 1977,1979; Clark 1982; Wetterer & Wetterer 2004). It is also found in Japan (www1) and India (Bolton 1979) and in greenhouses in the UK (Bolton 1977).

History of spread

The first published record of *T. simillimum* in Florida was in 1932 (Deyrup et al. 2000). *T. simillimum* has spread as a result of commerce.

Interception history at NZ border

There have been 9 recorded interceptions of *T. simillimum* at the New Zealand border, the first in 1997, all of them in Auckland associated with fresh produce from Pacific islands. Two queens have been intercepted: one on leaves carried by an air passenger from Tonga, and one on fresh ginger in air cargo from Fiji. There have also been 6 interceptions (1 queen) of unidentified *Tetramorium* species from the Pacific and Southeast Asia, some of which could be *T. simillimum*.

Justification for Inclusion as a Threat

T. simillimum is a widespread tramp species occurring in Australia and the Pacific and has been intercepted at the New Zealand border. It is able to establish (at least temporarily) in glasshouses in temperate climates (e.g., the UK – Bolton 1977). It also appears able to persist in small numbers in *L. humile*-infested gardens (Heterick et al. 2000) and will invade houses (Delabie et al. 1995). The presence of other adventive *Tetramorium* in New Zealand could allow it to establish unnoticed.

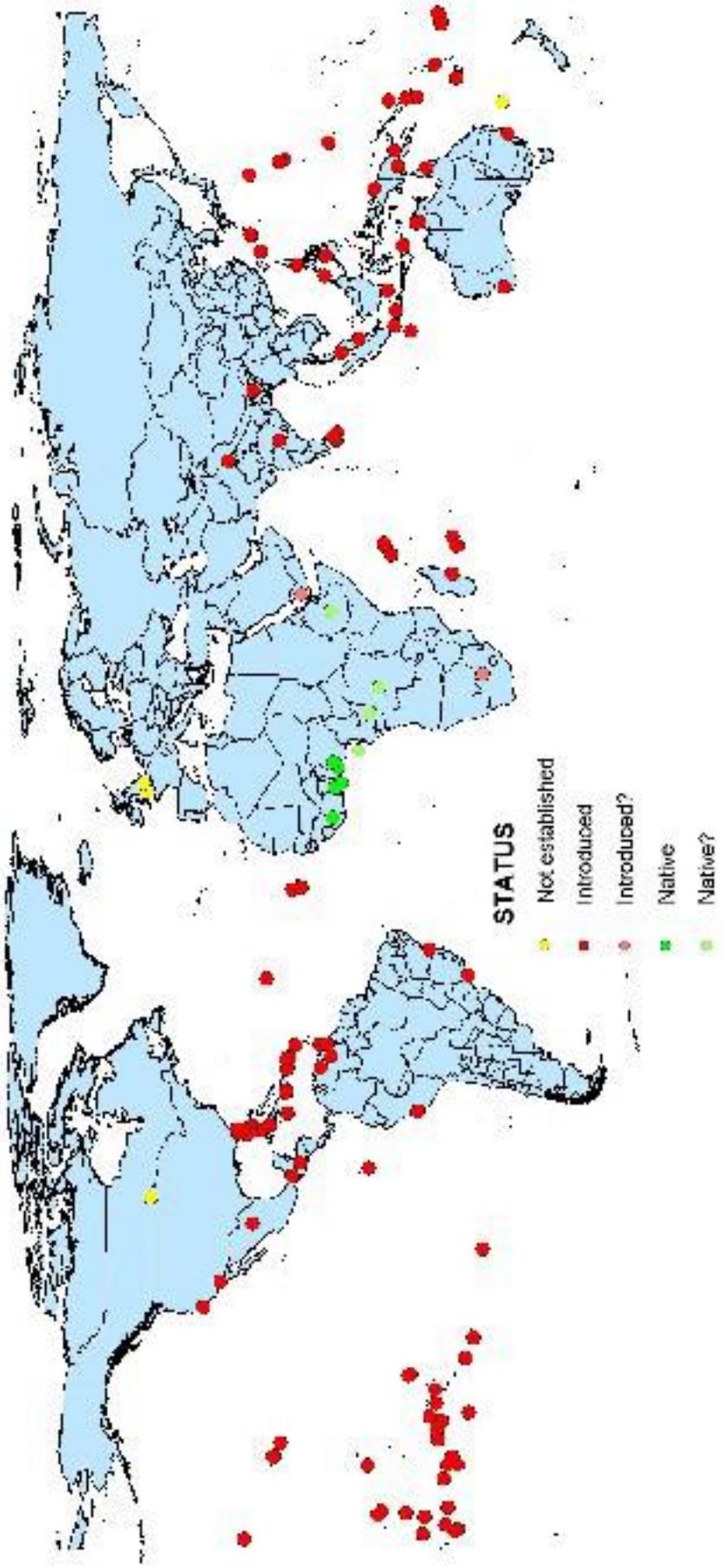
Mitigating factors

Not considered a pest in Florida (Deyrup et al. 2000). Areas of suitable climate may be limited in New Zealand outside of urban areas.

Control Technologies

Peanut butter baits have been used in Hawaii to collect this species (www17).

Compiled by Margaret Stanley, Richard Harris & Jo Berry



Global distribution of *Tetramorium similimum* (Smith)