

# Invasive Ant Threat



INFORMATION SHEET Number 26 • *Solenopsis papuana*

Risk: Medium

## *Solenopsis papuana* Emery

### Taxonomic Category

Family:	Formicidae
Subfamily:	Myrmicinae
Tribe:	Solenopsidini
Genus:	<i>Solenopsis</i>
Species:	<i>papuana</i>

Common name(s): none found

Original name: *Solenopsis papuana* Emery

Synonyms or changes in combination or taxonomy: *Solenopsis cleptis* Mann, *Solenopsis dahlia* Forel, *Solenopsis cleptis* var. *vitiensis* Mann.

### General Description

*Solenopsis generic diagnosis:* Small to medium-sized ants, total length of workers around 1–9 mm. Worker caste monomorphic or polymorphic. Antennae 10-segmented, including a 2-segmented club. Eyes small to medium in size. Mandibles with 4 or 5 teeth. Clypeus with a pair of longitudinal carinae that diverge anteriorly and run to margin where they often project as a pair of teeth or denticles. Anterior clypeal border with one median seta present, clearly differentiated and conspicuous. Rear face of propodeum more or less rounded, never with teeth, spines or thin flanges. Two nodes (petiole and postpetiole) present. Stinger extruded in most alcohol-collected specimens. Most species pale yellow to reddish brown (a few species dark brown to black) and predominantly smooth and shining usually with sparse, long hairs.

*Distinction from other genera:* Workers of *Solenopsis* are most often confused with workers of *Oligomyrmex*. They can be separated by the single central hair on the front margin of the clypeus (paired hairs are present in *Oligomyrmex*) and the rounded rear face of the propodeum (spines, teeth or flanges are present in *Oligomyrmex*). *Solenopsis* may also be confused with smaller species of *Monomorium*. In this case, the distinctly 2-segmented club will allow the identification of *Solenopsis*.

*Identification of Solenopsis papuana worker*

Size: monomorphic. Total length: 1.5–2.0 mm

Colour: light reddish yellow to medium reddish brown (Pacific).

Surface sculpture: mostly smooth.

*General description:* antennae 10 segmented with a large 2-segmented club. Eyes small, containing less than 10 ommatidia. Longitudinal carinae on clypeus projecting slightly from anterior margin as a pair of teeth. Head width not exceeding 0.35 mm, head subquadrate, longer than wide. Metanotal groove distinct. Petiole higher than postpetiole. All dorsal surfaces with erect setae. Gaster oval with first segment longer than half total length. Sting large.

## Behavioural and Biological Characteristics

### *Feeding and foraging*

Forms trails but workers also forage by spreading over foraging area (www45). An aggressive species (Reimer 1994) but not a behaviorally dominant ant on baits in communities in French Polynesia (Morrison 1996a).

### *Colony characteristics*

Nests contain more than 1000 workers (www45) and are polygynous (Reimer 1994). Found in soil, most often associated with rotting wood in or near soil, or under rocks (www45).

### *Dispersal*

No information found.

### *Habitats occupied*

An inconspicuous but prominent species in Samoan rain forests (Wilson & Taylor 1967).

Found from sea level to 1100 m in Hawaii, mainly in mesic and undisturbed wet forest, areas where few other ants have invaded (www45, Reimer 1994). Occasionally collected in shaded dry forests at about 1000m (Reimer 1994).

## Global Distribution (See map)

### *Native to*

Indo-Australian (Morrison 1997) but not present in Australia (Shattuck 1999).

### *Introduced to*

Established outside its native range in Hawaii (Reimer 1994) and has expanded its range to islands in the eastern Pacific that may have originally had no native ants (Morrison 1996a).

### *History of spread*

First detected in Hawaii in 1967 and appears to be still spreading (Reimer 1994).

### *Interception history at NZ border*

Sixteen separate interceptions since 1977 from Fiji and the Solomon Islands, predominantly reported as live workers associated with taro and coconut imports. There are no reported interceptions of queens or nests.

## Justification for Inclusion as a Threat

Reported as an aggressive species (Reimer 1994), but not in terms of stinging people (Gruner 2000). It is relatively frequently intercepted at the New Zealand border but common throughout the Pacific. In Hawaii, this species has established in wet forests and reaches high densities, where it has been suggested its impact on native biota may be severe (Reimer 1994). A significant negative relationship with native spiders has been shown (Gillespie & Reimer 1993). An inconspicuous species (Wilson & Taylor 1967) whose arrival could go unnoticed.

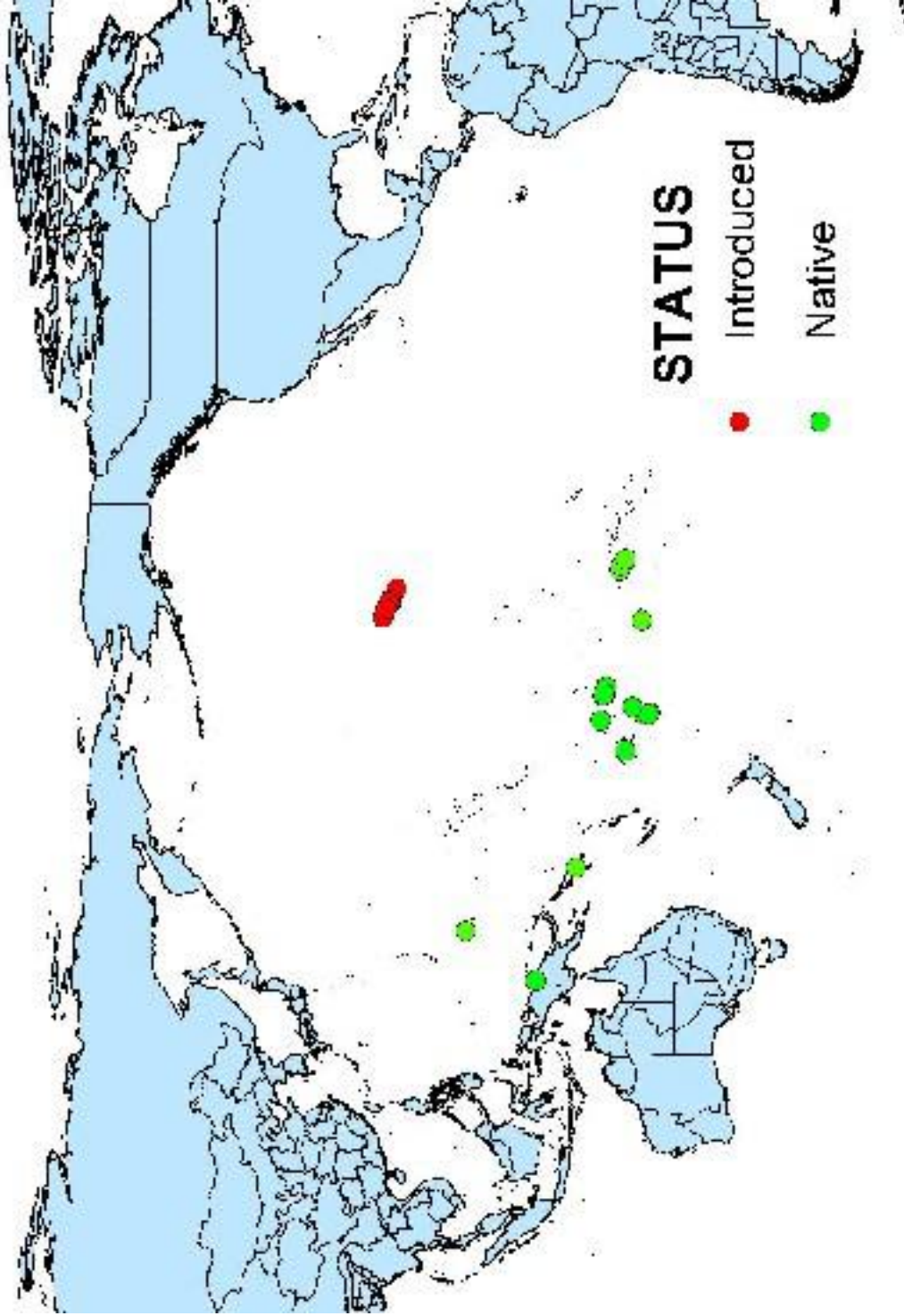
*Mitigating factors*

Its current distribution is tropical pacific, suggesting wet forests in New Zealand are probably too cold for this species.

**Control Technologies**

Abundant on peanut butter baits in Hawaii (Gruner 2000).

*Compiled by Richard Harris & Jo Berry*



Global distribution of *Solenopsis papuana* Emery