# *Paratrechina vividula (Nylander)*

## Taxonomic Category

| | |
|---|---|
| Family: | Formicidae |
| Subfamily: | Formicinae |
| Tribe: | Plagiolepidini |
| Genus: | *Paratrechina* |
| Species: | *vividula* |

**Common name(s):** none known

**Original name:** *Formica vividula* Nylander

**Synonyms or changes in combination or taxonomy:** *Prenolepis kincaidi* Wheeler, *Prenolepis vividula* (Nylander), *Formica picea* Buckley (synonymy questionable), *Nylanderia vividula* (Nylander)

## General Description

### *Identification*

*Size:* monomorphic, relatively small. Total length 2.0–2.5 mm.

*Colour:* weakly bicoloured, head and gaster yellowish brown to black, alitrunk legs and antennae yellow to dark reddish-brown.

*Surface sculpture:* smooth and shining from head to first gastral tergite, rest of gaster weakly sculptured.

*General description:* Antenna 12-segmented, without a club; scape surpassing the posterior border of the head by at least one-half scape length. Head subquadrate, both sides weakly convex, subparallel. Mandibles each with 6 teeth. No longitudinal carinae on clypeus. Metanotal groove visible but not incised. Propodeum without spines, posterodorsal border rounded. One node (petiole) present, sharply crested.

Setae on head mostly limited to rear half, varied in length and spacing; clypeus with 12 erect setae; scape with setae semierect. Eight major thoracic setae weakly curved, the remaining ones half or less as long and straight. Propodeum with a narrow patch of longitudinally oriented pubescence along front edge. Gaster with sparse, very fine appressed hairs as well as erect setae. Stinger lacking; acidopore present.

Identification to species is difficult and the workers of two common North American species, *P. vividula* and *P. terricola*, are almost impossible to separate (Trager 1984).

Sources: Trager 1984

Formal description: Trager 1984

## Behavioural and Biological Characteristics

### *Feeding and foraging*

All *Paratrechina* spp. are "sweet and meat" eaters. They visit extra floral nectaries, lap honeydew from leaf surfaces, tend homopterans but do not defend them, scavenge on invertebrate carrion, and prey on minute, soft-bodied animals (J. Trager pers. comm.). Foraging is mostly by individuals, but groups of workers may be recruited to rich food sources (such as a discarded soft-drink container) within a short-distance (3m or so) from the nest. *P. vividula* is said to be an important seed predator in its native habitat (Mexico) (Alvare-Buylla & Martinez-Ramos 1990) but it may have been observed dispersing elaiosome-bearing seeds as its unlikely to feed on the seeds (J. Trager pers. comm.).

### *Colony characteristics*

Nests are usually found in soil (often under a stone or wood) in open disturbed areas such as lawns and fields (Deyrup et al. 2000; www14). Colonies consist of a queen and a few dozen to a few hundred workers (J. Trager pers. comm.). Nests are temporary and emigration is frequent, typically occurring at night. Queen and young workers and brood may remain in cooler microhabitats, while groups of workers establish temporary, pupa-incubation nests in warmer microhabitats, such as the upper layer of leaf litter, under bark on top of a log, or among blades of grass. Worker brood is produced year round in Florida. Sexual brood is raised in spring and flies in early summer in the US (contrasting with other US native species, which raise sexuals in late summer that fly the following spring).

### *Dispersal*

Alates are present throughout the year where there is sufficient warmth (although most are reared in spring and fly in summer) and fly on any warm day with high humidity (Trager 1984; www14). Most flights occur from May to October (USA), between 18:00 and 22:00 (Trager 1984). Although mating flights are thought to occur during the day females are occasionally attracted to lights at night (Trager 1984). Mating takes place off the ground in aggregations (leks) of males circling with buzzing wings on fallen logs, tree trunks and man-made structures such a pillars and walls. Mated females fly a short distance from the lek, land in a sunny location, and search for a nest site.

### *Habitats occupied*

Open, disturbed habitats including beaches, parks, gardens and other landscaped areas, crop fields, orchards, fallow fields, vacant lots, and parking lots (Whitcomb et al. 1982; Trager 1984). *P. vividula* occurs in less disturbed native grasslands and other open habitats (typically in moist, grassy sites) in its native range in Texas and Mexico (Chihuahuan Desert) (Trager 1984; www24).

## Global Distribution (See map)

### *Native to*

*P. vividula* is a North American native (Chihuahuan Desert) (Trager 1984). Wetterer & Wetterer (2004) describe it as an "Old World tramp" but this does not fit its distribution.

### *Introduced to*

More northerly locations in the USA and to a few islands in the Caribbean, Indian and Pacific Oceans as well as to urban areas (buildings) in Europe and Canada. It is listed by Taylor (2002) in his "Checklist of the ants of Australia" but not by Shattuck in his Australian ant web site (www4).

### *History of spread*

*Paratrechina vividula* commonly establishes colonies in pot plants or mulch piles and is transported in these materials to greenhouses and nurseries far from the areas where it survives naturally (Trager 1984). It has apparently been established as a greenhouse ant in Europe for 150 years (Trager 1984). We found published European records from Finland (the type locality of *Formica vividula* - Taylor 2002) and Wales (Fowles 1996). In Bermuda it was collected between 1905 and 1925 but not subsequently (Wetterer & Wetterer 2004).

### *Interception history at NZ border*

There have been no recorded interceptions of this species at the border. There have, however, been 56 interceptions (7 separate queens) of unidentified *Paratrechina* species, some of which may have been *P. vividula*.

## Justification for Inclusion as a Threat

*Paratrechina vividula* is a North American native that has spread relatively widely outside its native range, including to Pacific islands (Fiji - Mann 1921; Solomon Islands - Brown 1960) with significant trade with New Zealand. It is successful in disturbed habitats and able to establish in temperate locations, including inside heated buildings where it can be a pest in glasshouses. Due to the common occurrence of adventive *Paratrechina* around New Zealand cities this species could establish without being noticed.

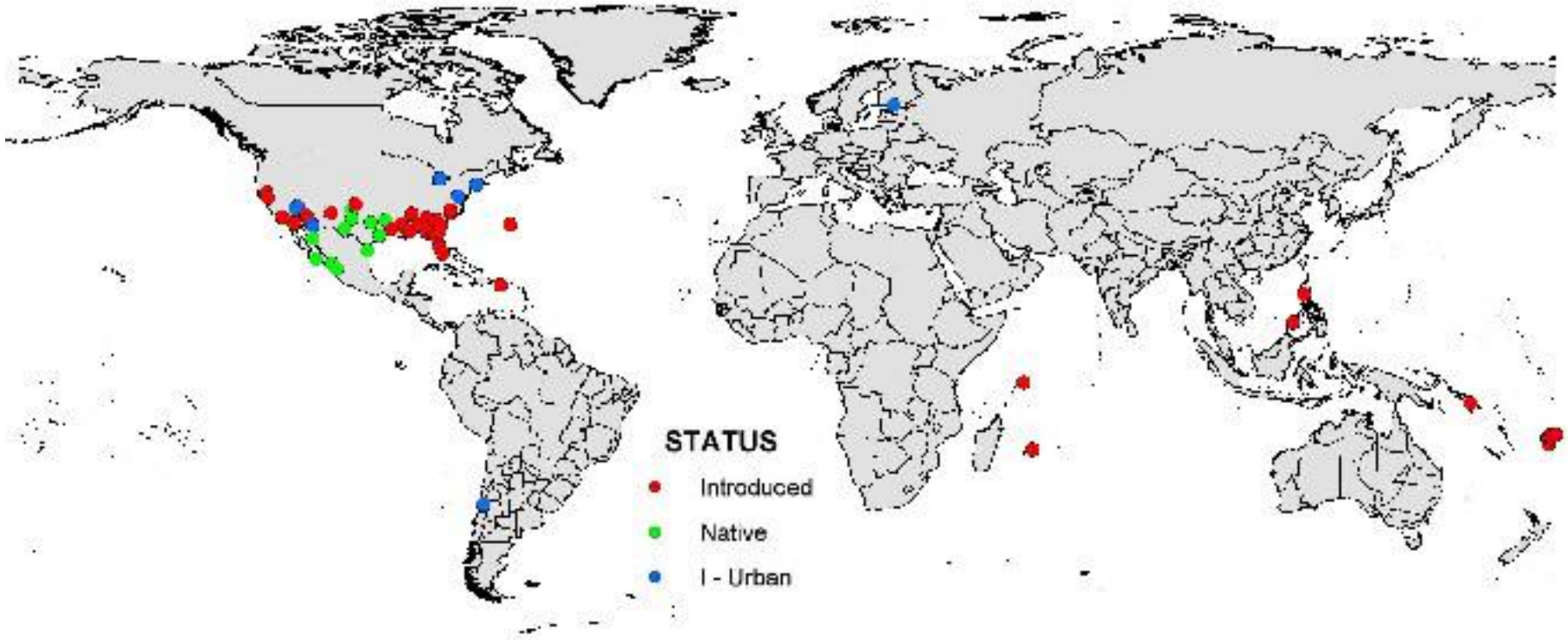
### *Mitigating Factors*

Areas of suitable climate may be limited in New Zealand outside of heated buildings. There have been no confirmed interceptions of this species at the New Zealand border (but it may be among the unidentified *Paratrechina* specimens). It is not considered a pest in Florida (Deyrep et al. 2000).

## Control Technologies

Little is known about control of this species.

*Compiled by Margaret Stanley, Richard Harris, & Jo Berry*




*Global distribution of* Paratrechina vividula (Nylander)