Strumigenys emmae (Emery 1890)

Taxonomic Category

Family:	Formicidae
Subfamily:	Myrmicinae
Tribe:	Dacetonini
Genus:	*Stumigenys*
Species:	*emmae*

Common name(s): none known.

Synonyms: *Epitritus clypeatus* Szabó, *Epitritus clypeatus* var. *malesiana* Forel, *Epitritus wheeleri* Donisthorpe, *Epitritus emmae* Emery, *Pyramica emmae* (Emery), *Quadristruma emmae* (Emery).

Much of the literature and distribution records as *Quadristruma emmae*, was transferred to *Strumigenys* only recently (Bolton 1999).

General Description

Identification

Size: monomorphic. Total length approximately 1.5 mm.

Colour: yellowish brown

General description: S. emmae is easily distinguished from many other ants by its 4-segmented antennae (the species of *Stumigenys* currently established in New Zealand have 6-segmented antennae). Apical fork of mandible consisting of 2 spiniform teeth: intercalary denticles between them numbering 2 on the left mandible and 1 or 2 on the right. A spiniform preapical tooth situated at about the apical third of the length of each mandible. Eyes very small, situated at ventral margin of antennal scrobes. Pronotum anteriorly rounding into the sides. Metanotal groove absent. Propodeal spines small, partly incorporated below into posterolateral propodeal lamellae. Hairs on head, mesosoma and petiole mostly scale-like or orbicular.

Source: www1

Further information in Bolton (2000).

Behavioural and Biological Characteristics

Feeding and foraging

Species of *Strumigenys* are difficult to find other than when encountered in leaf litter samples or pitfall traps. They are normally slow moving but can run quickly when disturbed (www4). Species in the genus are mostly specialised hunters of Collembola and have long, linear mandibles with a few large teeth at the apex (www13). While waiting for prey, the mandibles are opened at least 170°. When the prey encounters the specialised trigger hairs of the ant's mouthparts, the

long mandibles snap shut with explosive force. The initial strike itself usually kills the prey, and stinging is not necessary. Co-occur in litter with a wide range of other ant species (Deyrup & Deyrup 1999).

Colony characteristics

Colonies are small with fewer than 50 workers in colonies examined in Florida (Deyrup & Deyrup 1999), and are likely monogyne.

Dispersal

Winged forms are likely produced and disperse in summer.

Habitats occupied

It is found most often in highly disturbed habitats such as beach margins and agricultural areas. In Costa Rica, known from a citrus plantation, but could be expected in any lowland disturbed habitat (www10). In Florida it has been sampled in a range of xeric and mesic habitats from highly disturbed to relatively undisturbed forest (Deyrup & Deyrup 1999).

Global Distribution (See map)

Native to

Unclear: Australia according to Bolton (2000) although Australian ants online (www4) lists as "doubtfully native to Australia" while Wilson & Taylor (1967) suggest Africa as does Deyrup & Deyrup (1999).

Introduced to

It occurs widely in many tropical and subtropical regions of the world, including oceanic islands such as Hawaii.

History of spread

Widespread globally this cryptic species appears to have been accidentally transported to new locations on many occasions. First reported in Florida in 1949 and now found in at least 28 counties (Deyrup & Deyrup 1999).

Interception history at NZ border

No recorded interceptions.

Justification for Inclusion as a Threat

Established widely beyond its native range including the Pacific (Wilson & Taylor 1967) so high risk of arrival in New Zealand. A specialized predator of Collembola that may impact on competitors and prey in native systems (Deyrup et al. 2000), joining the other adventive *Strumigenys* already establish in New Zealand. As this species is small and cryptic any incursion in New Zealand would be difficult to detect.

Mitigating factors

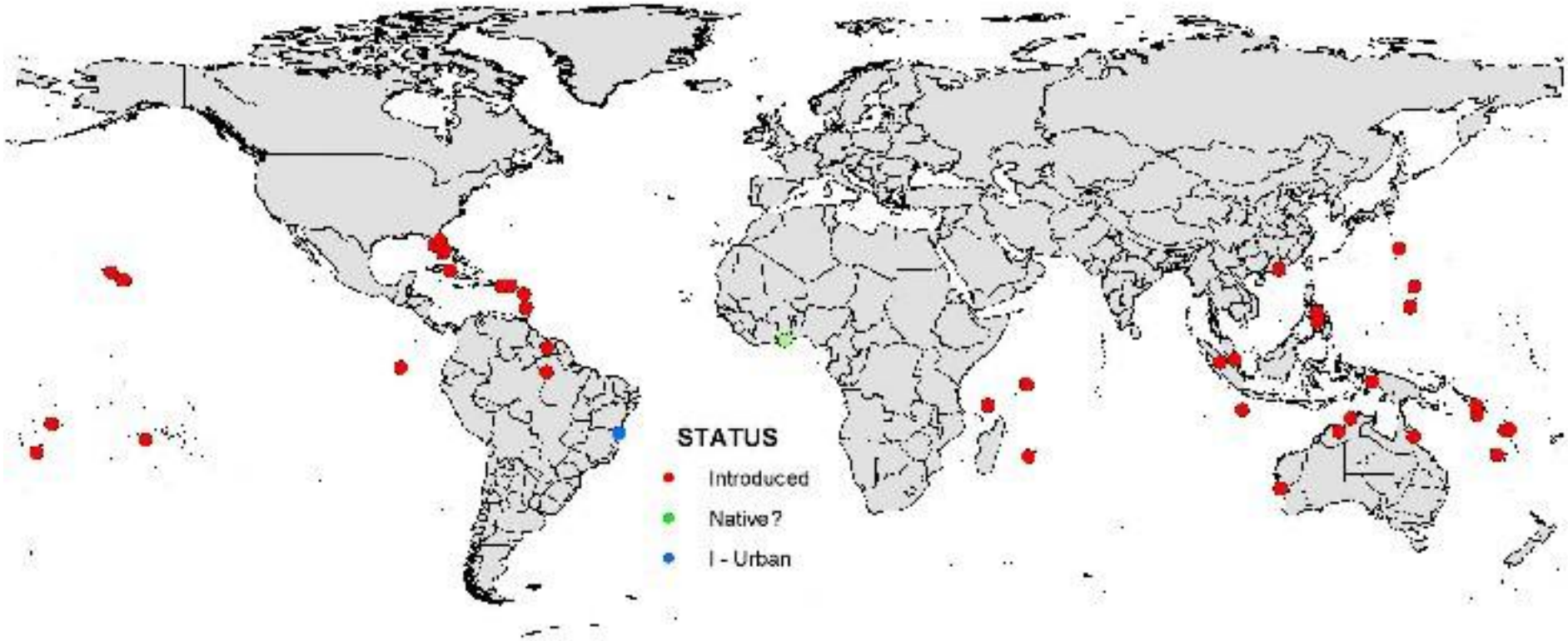
Areas of suitable climate may be limited in New Zealand as it is restricted in the USA from southern Florida north to about latitude 29.00 (Deyrup 2003). There have been no recorded interceptions of this species at the border (and only one unidentified *Strumigenys* specimen intercepted). Would join the already established *Strumigenys perplexa* in New

Zealand (a species widespread but in low densities wherever sampled) and likely to have similar habits and minimal impact. Not considered a pest in Florida (Deyrup et al. 2000).

Control Technologies

Unlikely to impact on people. If found established, unlikely any control will be undertaken.

Compiled by Richard Harris & Jo Berry



Global distribution of Strumigenys emmae *(Emery 1890)*