Invasive Ant Threat

INFORMATION SHEET Number 3 • Genus *Cardiocondyla* Emery Risk: Medium

Genus *Cardiocondyla* Emery

Taxonomic Category

Family:	Formicidae
Subfamily:	Myrmicinae
Tribe:	Formicoxenini
Genus:	*Cardiocondyla*

Common name(s): sneaking ants (Deyrup et al. 2000), hadaka-ari-zoku (Japan)

Original name: *Cardiocondyla* Emery

Synonyms or changes in combination or taxonomy: *Dyclona Santschi*, *Emeryia* Forel, *Loncyda* Santschi, *Prosopidris* Wheeler, *Xenometra* Emery

The genus currently includes around 40 described species worldwide.

General Description (worker)

Identification

Size: Small to medium ants, total length about 1.5–3.5 mm.

General description: antennae 12-segmented (11 in some species), including a 3-segmented club. Eyes relatively well developed. Mandibles triangular, each usually with 5 teeth. Clypeus widely projecting anteriorly, covering bases of mandibles. Head rectangular with rounded occipital border. In side view alitrunk forms a flat to weakly arched surface, interrupted only by a shallow metanotal groove. Propodeum with or without spines. Two nodes (petiole and postpetiole) present. Petiole slender in most species, with peduncle and subpetiolar process. Postpetiole depressed in profile, broad in dorsal view, wider than long, wider than petiole. Dorsal areas of head and mesosoma lacking hairs. Legs short; middle and hind legs without tibial spurs.

Sources: www9; www45; Heinze et al. 1993

Keys: Bolton 1982; 1994

Behavioural and Biological Characteristics

Feeding and foraging

Small inconspicuous ants. Foragers do not form trails but display tandem running, where one leads another to a food source (Hölldobler & Wilson 1990). A scavenger that appears able to survive in the presence of dominant ants such as *Linepithema humile* and *Solenopsis geminata*, probably by emitting effective repellents (Creighton & Snelling 1974).

Colony characteristics

Very small colonies < 500 workers that are constructed in the soil and less frequently under stones, with a small inconspicuous nest hole (Seifert 2003). Nests are seldom discovered. The tramp species show polygyny. Males show polymorphism with either winged forms similar to males of other species, or wingless forms that are worker-like in appearance (ergatoid) (Heinze 1999). Colonies of *C. wroughtonii* nest naturally in unstable environments and readily migrate when disturbed (Passera 1994).

Dispersal

New colonies are initiated preferentially by nest splitting (Seifert 2003) and wing reduction or inability to fly is common in sexuals. In some species, a few workers with brood can establish fully reproductive new colonies containing all castes.

Habitats occupied

Typically found in anthropogenically or naturally disturbed, open habitats or forest margins. Often occur in disturbed areas in Hawaii and not in forest (Reimer 1994). *C. venustula* has a wider tolerance of climate than the other species in Hawaii.

Global Distribution (See map)

Native to

Tropical Africa and Asia.

Introduced to

Spread globally. The species confirmed established outside their native range are *C. emeryi*, *C. nuda*, *C. minutior*, *C. obscurior*, *C. venustula*, and *C. wroughtonii*.

History of Spread

Passive transport by human trade routes for many centuries is probably responsible for current distribution.

Interception history at NZ border

Cardiocondyla minutior Forel was first found in Mt Manganui in 2000 and appears to be established (Harris & Berry 2001). Internationally, this species frequently is misidentified as *C. nuda*. There have only been 7 interceptions of this genus but considering their small size and widespread global distribution it is highly likely some may arrive undetected.

Justification for inclusion as a threat

Very common global tramps found throughout the Pacific and Australia. Species have occasionally been detected at the New Zealand border, and others are likely to have been missed due to their small size. It is highly probable more species will establish in New Zealand, where the climate is suitable. It will be difficult to detect and discriminate a new incursion from the species already present in New Zealand (*C. minutior*) due to the small size of workers and colonies, and the lack of foraging triails. Able to survive in the presence of dominant ants such as *Linepithema humile* and *Solenopsis geminata*, probably by emitting effective repellents (Creighton & Snelling 1974), so unlikely to be eliminated by ant competitors.

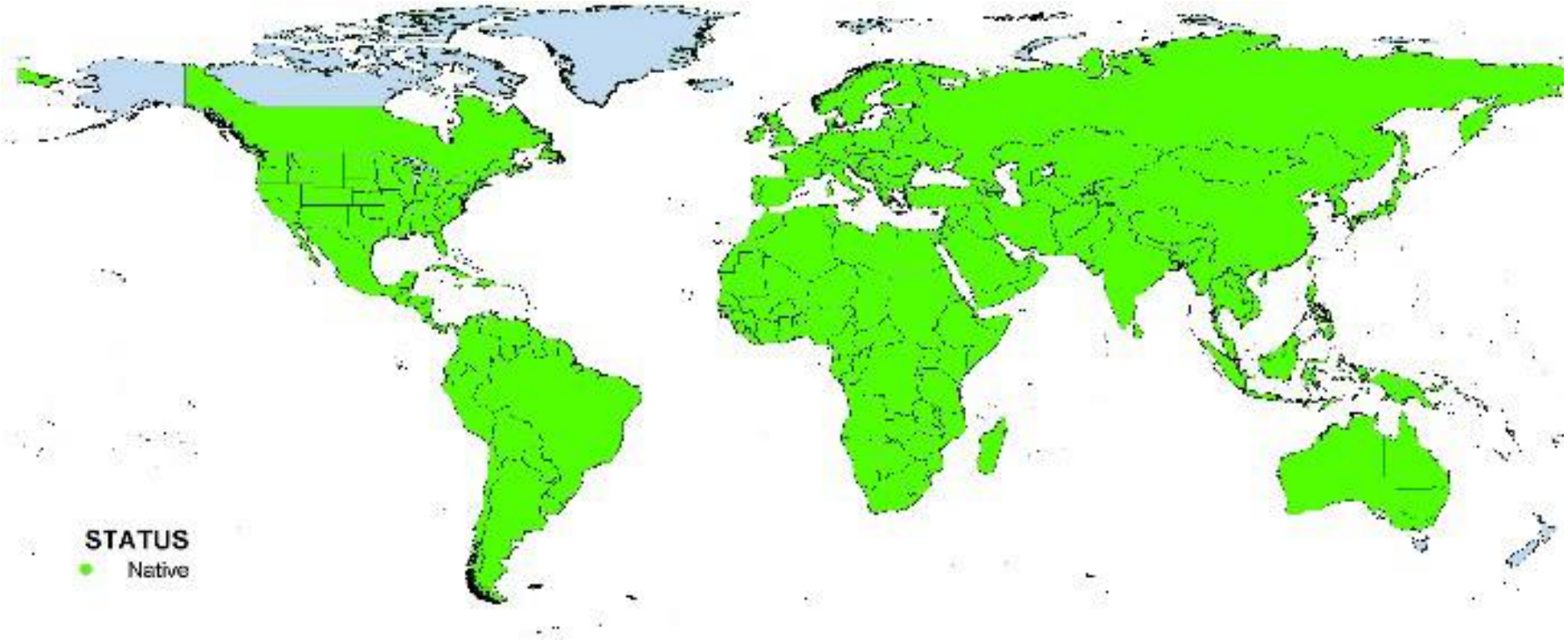
Mitigating factors

Generally not common wherever they occur, nor considered an urban or environmental pest (Collingwood et al. 1997; Deyrup et al. 2000; Wetterer & Wetterer 2004), except where they compete with endemic species of the same genus (Collingwood et al. 1997).

Control Technologies

None reported

Compiled by Richard Harris & Jo Berry



Global distribution of the Cardiocondyla *species that have established outside their native range (excluding* C. minutior *which is already established in New Zealand*