



Reuniting males and females: redescriptions of *Nuisiana arboris* (Marples 1959) and *Cambridgea reinga* Forster & Wilton 1973 (Araneae: Desidae, Stiphidiidae)

COR J. VINK^{1,2,5}, BRIAN M. FITZGERALD³, PHIL J. SIRVID³ & NADINE DUPÉRRÉ⁴

¹Biosecurity Group, AgResearch, Private Bag 4749, Christchurch 8140, New Zealand. E-mail: cor.vink@agresearch.co.nz

²Entomology Research Museum, PO Box 84, Lincoln University, Lincoln 7647, New Zealand.

³Museum of New Zealand Te Papa Tongarewa, PO Box 467, Wellington 6140, New Zealand.

E-mail: bmfitzgerald@ezysurf.co.nz, phils@tepapa.govt.nz

⁴Division of Invertebrate Zoology, American Museum of Natural History, Central Park West at 79th Street, New York New York 10024, U.S.A. E-mail: nduperre@amnh.org

⁵Corresponding author

Abstract

Two New Zealand endemic spider species, *Nuisiana arboris* (Marples 1959) (Desidae) and *Cambridgea reinga* Forster & Wilton 1973 (Stiphidiidae), are redescribed, including notes on their distribution and DNA sequences from the mitochondrial gene cytochrome *c* oxidase subunit 1. Based on morphological evidence and mitochondrial DNA sequences, *Matachia magna* Forster 1970 is a junior synonym of *Nuisiana arboris*, and *Nanocambridgea grandis* Blest & Vink 2000 is a junior synonym of *Cambridgea reinga*. Two forms of male morph in *C. reinga* are recorded.

Key words: cytochrome *c* oxidase subunit 1 (COI), DNA, *Matachia*, new synonymy, New Zealand, *Nanocambridgea*

Introduction

New Zealand's spider fauna is diverse with an estimated 1990 species, of which 93% are endemic (Paquin *et al.* 2010). Most of the 1126 named species were described during the last 60 years and about 60% were described by one man, Ray Forster (Patrick *et al.* 2000). The breadth of Forster's coverage meant that many species were described on the basis of very few specimens and so it is not surprising that many species are known only from males or females. As research on New Zealand's spider fauna continues, the missing sex of some species has been identified and described (e.g., Vink 2002; Fitzgerald & Sirvid 2009). In other cases, males and females previously described as different species or in different genera have been recognised as belonging together. Here, for two species we unite males and females that had been placed in different genera.

During spider surveys in the Mercury Islands between 1995 and 2000, female *Nuisiana arboris* (Marples 1959), the type species of the monotypic genus *Nuisiana* Forster & Wilton 1973, and male *Matachia magna* Forster 1970 (both in the family Desidae) were collected from natural and artificial shelters on Korapuki Island (Green 2005). Specimens were sent to Ray Forster and he concluded (*in litt.* 23 July 1997) that the "*Matachia* is the male of *Nuisiana*" and that the two genera were still valid. Also, during fieldwork in Canterbury, a male *Matachia magna* was found with a female *Nuisiana arboris* in an artificial shelter (Bowie *et al.* 2006; Hodge *et al.* 2007)

During the identification of spiders collected recently in Te Pahi Ecological District at the northern tip of Northland, it became apparent that two Stiphidiidae, *Cambridgea reinga* Forster & Wilton 1973, known only from the female, and *Nanocambridgea grandis* Blest & Vink 2000, known only from the male, may be the same species. The male and female specimens had the same colour pattern and were collected from the same localities, including a male and female collected in the same pitfall trap. The only other Stiphidiidae species collected in Te Pahi Ecological District was *C. foliata* (L. Koch, 1872), which is much larger and found throughout the North Island and the north of the South Island.

To establish the synonymy of the specimens in question and to facilitate identification, we examined their morphology and a fragment of the mitochondrial gene, cytochrome *c* oxidase subunit 1 (COI).