



NEW ZEALAND THREAT CLASSIFICATION SERIES 15

# Conservation status of New Zealand stick insects, 2014

Thomas R. Buckley, Rod Hitchmough, Jeremy Rolfe and Ian Stringer

Cover: *Pseudoclitarchus sentus*, Three Kings Islands, 2008. Photo: Thomas Buckley

*New Zealand Threat Classification Series* is a scientific monograph series presenting publications related to the New Zealand Threat Classification System (NZTCS). Most will be lists providing NZTCS status of members of a plant or animal group (e.g. algae, birds, spiders). There are currently 23 groups, each assessed once every 3 years. After each three-year cycle there will be a report analysing and summarising trends across all groups for that listing cycle. From time to time the manual that defines the categories, criteria and process for the NZTCS will be reviewed. Publications in this series are considered part of the formal international scientific literature.

This report is available from the departmental website in pdf form. Titles are listed in our catalogue on the website, refer [www.doc.govt.nz](http://www.doc.govt.nz) under *Publications*, then *Series*.

© Copyright August 2016, New Zealand Department of Conservation

ISSN 2324-1713 (web PDF)

ISBN 978-0-478-15086-5 (web PDF)

This report was prepared for publication by the Publishing Team; editing and layout by Lynette Clelland. Publication was approved by the Director, Terrestrial Ecosystems Unit, Department of Conservation, Wellington, New Zealand.

Published by Publishing Team, Department of Conservation, PO Box 10420, The Terrace, Wellington 6143, New Zealand.

In the interest of forest conservation, we support paperless electronic publishing.

# CONTENTS

Abstract	1
<hr/>	
1. Summary	2
<hr/>	
2. Conservation status of all known New Zealand stick insects (Phasmatodea: Phasmidae)	2
<hr/>	
3. References	3
<hr/>	



# Conservation status of New Zealand stick insects, 2014

Thomas R. Buckley<sup>1</sup>, Rod Hitchmough<sup>2</sup>, Jeremy Rolfe<sup>2</sup> and Ian Stringer<sup>2</sup>

<sup>1</sup> Landcare Research New Zealand Ltd, Private Bag 92170, Auckland 1142, New Zealand.

<sup>2</sup> Department of Conservation, PO Box 10420, Wellington 6143, New Zealand.

## Abstract

The conservation status of all known New Zealand stick insects (Phasmatodea: Phasmidae) (25 taxa and undescribed entities) was reassessed using the New Zealand Threat Classification System (NZTCS). A full list is presented, along with a statistical summary and brief notes on the most important changes. This list replaces all previous NZTCS lists for stick insects.

**Keywords:** New Zealand Threat Classification System, NZTCS, conservation status, stick insects, Phasmatodea, Phasmidae, *Acanthoxyla*, *Argosatchus*, *Asteliaphasma*, *Clitarchus*, *Micrarchus*, *Niveaphasma*, *Pseudoclitarchus*, *Spinotectarchus*, *Tectarchus*, *Tepakiphasma*.

# 1. Summary

The conservation status of all known New Zealand stick insects (Phasmatodea: Phasmidae) was assessed. The list previously included only five endemic species (Buckley et al. 2012). A further 20 endemic taxa and undescribed entities have been added to complete the assessment of the total known stick insect fauna of New Zealand (Table 1).

The threat status of each species included previously was reassessed but there were no changes. All 20 new additions were assessed as Not Threatened (Table 2).

Table 1. Taxa included in this document that were not listed in Buckley et al. (2012).

NAME AND AUTHORITY	NAME AND AUTHORITY
<i>Acanthoxyla fasciata</i> (Hutton, 1899)	<i>Asteliaphasma naomi</i> (Salmon, 1991)
<i>Acanthoxyla geisovii</i> (Kaup, 1866)	<i>Clitarchus hookeri</i> (White, 1846)
<i>Acanthoxyla huttoni</i> Salmon, 1955	<i>Micrarchus hystriculeus</i> Westwood, 1859
<i>Acanthoxyla inermis</i> Salmon, 1955	<i>Micrarchus</i> nov. sp. 1 (NZAC03000433)
<i>Acanthoxyla intermedia</i> Salmon, 1955	<i>Micrarchus</i> nov. sp. 2 (NZAC03009458)
<i>Acanthoxyla prasina</i> (Westwood, 1859)	<i>Niveaphasma annulatum</i> (Hutton, 1898)
<i>Acanthoxyla speciosa</i> Salmon, 1955	<i>Spinotectarchus acornutus</i> (Hutton, 1899)
<i>Acanthoxyla suteri</i> (Hutton, 1899)	<i>Tectarchus huttoni</i> (Brunner, 1907)
<i>Argosarchus horridus</i> (White, 1846)	<i>Tectarchus ovobessus</i> Salmon, 1954
<i>Asteliaphasma jucundum</i> (Salmon, 1991)	<i>Tectarchus salebrosus</i> (Hutton, 1899)

Table 2. Statistical summary of the status of New Zealand stick insect (Phasmatodea: Phasmidae) taxa and undescribed entities assessed in 2009 (Buckley et al. (2012) and 2014 (this document).

CATEGORY	BUCKLEY ET AL. (2012)	THIS DOCUMENT (2014)
Data Deficient	1	1
Threatened—Nationally Critical	1	1
At Risk—Naturally Uncommon	3	3
Not Threatened	0	20
Total	5	25

## 2. Conservation status of all known New Zealand stick insects (Phasmatodea: Phasmidae)

Table 3 lists all known New Zealand stick insects. Taxa are assessed according to the criteria of Townsend et al. (2008) and arranged alphabetically by scientific name.

Table 3. Conservation status of all known New Zealand stick insects (Phasmatodea: Phasmidae). Taxa are assessed according to the criteria of Townsend et al. (2008) and arranged alphabetically by scientific name.

NAME AND AUTHORITY	CATEGORY	CRITERIA	QUALIFIERS	TAXONOMIC STATUS
<i>Acanthoxyla fasciata</i> (Hutton, 1899)	Not Threatened			Determinate
<i>Acanthoxyla geisovii</i> (Kaup, 1866)	Not Threatened			Determinate
<i>Acanthoxyla huttoni</i> Salmon, 1955	Not Threatened			Determinate
<i>Acanthoxyla inermis</i> Salmon, 1955	Not Threatened			Determinate

Continued on next page

Table 3 continued

NAME AND AUTHORITY	CATEGORY	CRITERIA	QUALIFIERS	TAXONOMIC STATUS
<i>Acanthoxyla intermedia</i> Salmon, 1955	Not Threatened			Determinate
<i>Acanthoxyla prasina</i> (Westwood, 1859)	Not Threatened			Determinate
<i>Acanthoxyla speciosa</i> Salmon, 1955	Not Threatened			Determinate
<i>Acanthoxyla suteri</i> (Hutton, 1899)	Not Threatened			Determinate
<i>Argosarchus horridus</i> (White, 1846)	Not Threatened			Determinate
<i>Asteliaphasma jucundum</i> (Salmon, 1991)	Not Threatened			Determinate
<i>Asteliaphasma naomi</i> (Salmon, 1991)	Not Threatened			Determinate
<i>Clitarchus hookeri</i> (White, 1846)	Not Threatened			Determinate
<i>Clitarchus</i> nov. sp. 1 (NZAC03005448)	Naturally Uncommon		RR	Indeterminate
<i>Clitarchus</i> sp. aff. <i>hookeri</i> "Poor Knights"	Naturally Uncommon		IE, RR	Indeterminate
<i>Micrarchus</i> nov. sp. 3 (NZAC03000053)	Data Deficient		IE, OL	Indeterminate
<i>Micrarchus hystriculeus</i> Westwood, 1859	Not Threatened			Determinate
<i>Micrarchus</i> nov. sp. 1 (NZAC03000433)	Not Threatened			Determinate
<i>Micrarchus</i> nov. sp. 2 (NZAC03009458)	Not Threatened			Determinate
<i>Niveaphasma annulatum</i> (Hutton, 1898)	Not Threatened			Determinate
<i>Pseudoclitarchus sentus</i> (Salmon, 1948)	Naturally Uncommon		IE, RR	Determinate
<i>Spinotectarchus acomutus</i> (Hutton, 1899)	Not Threatened			Determinate
<i>Tectarchus huttoni</i> (Brunner, 1907)	Not Threatened			Determinate
<i>Tectarchus ovobessus</i> Salmon, 1954	Not Threatened			Determinate
<i>Tectarchus salebrosus</i> (Hutton, 1899)	Not Threatened			Determinate
<i>Tepakiphasma ngatikuri</i> Buckley & Bradler, 2010	Nationally Critical	A (3)	CD, OL	Determinate

See Townsend et al. (2008) for details of criteria and qualifiers, which are abbreviated as follows:

CD	Conservation Dependent
IE	Island Endemic
OL	One Location
RR	Range Restricted

#### Data Deficient

Taxa that are suspected to be threatened, or in some instances, possibly extinct but are not definitely known to belong to any particular category due to a lack of current information about their distribution and abundance. It is hoped that listing such taxa will stimulate research to find out the true category (for a fuller definition see Townsend et al. 2008).

#### Threatened

Taxa that meet the criteria specified by Townsend et al. (2008) for the categories Nationally Critical, Nationally Endangered and Nationally Vulnerable.

#### Nationally Critical

Criteria for Nationally Critical:

#### A—very small population (natural or unnatural)

A(3) Total area of occupancy  $\leq 1$  ha (0.01 km<sup>2</sup>)

#### At Risk

Taxa that meet the criteria specified by Townsend et al. (2008) for Declining, Recovering, Relict and Naturally Uncommon.

#### Naturally Uncommon

Taxa whose distribution is confined to a specific geographical area or which occur within naturally small and widely scattered populations, where this distribution is not the result of human disturbance.

#### Not Threatened

Resident native taxa that have large, stable populations.

## 3. References

- Buckley, T.R.; Palma, R.L.; Johns, P.M.; Gleeson, D.M.; Heath, A.C.G.; Hitchmough, R.A.; Stringer, I.A.N. 2012: The conservation status of small or less well known groups of New Zealand terrestrial invertebrates. *New Zealand Entomologist* 35: 137–143.
- Townsend, A.J.; de Lange, P.J.; Duffy, C.A.J.; Miskelly, C.M.; Molloy, J.; Norton, D.A. 2008. New Zealand Threat Classification System Manual. Department of Conservation, Wellington. 35 p.