

NEW ODONATA RECORDS FROM ATIU AND RAROTONGA, WITH AN OVERVIEW OF THE SPECIES KNOWN FROM THE COOK ISLANDS

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Abstract – In September and October 1995, 6 spp. were collected at Atiu and 4 at Rarotonga. Of these 5 spp. are recorded for the first time from Atiu. The odon. fauna of the Cook Islands is poorly known; an island-annotated list of the hitherto recorded 9 spp. is presented.

Introduction

The Cook Islands consist of 15 main islands, stretching between 9° and 22°S and 157° to 165°W in the SW Pacific. The Odonata fauna is poorly known.

During an entomological field trip, M. Asche and H. Hoch (both Berlin, Germany), visited Atiu (19°59'S, 158°07'W, area 27 km², alt. 0-70 m) and Rarotonga (21°56'S, 157°58'W, area 65 km², alt. 0-653 m). From 26-VIII to 10-IX-1996, they collected Odonata on both islands. The material is deposited in the entomological collections of the Institut für Systematische Zoologie (Museum für Naturkunde), Berlin (ZMHB).

List of localities

A t i u

- (1) Atiu Motel and surrounding, 2-IX-1995
- (2) South coast, 3-IX-1995, 5-IX-1995
- (3) Makatea at the eastern coast, 4-IX-1995

R a r o t o n g a

- (4) Avatiu Valley SW Avarua, cultivated area with Taro ponds (approx. 100 m alt), 26-VIII-1995
- (5) Turangi Valley NE Ngatangila, 27-VIII-1995
- (6) as loc. 4, 28-VIII-1995
- (7) Avana Stream E of Ngangiia, 27-VIII-1995
- (8) Arorangi Reservoir, 29-VIII-1995
- (9) Happy Valley, 1-IX-1995
- (10) Valley of Te Manga, 10-IX-1995

List of recorded species

A t i u

- *Agriocnemis exsudans* (Selys): 1 ♂, loc. 2, 1 ♀ without postocular spots, loc. 3.

- *Ischnura a. aurora* (Brauer): 1 ♂, loc. 2.
- *Diplacodes bipunctata* (Brauer): 1 ♂, 1 ♀, loc. 1. The female specimen has a ceratopogonid midge at the base of 1A on left hindwing.
- *Pantala flavescens* (Fabricius): 1 ♂, 1 ♀, loc 1.
- *Tholymis tillarga* (Fabricius): 2 ♂, 1 ♀, loc. 2.
- *Tramea transmarina* Brauer: 1 ♂, 1 ♀, loc. 1.

Rarotonga

- *A. exsudans*: 1 ♂, loc. 10.
- *I. a. aurora*: single males from locs 4, 5, 6; 1 ♀, loc. 9.
- *D. bipunctata*: 1 ♂, loc. 8, single ♀ from locs 7, 8.
- *P. flavescens* : single ♀ from locs 6, 8, 9.

Discussion

The first scientific record of Odonata from the Cook Islands was published by RIS (1911). However, this publication indicates that his material was from the 1860ies, the very beginnings of odonatology in the Pacific region. RIS (1911, p. 471) listed *Diplacodes bipunctata* from Rarotonga (1 ♂, 2 ♀, in the Museum Hamburg as well as conspecific material in the BMNH London), but his additional remark 'Brauer's Cotypen' for the specimens identified by Brauer in the Hamburg collection was erroneous (WEIDNER, 1962). BRAUER (1865, 1866) named Tahiti and New Caledonia as type localities for *D. bipunctata* and never mentioned Rarotonga. Nevertheless, there is some evidence that specimens of *D. bipunctata* from Rarotonga in the Godeffroy Museum in Hamburg were already

available to him in that decade. Brauer described several species based on Godeffroy Museum material (cf. BRAUER, 1867, 1868, 1869; WEIDNER, 1962). This material was provided by scientific collectors working in the Pacific region for the Godeffroy trading company. At least one of them also collected material on the Cook Islands (EVENHUIS, 2007).

Most of the knowledge on Odonata of the Cook Islands is based on the small survey of LIEFTINCK (1953) and on a list of records of WISE (1980). Other references include single records only (RIS, 1913, p. 919; LIEFTINCK, 1949; MARTENS, 1997).

Nine Odonata spp. have been previously recorded from the Cook Islands (Tab. I). Available are only data from 5 of the 15 major islands of the archipelago. The majority of records are from Rarotonga (Tab. I). Until now, the records of *Hemicordulia* sp. and *D. bipunctata*, both dated 29-IX-1969 (WISE, 1980), have been the only species known from Atiu. The collection reported here includes 5 species new for Atiu. So far, the distribution data are too poor for any further interpretation.

Except *Agriocnemis exsudans* the species in the Berlin collection are widespread in the Pacific region and known from many islands. *A. exsudans* is a southern Pacific endemic (LIEFTINCK, 1975), reaching from Norfolk Island, the New Hebrides and New Caledonia in the West to Rarotonga and Atiu in the East.

Table I – The Odonata of the Cook Islands (compiled after RIS, 1911, 1913; LIEFTINCK, 1949, 1953; WALKER & DEITZ, 1979; WISE, 1980; MARTENS, 1997, this study)

Species	Pukapuka	Aitutaki	Atiu	Rarotonga	Mangaia
<i>Agriocnemis exsudans</i>			x	x	
<i>Ischnura a. aurora</i>	x	x	x	x	
<i>Anaciaeschna jaspidea</i>				x	
<i>Anax guttatus</i>				x	
<i>Hemicordulia</i> sp. near <i>hilaris</i>			x	x	
<i>Diplacodes bipunctata</i>	x		x	x	x
<i>Pantala flavescens</i>	x	x	x	x	x
<i>Tholymis tillarga</i>			x	x	
<i>Tramea transmarina</i>			x	x	

Acknowledgements – I would like to thank G. PETERS for loan of the specimens, W. PIPER, R. ROWE and R. RUDDEK for literature, as well as S. HETTINGER and M. MARINOV for critical remarks on the manuscript.

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Received December 22, 2009