

Moths (Lepidoptera) from the Five Islands, Trinidad and Tobago, Including New Country Records

Matthew J.W. Cock

c/o CABI, Bakeham Lane, Egham TW20 9TY, UK.
m.cock@cabi.org, mjwcock@btinternet.com

ABSTRACT

The Five Islands are a group of very small, uninhabited low islands lying about 2km south of Trinidad's north-west peninsula, of which Nelson Island and Caledonia Island are the largest. A 125W mercury vapour light trap was run for two nights on each island in January 1981 and a total of 50 species of moths identified. Sixteen of these are here also recorded from Trinidad for the first time. Comparisons are made with the known fauna of other islands off the north-west peninsula of Trinidad, Trinidad itself and Tobago.

Key words: Pyraloidea, Geometroidea, Bombycoidea, Noctuoidea, Nelson Island, Caledonia Island

INTRODUCTION

The Five Islands are a group of very small, uninhabited, low islands lying close together about 2km south of Trinidad's north-west peninsula (Fig. 1). The two largest are Caledonia (c. 250m at longest) and Nelson (c. 200m at longest).

Nothing has been recorded regarding the Lepidoptera of the Five Islands, but in view of recent interest in the Lepidoptera of Trinidad's offshore islands, I am placing these observations from 1981 on record. At that time, the vegetation of Nelson was very disturbed, consisting of

mixed trees towards the east end, but mostly tall grasses around the buildings with a variety of weeds including *Lantana camara* and *Chromolaena odorata*, while that of Caledonia was wooded and presumably approached the natural vegetation. Images from 2008 examined on the internet suggest little change or increased tree cover (Fig. 1).

In association with a University of the West Indies field course, a standard Robinson 125W mercury vapour light trap was run off a portable generator for four nights

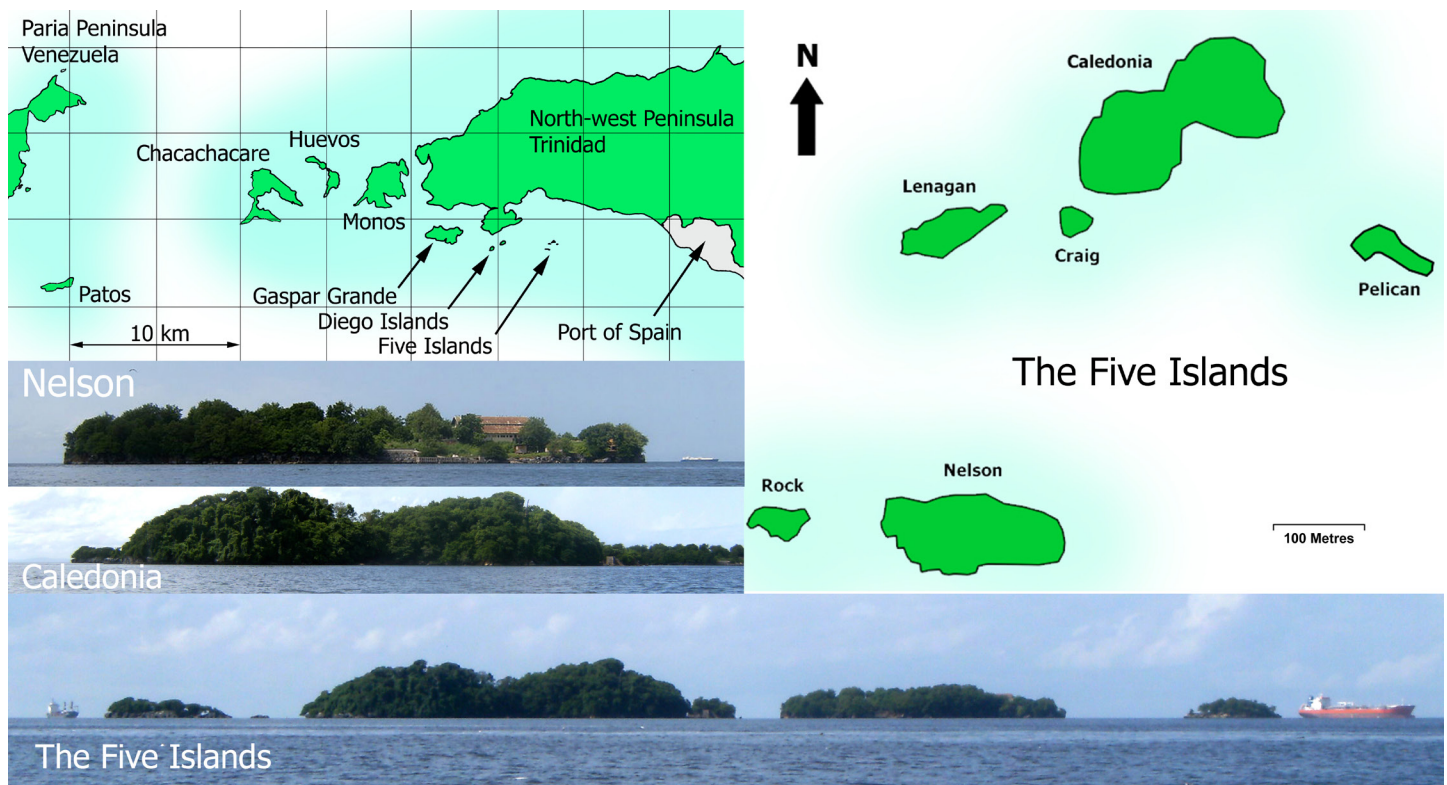


Fig. 1. The Five Islands, Trinidad and Tobago. Images are edited from the 2008 work of R45 on Wikipedia under a CC 3.0 license, apart from the first, which is redrawn from MOD (1970).

during the dry season as follows:

4-5	January 1981	Nelson Island, north of main building
5-6	January 1981	Caledonia Island
6-7	January 1981	Nelson Island, towards east end, where less disturbed
8-9	January 1981	Caledonia Island, near the sea overlooking Craig Island

The trap was set up late afternoon each day and left to run until the fuel in the generator ran out, and the contents were examined in the morning. It is not certain how long the trap operated each night, but as the generator had an eight hour capacity, it can be assumed that it went off well before dawn each night. One further species, *Pseudopyrausta santatalis* (Barnes & McDonnough) (Crambidae) was reared from a caterpillar collected on *L. camara* on Nelson.

A total of 54 species of eight families was recorded (Table 1) – see comments in Cock (2017) about the identification of Trinidad and Tobago moths. One species, *Condica* sp. nr. *concisalis* (Walker) (Noctuidae) was only partially identified, so is shown here to facilitate future recognition (Fig. 2). Members of the so-called Micro-Lepidoptera were not included in the enumeration, apart from the Pyralidae and Crambidae. The relative strengths of the families found are about typical for Trinidad and Tobago apart from the very low number of Noctuidae recorded from Caledonia. The numbers of species and individuals caught each night are not dissimilar to those obtained in a Trinidad suburban situation, but considerably less than those found in a Trinidad forested situation.

Comparing the two islands, 39 species were collected on Nelson and 21 on Caledonia, but only six species were

common to both. Four species were not identified at the time, and I cannot now associate them with reference material. Of the remaining 50 species, all bar one (*P. santatalis*) are known from Trinidad (Kaye and Lamont 1927, Lamont and Callan 1950, author's unpublished records – see Cock 2003), and 24 are known from Tobago (Cock 2017). It seems likely that the Lepidoptera fauna of the Five Islands will have many species in common with the other offshore islands of north-west Trinidad, including the Bocas Islands – lying between the north-west peninsula of Trinidad and the Paria Peninsula of Venezuela, of which Monos, Huevos and Chacachacare are the largest (Fig. 1). However, there is very little information reported regarding the moths of any these islands as yet, and only very provisional lists are available for Huevos (Sookdeo and Cock 2017) and Chacachacare (K. Sookdeo pers. comm.). Of the 50 species here recorded from the Five Islands, five (10%) are in common with Huevos and four (8%) in common with Chacachacare based on these provisional lists.

It is not clear what the balance of species is in terms of long-term breeding residents, short-term breeding residents and casual visitors. Undoubtedly there must be some turnover of species as some are lost and others are gained, but we don't know enough about the biology of Trinidad moths to assess whether a breeding population is likely to be maintained. However, some species can be associated with their food observed on the islands, e.g. *Pareuchaetes pseudoinsulata* Rego Barros feeds on *Chromolaena odorata*, *Diastema tigris* Guenée, *Pseudopyrausta santatalis* and *Salbia haemorrhoidalis* (Guenée) feed on *Lantana camara*, *Spodoptera frugiperda* (J.E. Smith) and *Herpetogramma phaeopteralis* (Guenée) feed on grasses, etc.

The moths of Trinidad were catalogued by Kaye and Lamont (1927) and Lamont and Callan (1950). The author has been studying the moths of Trinidad for many years and is aware of many more species not recorded by the earlier workers (Cock 2003), and of the species listed here, 16 from the Five Islands also occur on Trinidad but have not hitherto been recorded to do so (Table 1).

ACKNOWLEDGEMENTS

I thank colleagues of the UWI Department of Zoology who invited me to visit the field course based on Nelson Island and operated the trap on my behalf. My thanks also to Dr J.D. Holloway and Dr J.D. Bradley, the Commonwealth Institute of Entomology (CABI) and Mr M. Shaffer of the Natural History Museum, UK, who made initial identifications of this material or duplicates that I sent to them. I have subsequently checked and refined these identifications, so that any errors are now my responsibility.



Fig. 2. *Condica* sp. nr. *concisalis* (Walker), dorsal view above, ventral view below. Left, male, Curepe, black light trap, 21-28 February 1982, F.D. Bennett [MJWC]. Right, female, St. Benedict's, at light, 10-16 July 1996 (M.J.W. Cock) [MJWC].

Table 1. Tabulated results of light trap catches for each night on the Five Islands, January 1981.

Date (January 1981):	Nelson Island		Caledonia Island		Vouchers ¹	Chacachacare	National distribution ²			Comments
	4-5	6-7	5-6	8-9			Huevos	Trinidad	Tobago	
<u>PYRALIDAE</u>										
<i>Piesmopoda xanthomera</i> Dyar			1♂		MJWC		X ³			Records from Arima Valley (Simla), Curepe. Point Gourde
Unidentified Pyralidae species				1						No voucher material located
<i>Xantippe olivalis</i> Dyar			1				X	X ³		Records from Arima Valley (Simla), Curepe
<u>CRAMBIDAE</u>										
<i>Helvibotys helvialis</i> (Walker)			1				X		X	
<i>Herpetogramma phaeopteralis</i> (Guenée)	1+	3	2	1+			X			
<i>Lamprosema canacealis</i> (Walker)		1					X ³			Records from Curepe, Palmiste
<i>Lygropia cernalis</i> (Guenée)	1♂			1	MJWC		X ³			Records from Curepe, Parrylands
<i>Microthyris anormalis</i> (Guenée)	1						X		X	
<i>Omiodes indicata</i> (Fabricius)	1	1					X			
<i>Polygrammodes elevata</i> (Fabricius)			1				X		X	
<i>Polygrammodes lichyi</i> Munroe			1♀		MJWC		X ³			Records from Arima Valley (AWNC), Curepe
<i>Pseudopyrausta santatalis</i> (Barnes & McDonnough)		1♂			MJWC					New national record
<i>Salbia haemorrhoidalis</i> (Guenée)			1				X			
<i>Synclera jarbusalis</i> (Walker)	1						X		X	
Unidentified Crambidae species		2								No voucher material located
<u>GEOMETRIDAE</u>										
Unidentified ? <i>Scopula</i> sp.		1								No voucher material located
<i>Erastria decrepitaria</i> <i>decrepitaria</i> (Hübner)		1	1		NHMUK		X			
<i>Eusarca crameraria</i> (Guenée)	1				MJWC		X			
<i>Idaea rufarenaria</i> (Warren)	1	9	4		MJWC	X	X	X ³	X	Records from Arima Valley (Simla), Curepe, Point Gourde, St. Benedict's
<i>Leptostales desmogramma</i> (Dyar)			1				X		X	
<i>Prochoerodes onustraria</i> (Hübner) Probably		1					X			
<i>Sphacelodes vulneraria</i> (Hübner)	1	2				X	X		X	
<i>Synchlora gerularia</i> (Hübner)	1						X			
<u>SATURNIDAE</u>										
<i>Automeris zurobara zurobara</i> Druce			1♂				X ³		X	Widespread in Trinidad
<u>SPHINGIDAE</u>										
<i>Erinyis ello</i> (Linnaeus)		1♂					X		X	
<u>NOTODONTIDAE</u>										
<i>Nycterotis lucia</i> (Schaus)	1♂	3♂	5♂		MJWC, UWIZM		X	X ³		Records from Curepe, Palmiste
<i>Porionella fragilis</i> (Schaus)	1♂				MJWC		X ³			Records from Arima Valley (Simla)

Table 1. Continued. Tabulated results of light trap catches for each night on the Five Islands, January 1981.

Date (January 1981):	Nelson Island		Caledonia Island		Vouchers ¹	National distribution ²				Comments
	4-5	6-7	5-6	8-9		Chacachacare	Huevos	Trinidad	Tobago	
EREBIDAE										
<i>Azeta versicolor</i> (Fabricius)		2					X	X		
<i>Baniana ypita</i> Schaus		1					X ³			Records from Arima-Blanchisseuse Road (milestone 9.75), Brigand Hill, Morne Bleu Textel, Parrylands, St. Benedict's
<i>Bleptina caradrinalis</i> Guenée				1			X	X	X	
<i>Cosmosoma remota</i> (Walker)		1					X	X		
<i>Episcepsis lenaeus</i> (Cramer)			1♂				X			
<i>Eublemma recta</i> (Guenée)	1♂				MJWC		X			
<i>Gabara bisinuata</i> (Hampson)			1♂		MJWC		X ³	X		Records from Curepe, St Benedict's
<i>Gabara insuetalis</i> (Kaye)		1					X			
<i>Glympis arenalis</i> (Walker)		1♂			MJWC		X ³			Records from Curepe
<i>Heterogramma circumflexalis</i> Guenée	2		1				X	X		
<i>Lesmone formularis</i> (Geyer)		1♀					X	X		
<i>Melipotis famelica</i> (Guenée)		1♂			MJWC		X ³	X		Records from Sangre Grande, St. Benedict's
<i>Melipotis fasciolaris</i> (Hübner)		2					X	X		
<i>Melipotis januaris</i> (Guenée)	1	1					X			
<i>Pareuchaetes pseudoinsulata</i> Rego Barros	1♀						X	X		
<i>Ptichodis immunis</i> (Guenée)	1				NHMUK		X	X		
<i>Renia clavalis</i> Guenée		1					X	X	X	
Unidentified Erebidae species			1							No voucher material located
NOCTUIDAE										
<i>Anicla infecta</i> (Ochsenheimer)	1	1					X	X		
<i>Condica</i> sp. ?nr <i>concosa</i> Walker ⁴		1♂			MJWC		X			Records from Curepe, Morne Bleu, St. Benedict's
<i>Condica sutor</i> (Guenée)	1						X	X		
<i>Diastema tigris</i> Guenée	1					X	X	X		
<i>Dyops chlorargyra</i> Hampson		1					X ³			Records from Arima Valley (Simla), Curepe, Morne Bleu Textel
<i>Leucania polystrota</i> (Hampson)		2					X			
<i>Pararcte schneideriana</i> (Stoll)	1						X			
<i>Speocropia placida</i> (Stoll)	1♂				MJWC		X ³			Records from Curepe, Morne Bleu Textel. Palmiste
<i>Spodoptera frugiperda</i> (J.E. Smith)	1						X	X		

¹Specimens from this study may be found in the author's collection (MJWC), The University of the West Indies Zoology Museum (UWIZM) and The Natural History Museum, UK (NHMUK).

²Distribution based on Kaye and Lamont (1927), Lamont & Callan (1950) and the author's unpublished observations for Trinidad, Cock (2017) for Tobago, Sookdeo & Cock (2017) for Huevos, and K. Sookdeo (pers. comm.) and the author's unpublished observations for Chacachacare.

³These species have not previously been recorded from Trinidad in the literature, but the author is aware of unpublished records as listed under Comments.

⁴This species also occurs in Trinidad (Fig. 2). I have been unable to match it in NHMUK, although there are similar specimens un-named in the United States National Museum from Venezuela, Ecuador and Guatemala.

REFERENCES

- Cock, M.J.W.** 2003. On the number of species of moths (Lepidoptera) in Trinidad and Tobago. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club*, 2003: 49-58.
- Cock, M.J.W.** 2017. A preliminary catalogue of the moths (Lepidoptera except Papilionoidea) of Tobago, West Indies. *Insecta Mundi*, 0585: 58 p.
- Kaye, W.J.** and **Lamont, N.** 1927. A catalogue of the Trinidad Lepidoptera Heterocera (moths). *Memoirs Dept. Agric.*, Trinidad and Tobago, 3: 1-144.
- Lamont, N.** and **Callan, E. McC.** 1950. Moths new to Trinidad, B.W.I. *Zoologica*, 35: 197-207.
- MOD** (Ministry of Defence, United Kingdom) (1970) Trinidad 1:150,000 Map. Ministry of Defence, United Kingdom.
- Sookdeo, K.** and **Cock, M.J.W.** 2017. Notes on the Lepidoptera of Huevos, Trinidad, West Indies. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club*, 2017: 43-48.