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BUTTERFLIES AND MOTHS (LEPIDOPTERA) ON ROBZEN ISLAND: PRELIMINARY RESULTS FROM LEPIMAP

Megan Loftie-Eaton^{1*}, *Les G. Underhill*¹ and *Eward Doubell*²

¹Animal Demography Unit, Department of Biological Sciences, University of Cape Town, Rondebosch, 7701 South Africa

²Doubell & Son, PO Box 4037, Nelspruit, 1200 South Africa

* corresponding author meg.loftie.eaton@gmail.com

INTRODUCTION

Some aspects of the biodiversity of Robben Island, in Table Bay, South Africa, have been well studied, while others have been neglected; the bibliography of publications relating to the biodiversity of Robben Island (Underhill & Barham 2016) was dominated by birds, especially seabirds. A single paper in the bibliography, on the spiders of Robben Island, was devoted to invertebrates (Mukherjee et al. 2010). Robben Island, which is 5.07 km² in size, is an island in Table Bay, about 7 km west of the coastline at Bloubergstrand, just north of Cape Town, South Africa.

LepiMAP, the Atlas of African Lepidoptera, aims to determine the distribution and conservation priorities of butterflies and moths for the entire African continent. LepiMAP is a joint project of the Animal Demography Unit (ADU), University of Cape Town, and the Lepidopterists' Society of Africa, a society for members of the public

with an interest in butterflies and moths. LepiMAP was launched in October 2013. It is a continuation of an earlier project which aimed to map the distributions of the butterflies of South Africa, and which published its results in 2012 (Mecenero et al. 2013). The database for this earlier project contained 367 794 records, none of which were from Robben Island. Between October 2013 and August 2016, a further 69103 records were added to the LepiMAP database.

This paper aims to help fill the gap in knowledge of the invertebrates of Robben Island, by searching the LepiMAP database for records from the island. Its objective is to provide an initial list of the butterflies and moths recorded from Robben Island.

RESULTS

By August 2016, the number of LepiMAP records submitted for Robben Island was 51, including 16 butterflies and 35 moths. All these records were submitted as photographs to the ADU Virtual Museum (<http://vmus.adu.org.za>), the data portal for LepiMAP. All the butterfly records could be identified to species level, resulting in five different species. The moth records which could be identified to species level revealed six species; four other taxa were recorded, but the photographs could not be identified to species level. 21 of the moth records remained unidentified.

Species list

Each species of butterfly and moth is illustrated with a photograph from the LepiMAP database. One of the photographs taken on Robben Island has been used.

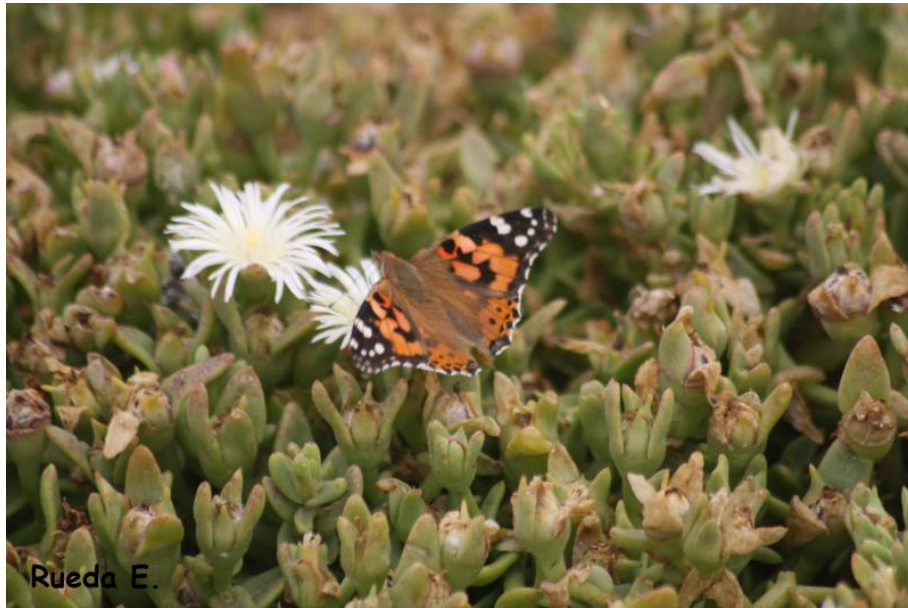


Figure 1. Painted Lady photographed by Eukene Rueda
<http://vmus.adu.org.za/?vm=LepiMAP-26705>

Painted Lady *Vanessa cardui*

The Painted Lady (Family Nymphalidae) (Figure 1) is one of the most widespread butterflies in the world, found on every continent except Antarctica and South America. These butterflies migrate in large numbers from northern Africa into Europe every year (Butterfly Conservation 2012). Painted Ladies prefer dry open habitats, but they can be found throughout South Africa.



Figure 2. Common Meadow White photographed by Les Underhill
<http://vmus.adu.org.za/?vm=LepiMAP-37834>

Common Meadow White *Pontia helice helice*

The Common Meadow White (Family Pieridae) (Figure 2) is widely distributed across southern Africa, and as far north as Uganda and Kenya (Mecenero 2013). Males have a wingspan of 35–40 mm and females 37–43 mm (Woodhall 2005). Their flight period is year-round.



Figure 3. Brown-veined White photographed by Eukene Rueda
<http://vmus.adu.org.za/?vm=LepiMAP-27141>

Brown-veined White *Belenois aurota*

The Brown-veined White (Family Pieridae) (Figure 3) is a small to medium-sized butterfly (Woodhall 2005). It is found throughout South Asia and Africa. In South Africa, it is a common sight during summer and autumn when large numbers migrate north-east over the interior of the country.



Figure 4. Cabbage White photographed by Arnold van der Westhuizen
<http://vmus.adu.org.za/?vm=LepiMAP-37791>

Cabbage White *Pieris brassicae*

The Cabbage White (Family Pieridae) (Figure 4) is South Africa's only alien invasive butterfly. This alien was first recorded in Sea Point, on the Cape Peninsula, in 1994, and it is steadily expanding its range. It has spread into the interior of the Western Cape, and also along the Garden Route in the south, as far as Eastern Cape province, and northward along the West Coast (Figure 5). Native to Europe, it has been introduced to North America (1860), New Zealand and Australia (1930), Chile in South America (1970s), and finally Africa, via Cape Town. It is pest of crops of cabbage (Picker & Griffiths 2011).

One of the mini-projects within LepiMAP is to try to track the expansion of this alien butterfly across southern Africa. If you see a Cabbage White, please make a special effort to take a photograph and submit

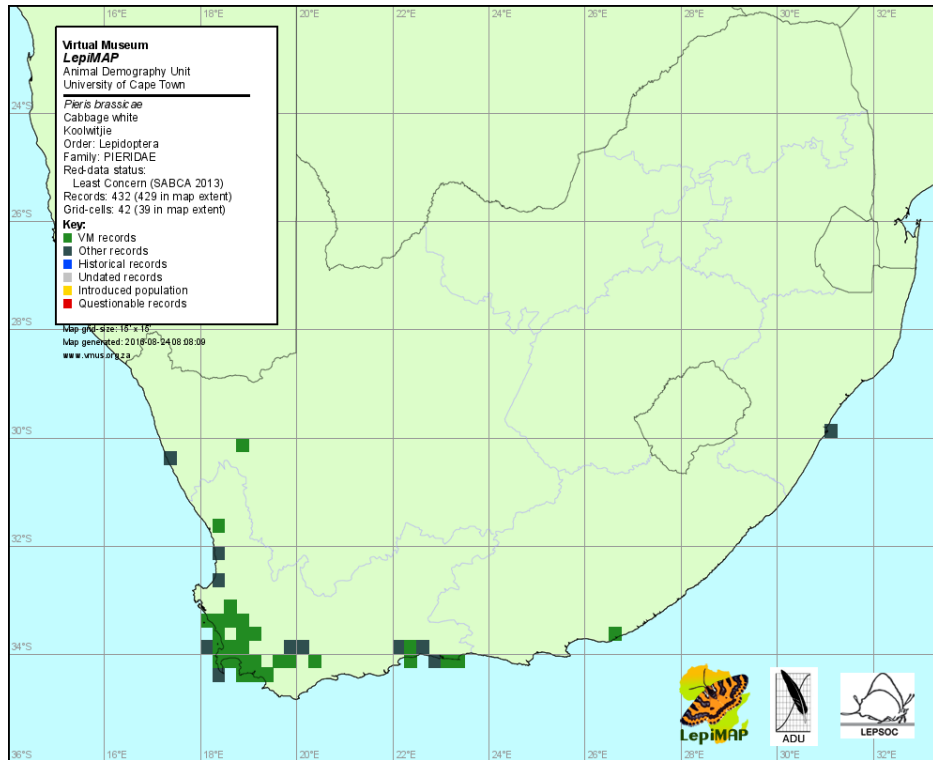


Figure 5. South African distribution of the Cabbage White, August 2016

it to the LepiMAP section of the ADU Virtual Museum at <http://vmus.adu.org.za/>. Your record may show an extension of the range of this species.



Figure 6. Common Hairtail photographed by Les Underhill <http://vmus.adu.org.za/?vm=LepiMAP-593020>

Common Hairtail *Anthene definita definita*

Genus *Anthene* (Family Lycaenidae) (Figure 6) is commonly known as the ciliate blues or hairtails. Common Hairtails are small, fast-flying, active butterflies (Woodhall 2005). They are widespread and common along the coastal areas of South Africa, as well as in the north of the country. Common Hairtails are fond offlowers (Woodhall 2005), which allows one to approach them for LepiMAPping.



Figure 7. Caterpillar of Cape Lappet photographed by Megan Loftie-Eaton <http://vmus.adu.org.za/?vm=LepiMAP-35462>

Cape Lappet *Eutricha capensis*

The Cape Lappet Moth (Family Lasiocampidae) (Figure 7) is primarily found in South Africa, but some sources also list Tanzania, Malawi, and Mozambique (Picker et al. 2004). During the larval stage, Cape Lappets feed on a wide variety of plants and are often found in large aggregations. The adults are large and stocky, with an average wingspan of about 70 mm. Both hind wings and fore wings are reddish brown in colour (Picker et al. 2004).



Figure 8. Crimson-speckled Footman photographed by Allison Sharp <http://vmus.adu.org.za/?vm=LepiMAP-42532>

Crimson-speckled Footman *Utetheisa pulchella*

This moth (Family Arctiidae) has a large distribution throughout Africa, southern Europe, central and southern Asia and Australia (Picker et al. 2004). The Crimson-speckled Footman (Figure 8) is a day-flying moth and its preferred habitats include disturbed weedy fields, gardens, and agricultural land (Picker et al. 2004).



Figure 9. *Stolid Lines* photographed by Allison Sharp
<http://vmus.adu.org.za/?vm=LepiMAP-42531>

Stolid Lines *Grammodes stolidus*

This is a medium-sized moth (Family Noctuidae) with a wingspan of 34 mm. Stolid Lines (Figure 9) are common throughout Africa, Europe and Asia (Picker et al. 2004). In Europe, the larvae of the this moth feed on oak, puncture vine (*Tribulus* sp.) and bramble (*Rubus* sp.) (Picker et al. 2004).



Figure 10. *Xanthorhoe transjugata* photographed by Les Underhill
<http://vmus.adu.org.za/?vm=LepiMAP-39169>

Xanthorhoe transjugata

Moths belonging to this large family (Family Geometridae) share similar traits, which, in general, include a combination of a thin body, small thorax and broad wings which are usually spread flat when at rest (Picker et al. 2004). These moths are usually cryptically coloured, as is the case with *Xanthorhoe transjugata*.(Figure 10).



Figure 11. Cape Lawn Moth photographed by Rene Navarro
<http://vmus.adu.org.za/?vm=LepiMAP-14700>

Cape Lawn Moth *Spodoptera cilium*

The Cape Lawn Moth (Family Noctuidae) (Figure 11) occurs across most of Africa. The Cape Lawn Moth lays its eggs in bunches on grass, where they hatch into small green larvae. Initially, they feed in the thatch of the grass at ground level. This species is also known as the Grasslawn Armyworm, and is sometimes regarded as a pest (Picker et al. 2004).



Figure 12. Tricoloured Tiger photographed by Rene Navarro
<http://vmus.adu.org.za/?vm=LepiMAP-14699>

Tricoloured Tiger *Rhodogastria amasis*

The Tricoloured Tiger (Family Arctiidae) (Figure 12) is a medium-sized, robust moth, with a wingspan of 60 mm. The wings have a silvery white appearance when at rest and they have a white and yellow thorax (Picker et al. 2004). It is found throughout South Africa as well as Lesotho, Mozambique, and Zimbabwe (Picker et al. 2004).

Four other records were identified to genus, subfamily and family level, respectively. They were identified as:

Cleora sp. (<http://vmus.adu.org.za/?vm=LepiMAP-14698>),
Ceromitia sp. (<http://vmus.adu.org.za/?vm=LepiMAP-42528>),
 Subfamily Larentiinae (<http://vmus.adu.org.za/?vm=LepiMAP-550645>), and
 Family Tortricidae (<http://vmus.adu.org.za/?vm=LepiMAP-550650>).

SUGGESTIONS

We encourage visitors to the island, and especially the fieldworkers on research projects, to be alert to opportunities to take photographs of butterflies and moths. We would like to expand our knowledge on the Lepidoptera of Robben Island. These should be uploaded to the LepiMAP section of the ADU Virtual Museum. There is a slideshow presentation that shows you step-by-step how to submit records to LepiMAP: <http://www.slideshare.net/meganloftieeaton/how-to-submit-records-to-the-animal-demography-units-virtual-museums-28710898>. There is also a slideshow with tips on how to photograph butterflies and moths: <http://www.slideshare.net/meganloftieeaton/how-to-photograph-butterflies-and-moths>

This short paper is the first to provide a list of the butterflies and moths of a locality based on the LepiMAP database. As such it provides a model for this genre of report. We strongly encourage the development of similar papers describing the Lepidoptera of other sites of special interest.

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