

## NOTE

### The establishment in Harare, Zimbabwe, of *Spalgis lemolea* Druce, 1890, and notes on its life history

Published online: 30 April 2020

DOI: <https://dx.doi.org/10.4314/met.v31i1.5>

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## OBSERVATIONS

On 27 March 2019 at approximately 3pm the lead author noticed a small white lycaenid fluttering around a Tree Tomato plant, *Solanum betaceum*, in his garden in Harare, Zimbabwe (17°47'08.97"S 31°06'11.07"E). He immediately recognised it as *Spalgis lemolea* and "asked" his wife to fetch a net while he kept an eye on the butterfly. Before she returned, a *Leptotes* male had descended from his perch and chased the butterfly over the house and away from view. Disappointment set in, as this would have been the furthest south the butterfly had ever been recorded. So he decided to watch the bush, from a distance, and almost immediately he spotted a female and caught her, the first record for Harare. Not a minute later a second female arrived and was captured. As both were damaged, Jonathan decided to attempt getting them to lay eggs on *Strelitzia nicotia* leaves, which were in the garden and covered with mealybugs (but with no result). Shortly after, two fresh, undamaged females fluttered into sight in short succession and were captured. So many *S. lemolea* in a Harare garden was quite a discovery.

Over the next couple of days searches and observations were made. As no chemicals are used in the garden, the citrus trees were infested with *Psylla*, the roses and Tree Tomato with aphids, and coccids were in abundance on the undersurface of the *Strelitzia* leaves. The *S. lemolea* on the Tree Tomatoes seemed to be feeding on the sweet honeydew being excreted by the aphids on the underside of the leaves. The butterflies appeared restless, as they would visit the aphids, on the tree tomato, and then disappear. The search for larvae on the infected trees produced no results but two hatched eggs were located on a *Strelitzia* leaf. On the afternoon of 31 March 2019 a female was photographed (Fig. 1b). *Strelitzia* plants heavily infested with mealybugs were placed around the Tree Tomato to try and induce a female to lay, but with no result. The first males were seen on the 7th of April 2019 (Fig. 1a). They established multiple territories throughout the garden.

Received: 22 April 2020

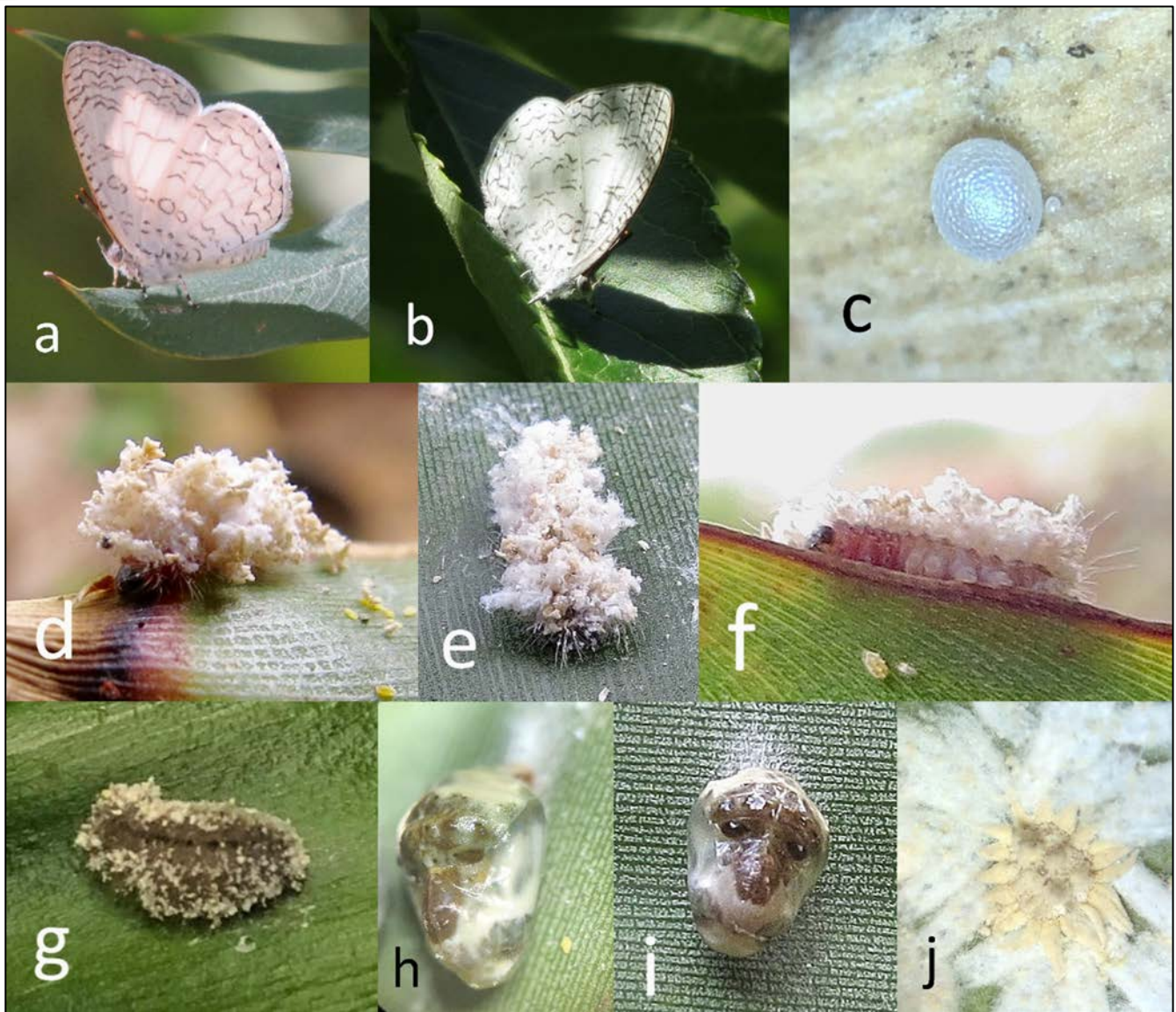
Published: 30 April 2020

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## DISCUSSION

Up until now the records of this species south of the Zambezi, Southern Africa, have been exceedingly sparse. The first being a single specimen, female, caught at Victoria Falls on 31 August 1920. The next records came 55 years later, when the late Elliot Pinhey caught them near Kariba in July 1975. The second author remembers Pinhey saying he caught them between the Kariba Airport and Kariba Town in thick riparian bush. Pinhey caught five males and three females on this occasion (see Pringle *et al.*, 1994 for further details). Then, another 32 years later, one male was caught by the lead author at Chirundu on 17 August 2007. Apart from the Harare records above it has now been observed at other localities in Harare: specimens being observed by Ian Waters at three properties, 50 Helensvale Road, Helensvale 21 September 2019 (17°44'15.68"S 31°08'06.297"E), 29 Ridge Road, Avondale 25 November 2019 (17°48'08.65"S 31°01'48.21"E) and 34 Kenmark Crescent, Bluffhill 14 April 2020 (17°47'08.06"S 30°59'23.03"E). In April 2020 a female was found in Alexandra Park, Harare (17°47'38.29"S 31°02'59.19"E) by Markus De Klerk, adults by James Wakefield at 3 Drummond Road, Greendale (17°48'57.66"S 31°06'23.07"E) and adults, larvae and pupae at 14 Cavan Lane, Greendale (17°50'09.32"S 31°07'12.44"E) by Petrus Erasmus.

The predatory/carnivorous lifestyle of *S. lemolea* larvae has been known for some time, first described by the Rev. A. C. Good in West Africa (1892, *Psyche*, 6: 201 as referenced in Jackson, 1937), who indicated that they were Aphidivorous. It has been recorded feeding on Coccidae: Dactylopiinae (Poulton, 1911, bred by Lamborn). Information supplied by Jackson (1937) mentions "Mr. J. E. M. Mellor found the larvae feeding on coccids on an exotic Cycad in Zanzibar". Bampton supplied the taxa *Planococcus* sp. (Pseudococcidae) & *Dactylopius* sp. (Dactylopiidae) quoted in Pringle *et al.* 1994. Jackson describes both the larva and pupa, but not the egg and the first published photograph we know of is a larva, from Lusaka Zambia, supplied by Congdon & Bampton (Congdon *et al.*, 2017). In late March 2020 further observations were made of the Harare *S. lemolea* population. With eggs (Fig. 1c), larvae (Figs 1d–g) and pupae (Figs 1h&i) found on *Strelitzia* leaves and the larvae observed feeding on *Nipaecoccus* sp. (Pseudococcidae, Fig. 1j). In addition, Ian Water has

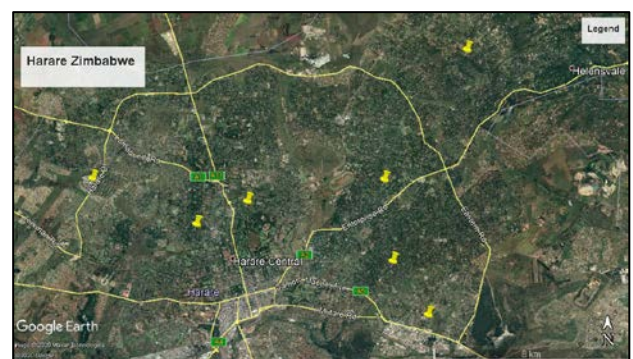


**Figure 1** – *Spalgis lemolea*; a) adult male, b) adult female, c) egg, d–f) larvae, probably final instar, covered in remains of coccids, g) prepupa larvae, h–i) pupa, and j) one of the food coccids *Nipaecoccus* sp.. All photographs J. Francis, except g & i Ian Waters.

found them with the following coccids: the Coconut Mealybug (*Nipaecoccus nipae*), Short-tailed Mealybug (*Planococcus ficus*: Pseudococcidae), Long-tailed Mealybug (*Pseudococcus longispinus*: Pseudococcidae) and the Australian Mealybug or Cottony Cushion Scale (*Icerya purchasi*: Monophlebidae) (I. Waters, pers. comm.).

It is evident the current conditions in Harare are ideal for the insect. The combination of: 1) garden watering conditions – where plants are kept green the whole year, 2) the lack of pesticide use, possibly due to the economic situation and people’s changed attitude to the use of pesticides and 3) the planting of tropical ornaments like palms, cycads and *Strelitzia* (especially over the last 25 years, I. Waters, pers. comm.), have provided the ideal conditions and hosts for coccids such as the various mealybugs. In turn, *S. lemolea* has been able to establish itself and thrive in the city of Harare (Fig. 2). Similarly, the second author has also noticed large populations in gardens in Mufulira, Zambia and Mweka, Moshi, Tanzania. He has never seen them in these numbers, where hundreds are present, in the natural bush. We further speculate that the species may have been brought

to Harare via potted plants. It is quite possible that plants being transported from Zambia to Zimbabwe were infected with coccids and one or more stages of the butterfly (egg, larvae and or pupae) were brought with them.



**Figure 2** – Google earth image showing the widespread distribution (yellow pegs) of *Spalgis Lemolea* across the suburbs of Harare.

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**ACKNOWLEDGEMENTS**

We would like to thank the following people for their observations and records in Harare: Ian Water, Petrus Erasmus, Markus De Klerk and James Wakefield.

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