

# LEPIDOPTERAN MIGRATIONS IN 1969

by V. C. Quesnel

1969 was a good year for butterflies; the common species seemed more plentiful than usual and the rarer ones less rare. Among the abundant ones were the Yellow Migrant *Phoebis statira* (Cramer), and the White-tailed Page, *Urania leilus* Linnaeus, a day-flying moth. Both migrated in considerable numbers. Since butterfly migrations are not easy to study and all observations are valuable, I record here my observations on the two species.

## *Phoebis statira*

I first noticed the extraordinary abundance of yellow butterflies on 26th July in the coconut estate south of the Nariva River. On this occasion no preferred direction of flight was noticed and perhaps there was none. On 4th August, yellow butterflies were so common at Balandra Bay that they were commented on by persons not normally interested in such things. They were flying roughly southwest along the beach at a rate of approximately 50 per minute. A visit to the windward side of Balandra revealed no obvious influx from over the water but a steady southward movement through the coconuts. The movement continued for several hours.

On 20th August yellow butterflies migrated south-west through my garden in Petit Valley and clusters of from 10 to 20 would swirl around the *Ixora* flowers for a few seconds before proceeding on their way. Some alighted to suck the nectar. Nine of these were caught and identified as *Phoebia statira*.

On 23rd August a general movement northward up the Nariva River was noticed though no signs of migration had been seen on the drive between Port-of-Spain and Nariva. However, on 25th August, although stragglers in threes and fours were noticed between Valsayn Park and Waller Field increasing numbers were seen between Waller Field and Sangre Grande, some moving east and others moving north-east or north. Between Sangre Grande and Manzanilla they were fluttering out of the treetops in clusters of 10 to 20 like autumn leaves falling to the ground. They crossed the road in a general north-eastward direction. In the coconuts between Manzanilla and Mayaro not one was seen and none on the Nariva River. On another trip to Mayaro on 6th September the butterflies were seen only in ones and twos.

On 18th September another migration lasting about one hour passed through Valsayn Park and St. Augustine heading south-south-east. At about 11 a.m. the rate was 50 per minute over a front of about 100 yd. After that date I saw no further migrations although I was then recording movements of the White-tailed Page. However, two other observations are worth mentioning. Malcolm Barcant (1) wrote in the Sunday Guardian Magazine of 7th September that the species had been swarming during the past week and that the swarm covered the lowlands of Trinidad and much of eastern Venezuela. On 9th September Mr. C. Crichlow telephoned to say that a friend had seen yellow butterflies out to sea in huge numbers some two months previously.

In June 1958 I observed a similar migration of yellow butterflies which lasted about two weeks. On 25th June they passed through a 80 yd.

gap between buildings at the Colonial Microbiological Research Institute in Port-of-Spain at the rate of 40 per minute. They came in from across the sea between Port-of-Spain and Chaguaramas and moved more or less north-east through Diego Martin and Maraval and were seen to fly out over the water at Maracas Bay.

Barcant (1) records migrations in the years 1918, 1919, 1926, 1932, 1947, 1954 and 1962. Williams (2) (3) records migrations in the years 1915 and 1916 as well. He gives detailed descriptions of the 1918 and 1919 migrations. In 1918 the migration was from east to west in two streams one in the north and one in the south of the island with no activity in between. It lasted from 21st September to 12th October. In 1919 the migration seemed to originate near Moruga on 7th February and spread out fanwise lasting until 14th February. My observations show neither a consistent direction nor a fanwise movement but Williams (2) also records movements in the opposite direction to the general migration.

### ***Urania leilus***

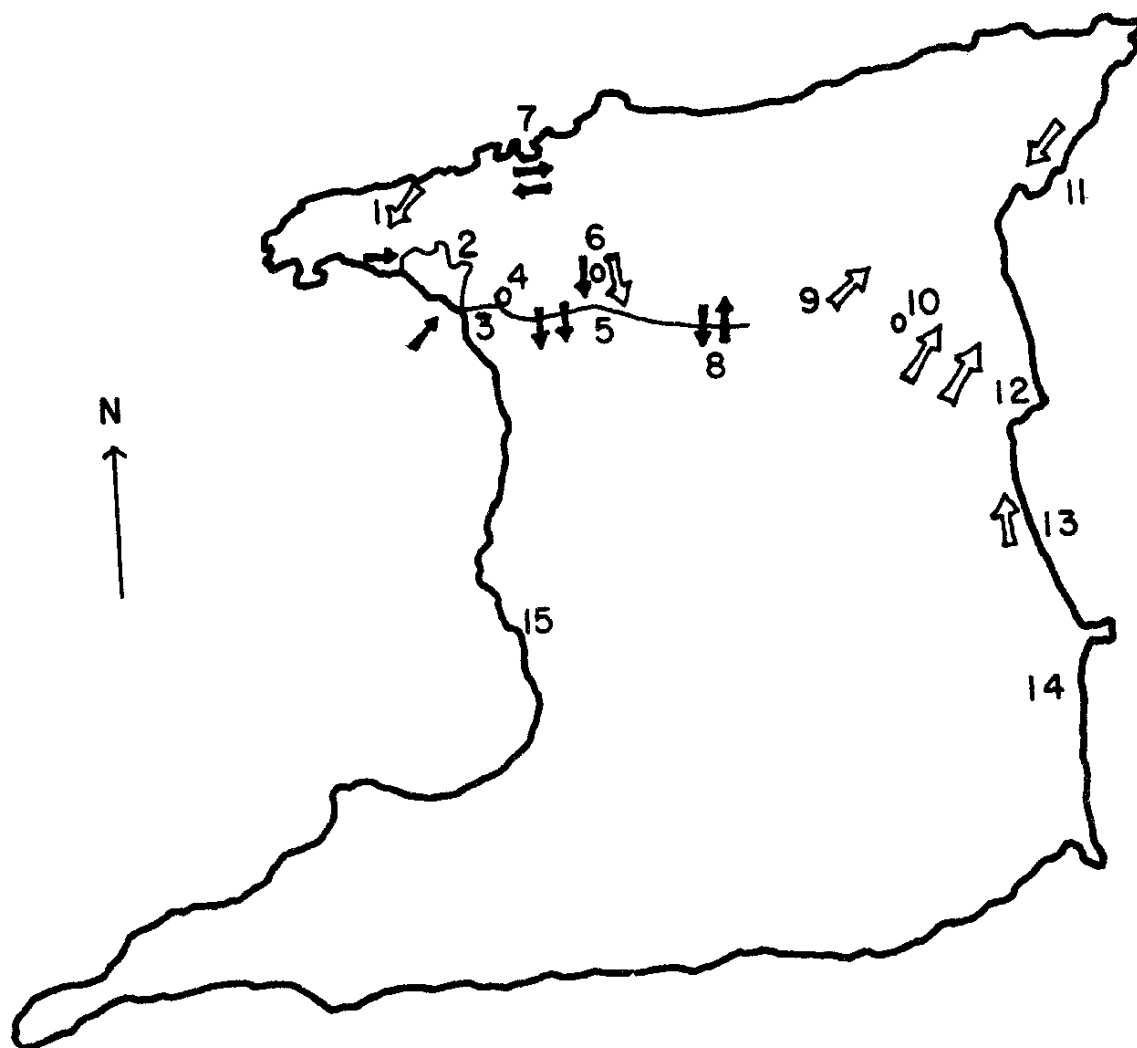
Solitary individuals of this moth can usually be found in the southern parts of the island every year. During 1968 I had seen occasional specimens in the north and wondered about the possibility of a migration. No migration occurred in 1968, but on 9th September 1969 Mr. C. Crichlow informed me that he had seen large numbers at the Port-of-Spain Wharves that day and that a friend had seen them "in thousands" out to sea near Huevos on 7th September. The observation of the White-tailed Page out to sea was later confirmed by Mr. E. Scott. The ones I saw on 9th September did not appear to be migrating, but by 10th September it was obvious that a migration was in progress. On that day the moths were coming in from the sea over the jetty at the bottom of Broadway, Port-of-Spain, at the rate of 6 per minute, travelling roughly north-east. They flew slowly and seemed tired for a few alighted on buildings and could be easily picked up by hand.

On 11th September, on my way home from work, all those seen were flying roughly south. One "courtship swirl" was observed. On 12th September at 4.15 p.m. 31 passed an observation post at U.W.I., St. Augustine, in 5 minutes. The movement had been noticed long before 4.15 p.m. and continued afterwards and all but one of the moths were travelling south. On the drive home to Petit Valley that afternoon all those seen crossing the Churchill-Roosevelt Highway and the Beetham Highway were flying south; those seen near the mouth of the Diego Martin Valley were flying east.

On 13th and 14th September only a few were seen and no general direction of flight could be determined but on 15th September at 3.50 p.m. at U.W.I., 9 flew south in 5 minutes whereas none flew north. Later that afternoon 11 crossed the Churchill-Roosevelt Highway flying south while one flew north. Between Port-of-Spain and Petit Valley 20 or 30 were seen and all were flying east. On the morning of 16th September 8 between Petit Valley and Port-of-Spain were flying east while one flew north and one south and they crossed the Churchill-Roosevelt Highway in approximately equal numbers from both north and south.

To try and clarify the confusing situation of the previous day more detailed observations were made on 17th September. In the morning between Petit Valley and St. James the movement was predominantly east-

ward. In Port-of-Spain the moths were flying in from the sea heading north-east and along the Beetham Highway those seen were also heading north-east but numbers were not as great as before. East of Barataria all those seen were heading south but on the Churchill-Roosevelt Highway near Mausica at 8.40 a.m. 23 flew south and 20 north in 12 minutes. A little later at U.W.I. 14 went south in 8 minutes and none north.



Migratory directions of *Phoebis statira* (white arrows) and *Urania lellus* (black arrows) in Trinidad in 1969. Localities are as follows: 1. Petit Valley, 2. Port-of-Spain, 3. Beetham Highway, 4. Barataria, 5. Churchill-Roosevelt Highway, 6. St. Augustine, 7. Maracas Bay, 8. Mausica, 9. Waller Field, 10. Sangre Grande, 11. Balandra Bay, 12. Manzanilla, 13. Nariva, 14. Mayaro, 15. Claxton Bay.

During 18th–20th September the moth was still fairly numerous though not as plentiful as before but no preferred direction of flight was determined. At Maracas Bay on 21st September they flew both east and west across the bay in approximately equal numbers but none headed north out to sea. Numbers dwindled thereafter and none was seen on 27th September. However, from 28th September to 10th October at least one was seen almost every day. Thereafter sightings were rare: two on 25th October, two on 31st October, one each on 12th, 18th and 21st November and two on 11th December. By December the migration could be considered as over but two more were seen in 1970, one on 3rd April and one on 18th July. Not one was seen in the period September to December 1970.

These records show that in all localities west of Port-of-Spain in both the morning and the afternoon the preferred direction of flight was east. At Port-of-Spain moths arrived from overseas flying north-east. These observations, together with those of thousands near Huevos, suggest an invasion of the north-western peninsula from Venezuela. Once in the peninsula the moths apparently flew east.

East of Barataria the predominant direction of flight was south though on the one occasion when accurate counts were made (8 days after the start of the migration) movement was both north and south in approximately equal numbers. There can be no real certainty on the facts recorded but it seems that the moths spread out from the north-western peninsula east and south. Those going north may have arrived from South Trinidad (there were reports of the moth from Claxton Bay) or they may have been earlier arrivals from the northwest which had moved first south and then north. There is nothing here to suggest a northward migration out to sea.

Williams (3) records earlier migrations of *Urania leilus* in 1868, 1878, 1891, 1899, 1901, 1912 and 1917. In 1901, 1905, 1906, 1912 and 1915 it appeared in Barbados and the inference is that it arrived from Trinidad. However, Williams quotes E. R. de Verteuil as saying that flights takes place from Trinidad to Venezuela and there are reports of many different directions of flight among the records from 1868 to 1915 (3). Preston (4) records the moth as being common in Trinidad in 1954 and 1961 and suggests a seven-year cycle of abundance. This suggestion is not supported by the records quoted above. (Also abundant in South Trinidad in 1959. Editor's note). Obviously, much remains to be learned about both the cycle of abundance and the migratory direction of *Urania leilus*.

**Acknowledgements.** I thank all those who reported observations to me or helped with my own observations, those already mentioned in the text and Mr. A. Lopez, Mrs. V. Smith, nee Suter, (1958) and Mr. J. B. Roberts (1958).

#### References

1. Barcant, M. Sunday Guardian Magazine, 7th Sept. 1969, Port-of-Spain
2. Williams, C.B. Trans. Zool. Soc. Lond., (1919) p. 76
3. Williams, C.B. Trans. Zool. Soc. Lond., (1920) p. 146
4. Preston, F.W. in Diversity and Stability in Ecological Systems, Brookhaven Symposia in Biology, No. 22 (1969)

U.W.I., St. Augustine.