

Macrolepidoptera collected in Teneriffe and La Palma in the spring of 1947

by

C. O. VAN REGTEREN ALTENA

(Rijksmuseum van Natuurlijke Historie, Leiden)

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1. Introduction and summary

Macrolepidoptera were collected by many naturalists visiting the Canary Islands, and the collected insects have been the object of a great number of publications. With the birds they are probably the best studied group of animals occurring in the archipelago.

In a series of eight papers published from 1892 to 1939 Rebel dealt with the Lepidoptera of the Canaries, not only giving the results of the examination of the large and steadily increasing collection of these insects in the Natural History Museum at Vienna, but moreover reviewing the whole literature on the subject. As far as I could ascertain, since 1939 no special papers on Lepidoptera of the Canaries appeared. Therefore I may refer to Rebel's papers for a complete bibliography of this subject.

According to Rebel's seventh „Beitrag" the number of Macrolepidoptera occurring in the Canaries amounts to 138 (Rebel, 1917, pp. 57—58). In his eighth „Beitrag" (Rebel, 1939) one of them is shown to be a synonym, and eight new species are added to the list, which therefore contains 145 species.

The 237 specimens of Macrolepidoptera which I collected in Teneriffe and La Palma appeared to belong to 39 species, of which one, *Plusia limbirena* Guenée, is new for the Canaries. Though many of the records only corroborate earlier observations, a complete list of my material is given below, as the record of exact localities and dates may prove to be of some use. Remarks on two species which I could observe but failed to catch are incorporated in this list.

A new name, *Cupido lysimon corneliae* subsp. nov., is proposed for the Canarian race of *Cupido lysimon* (Hübner), as I cannot share Rebel's view that it is identical with the South African *C. lysimon knysna* (Trimen).

A new form of *Amicta cabrerai* (Rebel), presumably an insular subspecies, is described as *A. cabrerai palmensis* subsp. nov.

Till now no species of Lepidoptera was known of which more than one race occurs in the Canaries. Several resident birds on the contrary are represented by more than one race, each of these being

characteristic of an island or of a small group of islands. So for instance the chaffinch is represented by one race on Gran Canaria, Teneriffe, and Gomera, a second on La Palma, and a third on Hierro. A careful examination of large series of the same species of Lepidoptera might reveal that in this group comparable cases occur. There are indications that the specimens of *Gonepteryx cleopatra* (L.) flying in La Palma are slightly different from *G. cleopatra cleobule* (Hübner) from Teneriffe, which is till now considered the only Canarian race of this species. My material is, however, too small to decide this question.

Acidalia ochroleucaria Herrich-Schaeffer is recorded for the first time from Teneriffe, *Boarmia fortunata* Blachier from La Palma.

2. Annotated list of the species observed and collected

Familia PZERIDAE

1. *Pieris brassicae cheiranthi* (Hübner, 1808)

I did not succeed in capturing specimens of this interesting form, but I observed it on the wing in several localities in Teneriffe: Orotava, botanical garden, 14-III; Tacoronte, 15-III; La Paz, 19-III; between Realejo and Barranco Ruiz, 1 and 2-IV.

Röber (1907, p. 45) states that the form *wollastoni* (Butler, 1886) flies at Smyrna in March and April, and in the collection of our Museum there is a ♀ of *cheiranthi* labeled: "Syria". This made me consider the possibility that *cheiranthi* (with *wollastoni*) is a separate species, of high age, with a discontinuous area of distribution, reminding of the case of *Vanessa indica* (Herbst 1794) (cf. infra, no. 7).

No evidence was found for such an opinion. Nordmann (1935, p. 2, fig. 1A, B) pointed out that there is a difference in the shape of the valve between the typical *P. brassicae* (Linnaeus, 1758), and *cheiranthi*. I dissected males from the Netherlands (*P. br. brassicae*), Spain, Sicily, Cyprus, Syria (*P. br. verna* Zeller, 1847), Tschungen in Turkestan (*P. br. subsp.*, not matching *P. br. ottonis* Röber, 1896), India (*P. br. nepalensis* Gray, 1846), Madeira (*P. br. wollastoni*), and Teneriffe (*P. br. cheiranthi*). It appeared that the shape of the valve of the specimen from Teneriffe differed from that of all the others in the way pointed out by Nordmann, whereas the other genitalia differed but very slightly among each other. From Drosinn's (1933, p. 131 fig. a, b, c) figures, however, it appears that the shape of the valve in German *P. br. brassicae* is variable and may approach that of *P. br. cheiranthi*.

The female genitalia were examined in specimens from the Netherlands, Sicily, India, and Teneriffe. They proved not to differ inter se in a material way, although the size of the lamina

1) Contrary to Nordmann's statement A represents *P. br. brassicae*, and B *P. br. cheiranthi*.

2) Drosinn (1933, p. 79) erroneously cites *ottonis* as a synonym of *P. brassicae* Guér. from Abyssinia: *ottonis* Röber, 1896, is the valid name for *hassicoideus* Staudinger, 1901, non Guérin, 1849.

dentata is variable, and may prove to be a subspecific character when series of each subspecies are dissected.

My conclusion therefore is that both *cheiranthi* and *wollastoni* are insular subspecies of *P. brassicae*, differing more from the continental subspecies than these differ among each other, probably because they are longer and/or more effectively isolated. In *cheiranthi* even the ♂ genitalia show a tendency to become different from those of the other subspecies.

Robert's record of *P. br. wollastoni* from Smyrna needs confirmation, for which I looked in vain in the literature on butterflies of the Middle East, and I do not trust the ancient-looking label of our ♀ from "Syria".

2. *Pieris rapae* (Linnaeus, 1758)

Teneriffe: Santa Cruz, 8-III, 2 ♂♂, 1 ♀; Puerto Orotava, 11-III, 1 ♂; Orotava, botanical garden, 12-III, 1 ♂; 14-III, 1 ♂, 1 ♀; Agua Mansa, 13-III, 1 ♀; Agua Garcia, 15-III, 2 ♂♂, 2 ♀♀; Puerto Orotava, barranco Martiane. 27-III, 1 ♀; Icod de los Vinos, 5-IV, 1 ♀. The presence of this species was also noted at a height of about 3000 m on the slope of the Pico de Teide. 29-III.

La Palma: Fuencaliente, 22-IV, 1 ♂.

On the whole my series consists of specimens nearly as light as those of the generatio vernalis in Western Europe. In the ♂♂ the discal spot is present as in the ab. *metra* (Stephens, 1827). The large ♀ from the botanical garden, 14-III, however, has the markings very dark and distinct, and the forewings with the spot along the inner edge joined to the posterior discal spot.

3. *Pontia dapfidice* (Linnaeus, 1758)

Teneriffe: Puerto Orotava, 11-III, 1 ♂; 27-III, 1 ♀; Icod el Alto, 25-III, 2 ♀♀; between La Paz and El Ancon, 8-IV, 1 ♂, 1 ♀; Guimar, 10-IV, 1 ♀; Arafo, 13-IV, 2 ♂♂, 1 ♂.

La Palma: Fuencaliente, 22-IV, 1 ♀; Barranco de las Angustias, 28-IV, 1 ♂.

This series is very uniform; the specimens are rather large, and the black markings on the upper side, as well as the green colour on the under side is dark.

4. *Cofias croceus* (Fourcroy, 1785)

Teneriffe: Puerto Orotava, 11-III, 1 ♂; Agua Garcia, 15-III, 1 ♂; La Laguna, 26-III, 1 ♂; Buenavista, 7-IV, 1 ♂; between La Paz and El Ancon, 8-IV, 1 ♂; between Guimar and Socorro, 12-IV, 1 ♀. The presence of this species was also noted at Santa Cruz, 8-III.

La Palma: Los Llanos, 22-IV, 2 ♂♂, 1 ♂; Barranco de las Angustias, 28-IV, 1 ♂, 2 ♀♀.

On the whole the specimens of my series are small, as those of the generatio vernalis in Western Europe.

5. *Gonepteryx cleopatra cleobule* (Hübner, 1824)

Teneriffe: Agua Mansa, 13-III, 1 ♀; Icod de los Vinos, 5-IV, 2 ♂♂. Specimens of this species were also seen on April 1 between Reaiejo and the barranco Ruiz.

This form is generally considered as a separate species. It seems, however, more correct to me to range it as a subspecies of the South European *G. cleopatra* (Linnaeus, 1767). The Madeiran *maderensis* Feider, 1862, forms a connecting link with the typical species, as Baker (1891, p. 199) already observed. I cannot find any virtual difference in the genitalia of both sexes of *cleopatra* (fig. 1) on one hand, and *cleobule* (fig. 2) on the other. Naturally the genitalia are larger in the larger *cleobule*.



Fig. 1 - 2. Internal view of the left clasp of: 1. *Gonepteryx cleopatra cleopatra* (Linnaeus); 2. *Gonepteryx cleopatra cleobule* (Hübner).

According to Drossinn (1933, p. 81) the shape of the ♂ genitalia in *G. cleopatra* agrees with that of those organs in *G. rhamni* (Linnaeus, 1758). There is, however, a difference, as a small spine is present on the ventral side of the valve in the first mentioned species, which is lacking in the valve of the second.

In the ♂ from La Palma the colour of the fore wings is less deep than in those from Teneriffe, which fact agrees with the result of Rebel's earlier examination of 4 ♂♂ from La Palma (Rebel, 1894, p. 28). As to the colour this ♂ is nearer the ♂♂ than the ♂♂ from Teneriffe. My only ♂ from La Palma is a bad specimen, but I am nearly sure that even when fresh its colour was less bright than that of the ♀♀ from Teneriffe.

Familia NYMPHALIDAE

6. *Vanessa atalanta* (Linnaeus, 1758)

Teneriffe: Santa Cruz, 8-III, 1 ♂; Orotava, botanical garden, 14-III, 1 ♂.

7. *Vanessa indica volcanica* Godart, 1819

Teneriffe: Orotava, botanical garden, 14-III, 2 ♂♂, 1 ♂; La Paz, 19-III, 1 ♂; 8-IV, 2 ♀♀; Barranco Ruiz, 1-IV, 1 ♀; Barranco West of Reaiejo, 2-IV, 1 ♂; Puerto Orotava, 4-IV, 2 ♂♀; Buenavista, 7-IV, 1 ♂; Tacoronte, 1-V, 1 ♂ (e. 1.). A specimen of this species was seen flying over the top of the mountain



Fig. 3 - 4. Internal view of the left clasp of: 3. *Vanessa indica volcanica* Godart; 4. *Vanessa indica indica* (Herbst).

Fortaleza (2139 m), 28-III.

I compared the genitalia of a ♂ from Teneriffe (fig. 3) with those of ♂♂ of the typical subspecies from Japan (fig. 4) and N. W. Himalaya. Though there are differences in the shape of the valves, it is clear that the two forms must be very closely related. The ♂ genitalia of the nearest palaearctic relative, *V. atalanta* (Linnaeus, 1758), are totally different. It is a matter of taste if one considers *vulcanica* still to be a subspecies of *V. indica* (Herbst, 1794), or already a separate species. There is no reason to suppose that the occurrence of *V. i. vulcanica* in the Canaries and Madeira is due to import by man. *V. indica* rather is a very old species, of which the area of distribution has become discontinuous.

8. *Vanessa cardui* (Linnaeus, 1758)

Teneriffe: Orotava, botanical garden, 14-III, 1 ♀; above Arafo, 14-IV, 1 ♀; Las Cañadas near Portillo, 3-V, 1 ♂. The species

Teide at a height of about 2700 m, 29-III.

9. *Argynnis pandora* chrysobarylla Fruhstorfer, 1909

I did not succeed in capturing any specimen of this fine species, but some of them were seen on the wing in La Palma, when we went along the Northwestern inner slope of the Caldera to the finca "Tenerra" on April 28.

Familia **DANAIDAE**

10. *Danaus chrysippus* (Linnaeus, 1758)

Teneriffe: Orotava, barranco Martianeze, 1-IV, 1 ♂ (H. Volsøe leg.); 15-IV, 1 ♀. (e. l.).

The larvae of this species were found together with those of the next species on *Asclepias curassavica* L.

11. *Danaus curassaoica* (Fabricius, 1807).

Teneriffe: Orotava, barranco Martianeze, 18-III, 3 larvae on *Asclepias curassavica* L., 27-III, 1 ♂; 5-26-IV, 6 ♂♂, 3 ♀♀ (e. l.).

Familia **SATYRIDAE**

12. *Pararge aegeria xiphioides* Staudinger, 1871

Teneriffe: Santa Cruz, 8-III, 1 ♂; Puerto Orotava, 11-III, 1 ♂, 1 ♀; Orotava, botanical garden, 14-III, 1 ♂, 1 ♀; Agua Garcia, 15-III, 1 ♀; above Realejo, 25-III, 1 ♂; Puerto Orotava, barranco Martianeze, 27-III, 1 ♂; Barranco Ruiz, 1-IV, 2 ♂♂, 1 ♀; Icod de los Vinos, 5-IV, 1 ♀; Buenavista, 7-IV, 1 ♂; Guimar, barranco del Rio, 11-IV, 1 ♂.

La Palma: La Galga, 23-IV, 1 ♂; Barranco de las Angustias, 22-28-IV, 1 ♂, 1 ♀.

13. *Maniola jurtina fortunata* (Alpheraky, 1889)

Teneriffe: Buenavista, 7-IV, 1 ♂; Guimar, 10-11-IV, 6 ♂♂; Arafo, 13-IV, 2 ♂♂, 2 ♀♀

La Palma: Barranco Dolores, 21-IV, 3 ♂♂, 1 ♀; LOS Saulces, 24-IV, 1 ♂.

I found this species only in dry localities, probably they are the places where the first specimens emerge. Rebel (1894, p. 40) records the subspecies from May to September.

Familia **LYCAENIDAE**

14. *Lycaena phlaeas* (Linnaeus, 1761)

Teneriffe: Santa Cruz, 8-III, 1 ♂; La Paz, 19-III, 1 ♂, 1 ♀; Agua Mansa, 13-III, 2 ♂♀; Agua Garcia, 15-III, 1 ♂; Tacoronte, 20-III, 1 ♀; Las Mercedes, 22-III, 1 ♂; La Corona, 4-V, 2 ♂♂.

My specimens are large, as those of the generatio aestivalis in Western Europe: the dark markings are nearly black. The spots are large and distinct, there is no dark suffusion as often in our generatio aestivalis. As the variability is rather large, it is difficult to decide if this series should be considered subspecifically distinct from the continental form.

The single ♂ from Santa Cruz is very aberrant: the submarginal black spots are protruded in radial direction and covered by a dark suffusion which is connected with the marginal black. The underside agrees with the ab. *infraradiata* (Tutt, 1906).

15. *Cosmoioyce boetica* (Linnaeus, 1767)

Teneriffe: Las Mercedes, 22-III, 1 ♂, 3 ♀♀; Icod de los Vinos, 5-IV, 1 ♂; Healejo, 4-V, 1 ♂.

La Palma: Santa Cruz, 22-IV, 1 ♂; Los Saulces, 24-IV, 1 ♂.

This species is very variable in size. The ♂ from Icod is a dwarf: length of the forewing 11 mm.

16. *Cyclirius webbianus* (Bruellé, 1840)

Teneriffe: In a barranco and on little meadows on top of the cliffs along the coast West of Realejo, 2-IV, 4 ♂♂, 2 ♂♀; Guimar, barranco del Rio, 11-IV, 1 ♂; above Arafo, 14-IV, 1 ♂; between Agua Mansa and Portillo, 2-V, 1 ♂; Las Cañadas near Portillo, 3-V, 1 ♂.

La Palma: Los Llanos, 22-IV, 1 ♂.

In my ♀♀ the blue colour of the upperside is restricted to the basal part of the wings; the length of the forewing of my smallest ♀ is 12 mm. The ♂ from La Palma is very large, length of the forewing 16 mm, and the black marginal band is exceptionally broad.

17. *Cupido lysimon corneliae* subsp. nov.

Teneriffe: Santa Cruz, 8-III, 1 ♂; Puerto Orotava, barranco Martianeze, 11-III, 4 ♂♂, 2 ♀♀; 27-III, 1 ♂ (holotype); 31-III, 1 ♀ (allotype); 31-III, 1 ♀; Orotava, near botanical Garden, 3-IV, 1 ♂; between Guimar and Arafo, 13-IV, 2 ♂♂, 1 ♀; Las Cañadas near Portillo, 3-V, 1 ♂.

La Palma: Barranco Dolores, 21-IV, 1 ♂; Barranco de las Angustias, 22-IV, 1 ♂.

This new subspecies differs from the typical *lysimon* (Hübner, 1804) by the narrower black margin of the upperside of both the fore- and hindwing, and by the colour of the proximal part of the wings being more bluish, less violet. The underside of the wings agrees with that of the typical *lysimon* in being light brown with somewhat biended markings.

I cannot agree with Rebel (1907, p. 74) who identified the Canarian form with *C. l. knysna* (Trimen, 1862). I compared my Canarian series with a series of *knysna* matching Trimen's (1862, p. 283) original description and Rebel's (1900, pl. 11

fig. 10) figure, and deriving from various localities in aethiopic Africa. It appears that *knysna* clearly differs from the Canarian form by the white-grey colour of the underside of both wings, in which the somewhat larger dark markings stand out distinctly.

I saw no material from the palaearctic part of Africa; the specimens flying there may belong to *cornefae* too.

This new subspecies is affectionately dedicated to her with whom Cupido has linked me since more than 15 years.

18. *Aricia agestis cramera* (Eschscholtz, 1821)

Teneriffe: La Esperanza, 26-III, 1 ♀; Guimar, barranco del Rio, 11-IV, 1 ♂; Arafo, 13-IV, 1 ♂; above Arafo, 14-IV, 1 ♂.

An examination of the ♂ genitalia of one of my specimens showed that it certainly belongs to the same species as a Dutch ♂ assigned to the typical *A. agestis* (Schiffermüller & Denis, 1775).

Familia HESPERIIDAE

19. *Adopoea christi* (Rebel, 1894)

Teneriffe: Tacoronte, 20-III, 1 ♂; Las Mercedes, 22-III, 1 ♂; Buenvista, 7-IV, 6 ♂♂; 1 ♀; above Arafo, 14-IV, 1 ♀

La Palma: above Santa Cruz, 26-IV, 1 ♀.

Familia SPHINGIDAE

20. *Celerio euphorbiae tithymali* (Boisduval, 1834)

Teneriffe: Puerto Orotava, III, 3 larvae, H. Volsøe leg.; Puerto Orotava, barranco Martianeze, 31-III, 6 larvae on Euphorbia; 20-VIII, 1 ♀ (e. 1.).

21. *Celerio lineata liornica* (Esper, 1779)

Teneriffe: Puerto Orotava, 6-V, 1 ♀ (on Delphinium, at twilight).

22. *Macroglossa stellatarum* (Linnaeus, 1758)

La Palma: LOS Saulces, 24-IV, 1 ♀; Barranco de las Angustias, 28-IV, 1 ♂.

Specimens of this species were also seen in Teneriffe, e. g., between Realejo and Icod el Alto, 26 III.

Familia NOCTUIDAE

23. ? *Agrotis segetum* (Anonymus, 1776)

Teneriffe: Barranco W. of Realejo, 2-IV, 1 ♀; Icod de los Vinos, 5-IV, 1 ♂. These specimens are too bad for us to be quite certain about their identification.

24. ? *Agrotis trux* (Hübner, 1826)

Teneriffe: Icod de los Vinos, 5-IV, 1 ♂. The specimen is too bad to enable a quite certain identification.

25. *Leucania unipunctata* (Haworth, 1809)

Teneriffe: Icod de los Vinos, 5-IV, 1 ♂.

26. *Laphygma exigua* (Hübner, 1808)

Teneriffe: Socorro, 12-IV, 1 ♀.

27. *Galgula partita* Guenée, 1852

Teneriffe: Agua Garcia, 15-III, 1 ♂; Puerto Orotava, barranco Martianeze, 18-III, 1 ♂.

28. *Syngrapha circumflexa* (Linnaeus, 1767)

Teneriffe: Agua Garcia, 15-III, 1 ♂; Puerto Orotava, 18-III,

1 ♂, 30-III, 1 ♀ (on light); 5-V, 1 ♂ (on Delphinium at twilight); Tacoronte, 20-III, 1 ♂.

La Palma: above Santa Cruz, 26-III, 1 ♂.

29. *Plusia orichalcea* (Fabricius, 1775)

Teneriffe: Puerto Orotava, 30-IV, 1 ♂, 1 ♀, 1-V, 1 ♂, 5-V, 3 ♂♂, 2 ♀♀. These specimens were captured on Delphinium in the garden of hotel Marquesa at twilight.

30. *Plusia signata* (Fabricius, 1792)

Teneriffe: Puerto Orotava, 6-V, 1 ♀ (on Delphinium at twilight).

31. *Pfusia chafcytes* (Esper, 1789)

Teneriffe: Barranco S. of Realejo Alto, 17-III, 1 ♂; Icod de los Vinos, 5-IV, 1 ♀.

32. *Pfusia limbirena* Guenée, 1852

Teneriffe: Puerto Orotava, 5-V, 1 ♀, 6-V, 2 ♀♀. These specimens were captured on Delphinium in the garden of hotel Marquesa at twilight.

This species is new to the Canary Islands. It has been recorded from St. Helena, S. and E. Africa, Madagascar, Mauritius, Aden, India, and Ceylon. The specimens collected are rather small: length of the forewing 15—16 mm.

33. *Hypena lividalis* (Hübner, 1796)

Teneriffe: Santa Cruz, 8-III, 3 ♂♂, 2 ♀♀; Puerto Orotava, barranco Martianeze, 18-III, 2 ♂♂, 2 ♀♀, 31-III, 1 ♂; Puerto Orotava, 6-V, 1 ♂.

La Palma: Barranco de las Angustias, 27-IV, 1 ♂.

34. *Hypena obsitafis* (Hübner, 1825)

Teneriffe: Orotava, botanical garden, 14-III, 1 ♂; Agua Garcia, 20-III, 1 ♂, Tacoronte, 20-III, 1 ♂; Las Mercedes, 22-III, 1 ♀; Puerto Orotava, 23-III, 1 ♂.

Familia GEOMETRIDAE

35. *Acidalia ochroleucaria* Herrich-Schaeffer, 1847.

Teneriffe: Puerto Orotava, barranco Martianeze, 18-III, 1 ♂, 31-III, 1 ♂, 1 ♀. These specimens agree exactly with the description of *A. corcularia* Rebel, 1894, which is considered to be a synonym. The species has till now not been recorded from Teneriffe, but is known to occur on Gran Canaria and La Palma.

36. *Cosymbia maderensis* (Baker, 1891)

Teneriffe: Puerto Orotava, 1-IV, 1 ♂ (on light).

37. *Eupithecia pumilata* (Hübner, 1813)

Teneriffe: Puerto Orotava, 30-III, 1 ♀ (on light), 10-III, 1 ♀, 30-IV, 1 ♂, 1-V, 1 ♀; Los Cristianos, 17-IV, 1 ♀.

La Palma: Barranco Aduares, 25-IV, 1 ♀.

38. *Cidaria centrostrigaria* (Wollaston, 1858)

Teneriffe: Orotava, botanical garden, 14-III, 1 ♂.

La Palma: La Galga, 23-IV, 1 ♂; Barranco Aduares, 25-IV, 3 ♂♂, 3 ♀♀; above Santa Cruz, 26-IV, 1 ♂.

39. *Boarmia* [fortunata] Blachier, 1887

La Palma: Barranco Aduares, 25-IV, 1 ♂. The specimen differs only in minor details from that figured by Stertz (1912, pl. 2