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Notes on the Lepidoptera-Rhopalocera of Tasmania

By

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The Tasmanian butterfly fauna is numerically poor. Turner (1926, 1939) lists 35 species, of which one, *O. laranda* Waterhouse and Lyell is generally accepted as the western race of *O. lathoniella* Westwood, the two species of Pieridae and the one Danaid recorded are casual immigrants only, while the records of two Hesperidae are exceedingly doubtful.

Excluding Flinders Island, the purely Tasmanian list numbers certainly no more than thirty species, including the introduced pest of our gardens, *Pieris rapae* Linn.

The relatively few species, however, offer some fascinating problems in distribution, racial and individual variation, and there is still much work to be done in these fields.

Dr. Turner's reference to the paucity of resident collectors still remains true, but four years residence has enabled me to add a number of details that will contribute to the Biological Survey of Tasmania, and I have been helped by the enthusiastic co-operation of Messrs. S. Angel and J. R. Cunningham.

Nesoxenica leprea leprea Hewitson, 1864

The typical race was described from 'Australia' by Hewitson, his specimens almost certainly came from Mt. Wellington, at an altitude of about 2500 feet, the only recorded locality to date.

The bush fires of 1939-1940 seemed to have exterminated it, since a prolonged search in 1942-43 failed to turn up a specimen. However, in 1943-44 a single specimen was seen and taken, and in 1944-45 a small series was secured, so that *leprea* seemed on the way to re-establishing itself in its original locality, but the recent disastrous fires would seem to have left it small chance of survival.

In January, 1945, in an effort to find other localities, a search was made in the National Park district, and in a restricted area four miles from Lake Dobson, at an altitude of c. 2000 feet a few specimens were taken. These seem indistinguishable from the typical Mt. Wellington form, though the amount of material is perhaps too small for certain judgment.

This new record extends the range of *l. leprea* westwards nearly forty miles, it would seem probable that this form may also be found in suitable localities between these two places.

N. leprea elia Waterhouse and Lyell, 1914

This, the western race of *leprea,* was originally described from 'Mt. Magnet, Mt. Dundas'. Hardy (1917) as '*Neoxenica leprea*' recorded *elia* from Cradle Mt., correcting the record to *elia* a year later.

Turner (1926), under '*leprea*', added further records from Moina, 2000 feet; later (1939) corrected the locality to 'Daisy Dell' on the Cradle Mt.-road at 2000 feet.

When during the summer of 1944-45 an effort was made to locate in the Lake St. Clair area some of the species hitherto only recorded from Cradle Mt., *elia* was one of the species I secured.

N. l. elia was found over a wide area, from Cynthia Bay at the southern end of the lake, through the Narcissus River valley, and in Pine Valley. A careful search showed that it extends over a considerable range in altitude, specimens were taken at lake level, 2360 feet, and the insect traced up the slopes of Mt. Rufus to a height of 3800 feet, to the limit, in fact, of the *Fagus cunninghamii* belt.

Both *l. leprea* and *l. elia,* so far as we have found them, only occur in localities near *Fagus cunninghamii* Hooker, the Tasmanian 'Myrtle'; an association noted by previous authors, though it is most unlikely that the larvae feed on the Myrtle; as with other Satyridae the early stages will almost certainly be found on grasses.

With these extensions in the geographical range of the two sub-species, the gap between *l. leprea* at National Park and *l. elia* at Lake St. Clair is little more than forty miles, and the existence of an intermediate form linking the western *elia* with the eastern *leprea* would seem impossible, though the exact division between the forms has still to be discovered.

Argynnina hobartia Westwood, 1851

As with several other Tasmanian species, the published information regarding *hobartia* is misleading, evidently because of the few resident collectors able to note the first appearance and the length of time during which the species is on the wing.

Waterhouse (1932) says of *hobartia:* 'Not common . . . . November is the best month to search for it, although it has been recorded during December and January'.

Actually, *hobartia* is one of the commonest of the early spring butterflies in the gullies and hillsides around Hobart. I have records ranging from October 5th to November 7th, the earliest female noted, October 7th; S. Angel has specimens from Lindisfarne dated October 5th to October 22nd; and J. R. Cunningham has taken males at Kingston on September 28th.

From observations in these localities over a period of four years, I find *hobartia* is fully out during the second and third weeks in October, by the end of the month it is definitely going over, and from November onwards is certainly rare.

Oreixenica orichora flynni Hardy, 1917

Hitherto the only recorded locality for this Tasmanian sub-species has been Cradle Mt., at a height of c. 3000 feet.

A close search in the Lake St. Clair district proved that *flynni* has an extended range, a few specimens were taken in the Narcissus River valley at c. 2400 feet, on January 19th, 1945.

The form taken is apparently identical with that from the northern end of the Mountain Reserve.

Geitoneura Butler, 1867

Ann. Mag. nat. Hist. (3) 19: 164-165. (= *Xenica* auct. nec Westwood 1851)

For more than fifty years the generic name *Xenica* has been used to include, among others, the common Tasmanian species described as *Satyrus klugii* by Guérin-Méneville [1830-31].

Waterhouse and Lyell (1914) restricted *Xenica* to three species, *Papilio acantha* Donovan 1805; *Satyrus klugii* Guérin-Mén. [1830-31]; and *Xenica minyas* W. & L. 1914; with *acantha* Don. as the genotype; this usage has been generally accepted by authors.(1)

Hemming (1941, J. Soc. Bibliogr. nat. Hist. Lon. 1: 419-420) drew attention to the fact that the genotype of *Xenica* is *Papilio abeona* Donovan 1805, and that *Xenica* Westwood 1851 therefore falls to *Tisiphone* Hubner 1818, which has for its genotype the same species.

Semper (1878) in the J. Mus. Godeffroy Hamburg 5 (14): 144, seems to have been the only author dealing with the Australian species to have correctly placed these genera, he uses *Xenica* Westwood solely for *abeona* Don., and places *acantha* and *klugii* under *Geitoneura* Butler, these being the only two species included in the genus by Butler when describing it in 1867.

Geitoneura Butler, with genotype *Satyrus klugii* Guérin-Mén., the first of the two species included by Butler, must take the place of *Xenica*, so long used for this group of Satyridae.

The generic title *Xenica* has become so familiar that the change, though necessary, seems regrettable.

Hesperilla chaostola Meyrick, 1888

This species has always been accounted rare, the initial specimen, a single male, was described from Blackheath, N.S.W.; the first female, described many years later by Lower, came from Huonville, again a single specimen.

Dr. Waterhouse, *in litt.*, noted that the Tasmanian form was distinct, but had only one poor male from Tasmania. My own experience, after a close search of several localities extending over three seasons, seemed to confirm its rarity, since I had but one perfect male taken 7-XI-42; and one ragged female, 21-XI-43, both from Hobart; few other specimens were then known.

During 1944 J. R. Cunningham found this species near Kingston, and during November, 1945, together with S. Angel and myself, sufficient specimens were taken to confirm the suggestion that the Tasmanian form is, in fact, distinct.

Hesperilla chaostola leucophaea, n. sub-sp.

Male upperside: forewing, brown, cell spot 1·5 mm. square, yellowish, three sub-apicals, a discal spot in area 3, and sub-terminal spots in 4 and 5, yellowish-white, hyaline. Sex mark from dorsum to vein 3, black; cilia grey-brown, at veins brown.

Hindwing brown, a broad central patch divided by veins 3 and 4 dull orange, a few sub-terminal indistinct scales of the same colour. Cilia grey, at the veins brown.

Underside, apex of forewing and the hindwing whitish-grey, hyaline spots of forewing as above, the sub-apical and sub-terminal spots white, cell spot extending

(1) In reference to the specific names *klugii* and *acantha*, frequently emended by authors, I am indebted to A. J. Musgrave, F.R.E.S., who kindly consulted the original references, and confirms the spelling here used.

to base, orange, discal spots in 1*a*, 2 and 3, yellow. Hindwing with obscure brown rings, in cell, near base of area 7, and a discal series from 1*a* to 7.

Female upperside as in male, with addition of hyaline spots in discal area of 1*a* and 2 of forewing, the latter being the largest, 2·5 mm. broad. Hindwing as in male. Underside as in male, the orange cell spot of forewing joined to spot in area 2.

Holotype male, labelled ' Kingston, Tas. 5th Nov. 1945. J. R. Cunningham.'

Allotype female, ' Kingston, Tas. 5th Nov. 1945. J. R. Cunningham.' in the Tasmanian Museum, four male (Kingston, Tasm. 10-XI-45. L. E. Couchman Hobart, Tasm. 7-XI-42. L. E. Couchman) and three female (Kingston, Tasm. 10-XI-45. L. E. Couchman) paratypes in my own collection, one male paratype, (Kingston, Tasm. 10-XI-45. L. E. Couchman) lodged in the Australian Museum, Sydney.

The distinctive whitish-grey coloration of the apex of forewing, and the hindwing beneath, is noted in the racial name suggested by Professor J. R. Elliott.

In worn specimens the hindwing beneath becomes brownish, but the apex of the forewing retains its distinctive tint.

This Tasmanian race, hitherto considered so rare, is extremely local, but proves to be not uncommon, since S. Angel notes eleven males and four females taken November 11th, 1945, from Kingston. In addition, there is a worn male dated 25-XI-45, from Bicheno in coll. S. Angel.

Anisynta dominula Plötz 1884

This species was described by Plötz from a male from Tasmania, though there is no clue as to the exact locality from whence it came. Plötz made no collection, but sketched every butterfly he described in a series of plates that were never published.

Seitz (1927) in vol. 9, Macrolepidoptera of the World, has undoubtedly used many of the MS. figures of Plötz, and on plate 168*b* (8, 9) and plate 171*d* (3, 4) *dominula* upper and underside is shown.

The figures on 168*b* are so poor as to be well-nigh useless, but 171*d* is a fair representation of the form found at a low altitude in Tasmania.

Dr. Waterhouse, *in litt.*, notes that the only specimens known to him came from Billop, Bagdad, and (very doubtfully) Hobart. I am able to add Cranbrook as a further locality, S. Angel took four females on March 4th, 1945, in an area only a few feet above sea level; by far the lowest altitude of any record to date.

These specimens are notable for their expanse, wing length 15-17 mm.; and the yellowish-brown colour of the forewing above; both in size and colour this form differs greatly from the mountain form *pria*.

Anisynta dominula pria Waterhouse, 1932

An additional locality for this race is the Narcissus River valley near Lake St. Clair; from January 12th-19th, 1945, five males and one female were taken.

My experience in this district would show that *pria* is far from common. The specimens are noteworthy when compared with the lowland form from Cranbrook, the wing length of the males ranging from 12-13·5 mm., and the sub-apical and cell spots on forewing above, when present, are mere pin points.

Since the female is apparently undescribed, a description is appended.

Female upperside: forewing, grey-brown; cell spot, three sub-apicals and discal spots in areas 1*a*, 2 and 3, yellowish-white; the cell spot ·5 mm. diameter, other markings pin point in size; cilia white, at veins grey-brown. Hindwing grey-brown;

without markings, cilia white, at veins grey-brown, a yellowish pile over basal area. Underside; apex of forewing and the hindwing yellowish-brown; markings of forewing as above, cell spot and sub-apical spots silvery, spots in areas 1*a*, 2, 3, and a group of three in 4, 5 and 6 at termen, yellowish-white. Hindwing, a discal band of spots from 1*a* to 7 faintly divided at the veins; cell spot, and spot near base in 1*a*, silvery. Wing length, 13 mm.

Neallotype female labelled ' Cradle Mt. 21-I-17 (G. H. Hardy) ' in the Tasmanian Museum; paratype female ' Narcissus River, Tas. 2400 ft. 19-I-45. (L. E. Couchman) ' in coll. Couchman.

Many more specimens are required, from more localities, before it is possible to be sure of the limits of the superficially widely differing forms of *dominula* in Tasmania.

Summary

Additional localities are recorded, and new information added, for four species of Tasmanian butterflies; a new race of *Hesperilla chaostola* Meyr. and the female of *Anisynta dominula pria* Waterhouse is described, and *Geitoneura* Butler is revived as a generic title in place of *Xenica* as formerly used.

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References

Butler, 1867.—*Ann. & Mag. nat. Hist. Lond.*, (3) 19: 164-165.
Hardy, 1917.—*Pap. & Proc. Roy. Soc. Tasmania*, 1916: 146-147.
———, 1918.—*Ibid.*, 1917: 67.
Turner, 1926.—*Ibid.*, 1925: 81-82; 118-123.
———, 1939.—*Ibid.*, 1938: 57-58; 105-106.
Waterhouse, 1932.—*Proc. Linn. Soc. N.S.W.* 57 (3/4): 225.
———, 1932.—*What Butterfly is That?* Sydney.
Waterhouse and Lyell, 1914.—*Butterflies of Australia.* Sydney.