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# NOTES ON AUSTRALIAN BUTTERFLIES IN THE AUSTRALIAN MUSEUM. No. I.

By

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It is my intention from time to time to publish notes on any important specimens of butterflies that are received at the Museum. This part contains a fuller description of two rare species, with the first account of the other sex of the known holotype. A new genus and a new race for Australia are also described.

## Family ERYCINIDAE.

### *Libythea geoffroy* Godart, 1819.

This species has a wide range from southern Burma through the islands of the Malay Archipelago eastwards to the Solomon and Loyalty Islands. It is very rare in Australia and very little is known of its habits. In Seitz *Macrolepidoptera* it is stated to prefer dried-up river beds and also rests on wet rocks and on the beach. Sometimes in the dry season the butterflies gather in great numbers at wet places on the roads. In the Marquesas a very distinct species, *L. collenettei* Riley, 1928, is found, of which only three females are known. This is perhaps a remarkable extension of *L. geoffroy*, and we may expect to find forms of *Libythea* on the islands between the Solomons and the Marquesas.

The species of *Libythea* are noted for their very long palpi and this species for its sexual dimorphism. The rare eastern Australian race has been known for nearly fifty years, and I now add another smaller race from north-western Australia.

### *Libythea geoffroy nicevillei* Olliff.

*Libythea myrrha* Godart, Olliff, *Australian Butterflies*, 1889, p. 21. ♀ figured.

*Libythea nicevillei* Olliff, *Proc. Linn. Soc. N.S. Wales* (2), vi, 1891, p. 28. Cape York and New Guinea.

*Libythea geoffroyi* Godt., *Kershaw, Vict. Naturalist*, xvi, 1899, pp. 72-4. Herberston, Qld.

*Libythea geoffroyi* Godt., *Lower, Trans. Roy. Soc. S. Aust.*, xxxi, 1907, p. 169, sexes reversed; *l.c.*, 1908, p. 317, sexes corrected.

*Libythea geoffroy nicevillei* Olliff, *Frühstorfer in Seitz, Macrolepidoptera*, ix, p. 771. Lord Howe Island (*loc. err.*).

*Libythea geoffroyi nicevillei* Olliff, *Waterh. and Lyell, Butterflies of Australia*, 1914, p. 67, figs. 62, 63.

The holotype is a female in the Australian Museum with a label Cape York. It agrees very well with Olliff's figure (1889) and his description (1931). Kershaw was the first to describe the male of this race, but his locality (Herberton) requires confirmation. Lower in 1907 confused the sexes, but corrected his mistake in 1908. It is hard to understand how the impossible locality of Lord Howe Island given by Frühstorfer came about, as I cannot find mention of that locality anywhere.

This race must be very rare, as I do not think that I have seen ten specimens; the Australian Museum contains only five specimens: a male from Cape York fig. 62, 1914) and two other males (one with only three wings) from Banks Island; the holotype female from Cape York, and another female (fig. 63, 1914), probably from Cooktown (it was received from Lower without locality). There are none in the Macleay Museum, Sydney, or the National Museum, Melbourne. The South Australian Museum has a female from Somerset, Cape York, caught in January, and a pair from Chillagoe.

♂. *Above*. Forewing violet, sometimes extending beyond vein 6, viewed at some angles bluish; costa, apex broadly, and termen dark brown; white spots in 4, 5 and 6, the last much nearer the base, in some cases indication of a whitish patch divided by vein 3; veins dark brown. Hindwing, base violet, rest of wing brown, with a transverse band of three pale orange spots beyond cell. *Beneath*. Forewing brown, apex broadly, and costa pale grey sprinkled with purple dots; spots as above white, with a spot above that in 6; a large quadrate spot in 2 and a much smaller one above it in 3; a whitish spot at lower end of cell, remainder of cell orange. Hindwing pale grey marbled with purple.

♀. *Above*. Forewing dark brown, pale orange at base and dorsum; three pure white spots in 4, 5 and 6, as in male, another smaller above last; an almost ovoid pure white spot at end of cell and a large quadrate pure white spot in middle of 2 and a narrow one in 3 immediately above. Hindwing dark brown, pale orange at base; a broad transverse orange band just beyond cell. *Beneath*. Forewing as in male; hindwing much more uniformly marked and without the purple patches of the male.

The holotype female has the spot in 2 of the forewing larger than in fig. 63 and its lower edge extending more towards the termen.

Length of costa of forewing: ♂ 29-31 mm.; ♀ 28-29 mm.

#### *Libythea geoffroy genia*, subsp. nov.

*Libythea geoffroyi nicevillei* Olliff, Waterh., What Butterfly is That?, 1932, p. 94, part, pl. xiii, figs. 12, 12A.

This race from Wyndham, N.W. Australia, is much smaller than the eastern race, and the white spots above are more prominent and proportionately larger. The orange band of the hindwing above is more distinct, especially in the female, in which its outer edge is very wavy.

♂. *Above*. Forewing violet, not extending above vein 6 in holotype; costa, apex broadly and termen dark brown; the usual three pure white spots towards apex, in one specimen another white spot above that in 6; in holotype and another a white spot at lower end of cell and a distinct spot in middle of 2, with another above it in lower part of 3; veins not so distinctly brown as in the eastern

race. Hindwing brown, base violet; a pale orange transverse band of three spots separated by the veins. *Beneath*. Forewing brown, paler on dorsum, apex grey marbled with purple and brown; all white spots as above, but more distinct, especially that above the spot in 6; an indistinct spot just beyond the upper end of cell; remainder of cell pale orange. Hindwing grey, marbled with purple and brown.

♀. *Above*. Forewing dark brown, red towards base; seven pure white spots, one at lower end of cell, one large curved basad in middle of 2 and another smaller in 3 immediately above it, spots in 4 and 5 joined forming a large comma, spot in 6 with another smaller above it. Hindwing dark brown, paler towards base, and dorsum with a distinct orange transverse band not divided by the veins, lower edge very irregular; a small pale orange spot in 7. *Beneath*. Forewing much as above, but with apex grey sprinkled with brown; dorsum paler and basal two-thirds of cell orange. Hindwing grey uniformly sprinkled with brown.

The male is variable. Specimens in which the white spots of the forewing are more distinct above have less violet. Those with pale brown hindwings above have also more violet and the transverse band very indistinct. Some specimens have a distinct pale transverse band on hindwing beneath. The allotype female is about the size of the figure of *geoffroy* in Seitz, Macrolepidoptera, but has the band above much more irregular than in that figure.

Wyndham, in March, caught by Mr. T. G. Campbell, who found them settled under the veranda during the heat of the day. Mr. G. Lyell has a small specimen from Darwin which is no doubt this race.

Length of costa of forewing: ♂ 19–23 mm.; ♀ 22–25 mm.

#### Genus *Praetaxila* Frühstorfer.

*Praetaxila* Frühstorfer in Seitz, Macrolepidoptera, ix, 1914, p. 793.

*Holodesmus* Waterh. and Lyell, Butterflies of Australia, 1914, p. 68.

Mr. F. G. Griffen has shown (Trans. Roy. Ent. Soc. London, lxxxv, 1936, p. 243) that the dates as printed on the various parts of Seitz "Macrolepidoptera of the World" are in many cases inaccurate, being often in advance of the actual date of publication. He found that the part containing the description of *Praetaxila* was received at the British Museum of Natural History on 26th July, 1914. It then became necessary to ascertain, if possible, the actual date of publication, as both genera cited above have the same orthotype, *Sospita segecia* Hewitson, 1861. At my request, Mr. Griffen wrote to the publishers and he has shown me their reply, which states that the part (Bogen 100) containing the description of *Praetaxila* was published on 23rd July, 1914, although that part is dated 24th March, 1914. This genus then has two days' priority over *Holodesmus*, since the "Butterflies of Australia" was published at Sydney on 25th July, 1914.

#### Family LYCAENIDAE.

##### *Zetona*, gen. nov.

Forewing with costa arched; vein 11 well separated from 12; origin of vein 11 nearer base than origin of 2; vein 7 from just before end of cell; vein 9 absent. Hindwing with tornus rounded. Eyes smooth; palpi with third joint long, slender,

slightly curved upwards; antennae slightly flattened, but not hollowed. Orthotype, *Zizera delospila* Waterhouse, 1903.

In shape this genus reminds one of *Pithecops* Horsfield and *Neopithecops* Distant. The orthotype has two spots in the cells of the wings on the underside, a character which is found in *Lucia limbaria*, *Paralucia aurifer* and *P. aenea* in Australia and *Lycaena phlaeas* in the Holarctic Region. These species and their allies may possibly form a special group of the Lycaeninae. Two spots in the cells on the undersides are also found in some species of Theclinae.

#### *Zetona delospila* Waterhouse.

*Zizera delospila* Waterh., Proc. Linn. Soc. N.S. Wales, 1903, p. 211, pl. ii, fig. 5. ♀.

*Zizina delospila* Waterh. and Lyell, Butterflies of Australia, 1914, p. 106, fig. 255. ♀.

The holotype of this species is a female in the Macleay Museum, University of Sydney. When I described it in 1903 I thought it might be that sex, but in 1914 the sex was incorrectly given as a male. Now that I have seen both sexes there is no doubt that the holotype is a female.

When in London in 1936 I was fortunate in finding three males and a female in the British Museum of Natural History, all caught by Commander J. J. Walker, R.N., at Queen's Islet in June, 1890. One of these males is now before me and also the holotype female.

♂. *Above*. Dull brown with a faint purple tint over most of the centro-basal areas of both wings. Cilia white, at terminations of veins brown. *Beneath*. Forewing white with dark brown spots, one in cell at one-third from base, another at two-thirds with a spot in 1 immediately below, a bar at end of cell, a discal series of spots in 1-6 and 9 and 10, the latter two near costa, the spot in 4 moved towards base and that in 6 away from base; subterminal area with continuous brown blotches from which extend white streaks towards termen; terminal line dark brown. Cilia as above. Hindwing white with dark brown spots, one in cell near base with one above and two below in a line, another beyond middle of cell with one above and one below almost in a line, a bar at end of cell, a discal series of 8 spots from middle of dorsum, that in 4 moved towards base, an extra spot in base of 2 on left side only; a subterminal series of 8 obscure spots; terminal line dark brown extending along the veins. Cilia as above.

♀. *Above*. Dull brown with cilia more chequered and termen of forewing more bowed than in male and without the purple tint. *Beneath*. Forewing as in male, but no discal spots in 1 or 10. Hindwing as in male, but spot in base of 2 on both sides.

Only five specimens are at present known. The holotype female probably came from King's Sound, and Queen's Islet is somewhat north-east of this.

#### *Virachola democles* (Miskin).

*Deudoria democles* Miskin, Trans. Ent. Soc. London, 1884, p. 95. Basilisk Range (Johnstone River, N. Queensland). Two defective males.

*Rapala democles* Waterh. and Lyell, Butterflies of Australia, 1914, p. 133, figs. 276, 277. Prince of Wales Is. (May). One defective male.

Until this year only three defective males of this rare species were known. Now, thanks to the efforts of Messrs. L. Franzen and M. J. Manski, the Museum

has received bred specimens from Cairns, and I am able to give a better account of its systematic position, a fuller description of the male and of the hitherto unknown female. Mr. Manski has also supplied me with an account of its life history.

The species undoubtedly belongs to the genus *Virachola* Moore, 1881, and is probably an eastern development of *Deudorix perse* Hewitson, 1863, the genotype. It agrees with the generic characters given for *Virachola* by Evans in his "Identification of Indian Butterflies", 2nd Edition, 1932, p. 206, in that in the forewing veins 6 and 7 arise from a point, the lower discocellular is slightly concave, and veins 11 and 12 are parallel and separate. In the allied genus *Rapala*, which also has secondary sexual characters in the male, veins 6 and 7 are separate, the lower discocellular is straight, and veins 11 and 12 are close. Its life history resembles that of *Deudorix*, which has no secondary sexual characters in the male, as the larvae feed on seeds, while those of *Rapala* are said to feed on young leaves.

The two males, now in the Queensland Museum, on which Miskin based his description are very worn and without tails, but distinctly show the sexual characters, omitted by Miskin. The third male, now in the Australian Museum, has a filamentous tail to vein 2 of the hindwing on the left side, but the tornal area of both sides is very defective.

♂. *Above*. Forewing with a pointed apex, straight termen and dorsum slightly bowed at about one-third from base; broadly black with a shining blue area reaching base, extending along dorsum to two-thirds and reaching slightly above vein 2 and just into cell. Cilia pale brown. Hindwing elongated towards tornus, a black, white-tipped filamentous tail to vein 2 and a well-defined anal lobe; costa broadly black, diminishing in width along termen to tornus, abdominal margin broadly grey-black, central area extending nearly to tornus, but not reaching base, shining blue; anal lobe with black centre surrounded with pale brown. Cilia pale brown, white near veins 2 and 3 and black and white round anal lobe. Sex mark at base of 6 extending into 7 and just into cell. *Beneath*. Forewing grey-brown faintly tinted with purple, paler on dorsum, a much darker elbowed discal band margined with white from between veins 1 and 2 to costa; a broad dark bar at end of cell extending well within and without cell, an indistinct subterminal interrupted series of spots and a dark brown terminal line. Cilia more prominent than above. A pencil of strong black hairs on dorsum where it is bowed. Hindwing grey-brown, apex broadly white, just extending into cell, a darker discal band from dorsum at one-half to costa margined with white, a broad bar at end of cell divided by a white line along discocellulars, an indistinct interrupted subterminal series of spots, terminal line almost black, especially near tornus, anal lobe black, a circular subterminal spot in 2, set in a pale yellow area and crowned with metallic blue scales, also subterminal pale blue scales near tornus. Cilia pale brown to white near tornus.

♀. Both wings, especially the hindwing, much broader than in the male. *Above*. Forewing with costa and termen broadly black, blue area much more extensive and less heavily scaled, a central white area usually wholly beyond cell and usually wholly confined between veins 2 and 5. Cilia pale brown. Hindwing as in the male, blue more extensive and paler especially in 5. *Beneath* as in male, but paler and without the purple tint; discal band of forewing usually from vein 1.

Eyes slightly hairy, between eyes very pale brown; third joint of palpi slightly longer in the female.

The male is the same shape as the larger *Deudorix epirus agimar* Frühstorfer, 1908, but the blue is deeper in colour than in that species. The female is more like *agimar*, which has a greater white area on the forewing, and also a large white area on the hindwing. Beneath the two species are widely different.

Described from one male and females from Cairns, emerged from pupae at the end of June and early in July.

In June Mr. Franzen and Mr. Manski were collecting near the Barron River, Cairns, when they noticed a number of berries of the rambler *Strychnos Bancroftiana* lying on the ground. Some of these had holes in them, and Mr. Franzen, who had bred *D. epijarbas diovis* Hewitson from the berries of *Harpullia pendula*, suspected these holes were made by the larvae of this or an allied species. They pulled the rambler down and found larvae and pupae in the berries. Some of these pupae have emerged and reached the Museum in perfect condition, for which our best thanks are due to these two entomologists.

Larva with head light brown, first and second segments white with six black spots, four forming a diamond with two central spots, then three segments dark brown, then two white segments turning pink before pupation, then three dark brown segments and the remaining segments white. The larva is shiny, with a few short hairs. The sides of the larva are greenish and somewhat flattened. The larvae feed on the kernels of the rambler. Pupa all brown in some cases or dark brown wing cases with thorax and abdomen pinkish in others; short, squat and fastened with a central girdle inside the berry husk. The pupa before me is pale brown with darker markings, ovoid in section, smooth and short, similar to that of *D. diovis*, but without the short hairs. These short squat pupae are caused no doubt by the larvae pupating within a confined space. No larvae or pupae were found inside the husks on the ground. The butterflies emerge about 9.30 a.m. and have a very swift flight.