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NOTES ON SOME TASMANIAN AND AUSTRALIAN LEPIDOPTERA-RHOPALOCERA. II.

By

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(With one plate.)

These notes form a further contribution to a knowledge of the butterflies of this region. Some nomenclatural changes have been necessitated in connection with the preparation of a new book on the Australian butterflies, others are due to the discovery of new forms. The opportunity is taken to illustrate some hitherto unfigured species. Except where otherwise stated all types of new forms are in my own collection.

ABSTRACT

Hesperilla mastersi marakupa is described and figured, this is an unexpected addition to the list of Tasmanian butterflies; the food plant of *Oreisplanus munionga larana* Couchman is also recorded from this State. *Graphium macleayanus* ssp. *wilsoni* from the Atherton Tableland and ssp. *moggana* from western Tasmania are distinguished from the typical race from Port Jackson.

The subspecies of *Bindahara phocides* occurring in north-eastern Queensland which authors have placed as either *sugriva* Horsfield or *isabella* Felder is now designated ssp. *yurgama*. In continuation of the study of *Pseudalmenus chlorinda* Blanchard, the name *myrsilus* Doubleday and Hewitson is revived for the brilliant race from the Tasman Peninsula, and a remarkably melanic population in the Conara area is separated as ssp. *conara*.

The hitherto unknown female of *Heteronympha penelope panope* Waterhouse from the Cradle Mt. district is described.

HESPERIIDAE

HESPERILLA MASTERSI MARAKUPA subsp. nov.

Female: differs from *m. mastersi* from the Sydney area in that the subapical and discal hyaline spots of the forewing above are clearly separated by the dark brown veins, the subapicals narrow and elongated, the discal spots in areas 2 and 3 smaller and squarer in shape, conjoined discal spots in Ia, and an additional postbasal spot, 2 mm. in length.

Hindwing beneath, the brown ground colour more extensive than in ssp. *mastersi* Waterhouse, restricting all the light cream markings, particularly narrowing the light cream streaks at the end of cell in area 5. Forewing length 21 mm.

Holotype female labelled 1 mile S. of Bridport, Tasmania, Sea level, 13th December, 1963. R. Couchman.

This is a magnificent addition to the Tasmanian list, since *m. mastersi* has always been regarded as the finest and rarest species of the genus, found only in the coastal areas of New South Wales and north-eastern Victoria. There the larva has been found on *Gahnia melanocarpa* and *G. clarkei*, which plants are not recorded for Tasmania.
At Bridport on the edge of a swampy heathland area two or three small larvae were seen and a pupa taken from a distinctive larval shelter on *Gahnia* sp. (*radula?*), apparently a larger, more luxuriant plant than the *G. radula* of the Hobart district. The larval shelter was easily distinguished from the more numerous *Hesperilla donnysa aurantia* shelters on the same plant by the slight spiral twist of the leaves which formed the shelter; although not so strongly twisted it was reminiscent of the characteristic shelters of *Hesperilla chrysotricha plebeia*.

This species may perhaps be found through the heathlands of the north-eastern districts, but the original locality, as with so much of this area, has been cleared and placed under pasture, so that no further specimens have so far been found.

In the Tasmanian list *H. mastersi marakupa* Couchman should be placed before *H. chaostola leucophaea* Couchman. The subspecific name is the Tasmanian aboriginal word meaning handsome.

OREISPLANUS MUNIONGA LARANA Couchman 1962.

At Marrawah in January, 1964, full-fed larvae and a few pupae of both sexes were found, head upwards, in shelters on a coarse tufted *Carex* sp. (*? appressa R.Br.*). Five males and one female emerged between 31st January and 8th February, so that the pupal duration in Tasmania is from 14-18 days.

Further efforts to trace the species in the extreme north-western areas away from the original locality at Marrawah have failed. To the south in the direction of the Arthur River the heathland seems not to harbour the *Carex* which has proved to be the larval foodplant, while to the north of Mount Cameron West the Van Diemen's Land Company refuses access to the entire area around Cape Grim, where possibly a small watercourse similar to that at Marrawah may provide a suitable habitat for foodplant and butterfly.

Clearing and grazing has undoubtedly brought this species to the verge of extinction in this State, it is still only known from the one small swamp of two or three acres in extent where it was originally found.

LYCAENIDAE

BINDAHARA PHOCIDES YURGAMA nom. nov.

Pro *Bindahara phocides isabella* Felder Waterhouse and Lyell 1914 (nec Felder 1860).

Sithon isabella Felder, Semper, G. 1879 Journal Mus. Godeffroy 5 (14): 167, 191; *Bindahara isabella* Felder, Waterhouse, G. A. and R. E. Turner, 1905, Proc. Linn. Soc. N.S.W. (1904) 29 (4): 804; *Bindahara phocides isabella* Felder, Waterhouse, G. A. and G. Lyell, 1914, Butterflies of Australia: 133-134. 20, f. 440, 441; Seitz, A., 1926, The Macrolepidoptera of the World, 9: 995, (nec. pl. 158h); Waterhouse, G. A., 1932, What Butterfly is that? 196. XXVI, f. 19, 19A.

Bindahara sugriva Horsfield, Miskin, W. H., 1891, Ann. Queensland Mus. I: 69; Waterhouse, G. A., 1903, Proc. Linn. Soc. N.S.W., 28 (1): 267-268. 2, f. 35, 36; id 1903 Mem. N.S.W. Naturalists' Club 1: 31. (nec Horsfield 1829, Java).

Male above when compared with ssp. *phocides* Fabricius has the brilliant blue marginal area of hindwing larger and semicircular in shape, extending from veins 3 to 7, 5.5 mm. in width in area 5. Beneath, forewing and costal area of hindwing grey pinkish-brown, median and discal bands dark brown; hindwing ground colour light fawn, a single large distinct subcostal spot in basal area dark brown, discal streaks faintly outlined brown, tail ochreous, 13 mm. long. The holotype male and allotype female will be the specimens in the Australian Museum Coll. as illustrated by Waterhouse and Lyell (1914), the male from Cape York taken in May, the female from Atherton taken in March. Paratype males from Atherton, N. Queensland. February 1944. F. Angel, in my collection.

This species, first recorded from Australia by Semper under the name of the Javanese subspecies, latterly has passed under *isabella* Felder, described from Amboina. G. A. Waterhouse recognised its distinctiveness in his last letter to me in 1941, but did not live to describe it. The name I have adopted is the north Queensland aboriginal word for quick, which well describes its flight.

PSEUDALMENUS CHLORINDA (Blanchard) [1848]

This species proves to be very variable in Tasmania, far more so than in its much more extensive range in the mainland States, so that populations separated by a comparatively few miles are easily identifiable by wide differences in markings.

The typical subspecies *chlorinda chlorinda* from the eastern shores of the Derwent River and adjacent areas in both sexes has the submarginal red band of the hindwing above restricted to areas 1a and 2, sharply tapering off to a point in areas 3-4.

On Tasman Peninsula occurs a population to which Doubleday ascribed the name *myrsilus* in 1847 but without description. This is a brilliant insect, particularly in the female, with wide orange discal band on the forewing and broad orange central patch often connected to the extended orange-red submarginal band of hindwing.

At an elevation in the northern midlands occurs the remarkable melanic race for which I propose the name ssp. *conara,* having the normal orange markings of the female upperside completely veiled by black scaling. Elsewhere on the north coast east of Port Sorell and around Bridport, with an isolated population near Upper Scamander, the form is indistinguishable from the Victoria ssp. *zephyrus* Waterhouse and Lyell. This is a unique distributional pattern within an island as limited in size as Tasmania.

PSEUDALMENUS CHLORINDA MYRSILUS (Doubleday and Hewitson) [1851] n. comb.

Ialmenus myrsilus Doubleday, E, 1847 List of the Specimens of Lepidopterous Insects in the British Museum Pt. II: 28 (nom. nud.) "Van Diemen's Land". *Thecla myrsilus* Doubleday, E. and W. C. Hewitson [1851]. The Genera of diurnal Lepidoptera: pl. 75, f. 3. Westwood, J. O. [1852] ibid: 487, No. 138. "Van Diemen's Land".

It is also noted by Westwood on page X, List of the Plates, in the same work, but no description was ever given.

Edward Doubleday (1847) lists eight specimens in the British Museum, from Rev. A. Beaufort and Mr. Children, without any description, so as a valid name *myrsilus* must date from Hewitson's figure of the female upperside.

As I noted in 1962, in an area south of Orford the specimens of *Pseudalmenus* were larger even than the Victorian ssp. *zephyrus* Waterhouse and Lyell, in fact many were very close to the N.S.W. ssp. *chloris* Waterhouse and Lyell in size, brilliance of markings on the upperside and in the white ground colour of the underside. Concentrated deliberate burning of the Rheban area exterminated the larval food-plant, *Acacia dealbata,* and the host tree, *Eucalyptus viminalis,* which harboured the colonies of the ant, *Iridomyrmex foetans,* among which the larvae of the butterfly pupated. In the search for other localities my friend, A. M. Hewer, whose enthusiastic quest for this butterfly has added so much to our knowledge of its distribution, discovered pupae on the Tasman Peninsula near Saltwater River, and I have bred specimens from pupae each year since. It was immediately noticed that the females closely resembled Hewitson's figure of *myrsilus,* but it was not until a series of specimens had been bred over several years, agreeing well with the figure, that I became convinced that this name, which I and others had relegated into the synonymy of *Ps. chlorinda* Blanchard, should correctly be applied to the population isolated on Tasman Peninsula. The figure in the "Genera" shows a female specimen with the forewing possessing a broad orange discal band, towards the hindmargin slightly produced outwards along vein 1a, the black spot at end of cell clearly within the band; hindwing with a conspicuous central orange-red patch extending outwards for a small distance along the veins, an orange-red submarginal band rising broadly from tornus around hindmargin to area 6 where it terminates squarely.

The female specimen I figure is very close to Hewitson's plate, differing only in that the spot at end of cell is not quite as clearly surrounded by the discal orange band, otherwise it seems identical. The discal band of forewing is 5 mm. broad at costa narrowing slightly to 3.5 mm. at hindmargin; the submarginal band of hindwing 2.5 mm. broad at vein 2 and extending almost uniformly to vein 6. Beneath, the ground colour is whitish-grey, a sub-basal black streak along vein 1b, a large black spot at end of cell, a discal row of black spots 1 mm. wide at vein 1 tapering slightly to costa; hindwing with median row of narrow black spots from costa to vein 4, a uniform red submarginal band 1 mm. in width.

Female forewing length 16 mm.

The male neallotype of this subspecies differs markedly from *c. chlorinda* from the Richmond district.

Forewing above with discal orange band 3.5 mm. wide, clearly divided by black veins and surrounding a square black spot at end of cell; hindwing with a small central orange patch and broad orange-red sub-marginal band extending from tornus to vein 6.

Beneath, ground colour and markings as in the female.

Forewing length 14.5 mm.

The holotype is of course the female in the British Museum (Nat. Hist.) as figured by Hewitson.

Neallotype male labelled Plunkett Pt., Tas. c. 100 ft. 12 Nov. 1962. L. E. Couchman. Nine paratype males from this locality on various dates from 6th October to 19th November collected by A. M. Hewer, R. Couchman and L. E. Couchman, with them I associate five males from Lime Bay taken at sea-level by the same collectors. Females have been taken in both localities from 6th October through to 16th December.

The butterfly probably occurred in all suitable localities on Tasman Peninsula, but the founding of Port Arthur, with the subsequent burning, clearing and cultivation has now restricted it to a small coastal area near Saltwater River. The limits of this population are set by Norfolk, Frederick Henry and Storm Bays, effectively separating it from the nominotypical *c. chlorinda* around Richmond and the eastern shores of the Derwent River.

The activities on Tasman Peninsula from 1830 onwards in connection with the establishment of Port Arthur as a penal settlement, which in turn led to the use of the coal found near Saltwater River, would have afforded opportunities for collecting the specimens which Doubleday noted in the British Museum in 1847. The butterfly still to be found near the abandoned coal mines consistently agrees with Hewitson's original figure.

PSEUDALMENUS CHLORINDA CONARA n. subsp.

In a restricted area in the north-central midlands occurs the most distinctive form to be found in the collective species.

Male. Forewing above, in comparison with subsp. *chlorinda* has only a faint indication of the orange-yellow discal band, which is almost completely obliterated by scattered black scales, the basal area thinly covered with blue scales. Hindwing above with the tornal red band as restricted as in ssp. *chlorinda,* but overlaid and darkened with scattered black scales.

Beneath, ground colour dull grey, forewing with discal band of black spots 1 mm. wide extending from costa to hindmargin, the subtornal red band of hindwing is reduced to a thin line in areas 3 and 4, in areas 5, 6 and 7 it is replaced by submarginal black spots.

Forewing length 14 mm.

Female above, discal area beyond the black spot at end of cell completely overlaid with black scales, so that the orange band of ssp. *chlorinda* is only faintly indicated by a yellow-grey area. Hindwing above, uniformly black except for the tornal dull yellow-red crescentic spots in areas 1a, 2 and 3.

Beneath, discal band of forewing as broad as in male; hindwing with a broad complete discal band of black spots, narrow subtornal dull red spots in areas 1b, 3 and 4, continued as a row of black spots in areas 5, 6 and 7.

Forewing length 17 mm.

Holotype male labelled Conara, Tas. c. 700 ft. 11 Oct. 1962. R. Couchman. Allotype female labelled Conara, Tas. c. 700 ft. 30 Oct. 1962. R. Couchman; fifteen paratype males and ten paratype females from the same locality.

The aboriginal word " conara " is given as meaning coal by d'Entrecasteaux.

This is a remarkable melanic race which seems to occur exclusively in the district around Conara, certainly nothing consistently resembling the female has been found elsewhere. The first few specimens that I obtained were thought to be merely aberrations, but the dull female in which all the normal orange and red markings in other races is here sullied with black scales continues to be consistent and exclusive to this area, so that I have no doubt of its distinctiveness. Large areas of the original locality have been " pasture improved ", resulting in the complete clearing of the larval foodplant, *Acacia dealbata* and also of the *Eucalyptus viminalis* which harbours the attendant ant without which the butterfly cannot survive. In this area, as with all other Tasmanian localities, the pupa of *Pseudalmenus* has been found only under the loose bark of the *Eucalyptus* and always attended by the ant, *Iridomyrmex foetans* Clark. (I recorded this ant (1962) in error as " foetida ").

With the establishment of the subspecies *myrsilus* and *conara* the study of this species, which has extended over the past sixteen years is now nearing completion with our present knowledge of the distributional pattern in Tasmania. A detailed survey is in preparation.

PAPILIONIDAE

GRAPHIUM MACLEAYANUS (Leach) 1814.

Leach remarks in describing this species on p. 17 of the Zool. Miscellany, "Habitat in Australasia. Mus. Dom Macleay. . . . which was discovered at Port Jackson by Mr. A. Huey". The insect depicted on plate 5, except for the broken tails of the hindwings, is of the usual form found in this district, so that Sydney must be the type locality. Almost twenty years ago my friend, the late F. E. Wilson, called my attention to the distinctions between the species as found in coastal New South Wales and that found on the Atherton Tableland in North Queensland; the western Tasmanian race is also distinctive in size and markings.

GRAPHIUM MACLEAYANUS WILSONI n. subsp.

Male above when compared with ssp. *macleayanus* has the basal area above white, only along the costa is it narrowly pale green, outwardly this area is not sharply defined as in the typical race and extends along dorsum almost to tornus, costal and subcostal green spots much smaller, that at end of cell 1 mm. wide, elongate.

Hindwing with faint traces only of a subterminal row of small white spots.

Beneath discal brown band and subterminal area almost unicolorous, the subterminal suffusion scarcely dividing the band at vein 3.

Forewing length 33 mm.

Female, hindwing with no trace of subterminal spots, otherwise above and beneath as in male.

Forewing length 37 mm.

Ssp. *wilsoni* is larger, lighter and with extended basal areas above and does not possess the light suffused subterminal area of hindwing beneath as found in ssp. *macleayanus*.

Holotype male labelled Kuranda, N.Q. 19-3.50. A. N. Burns. leg. F. E. Wilson, in the Couchman collection.

Allotype female labelled Kuranda, N.Q. 10 Feb. 50. D. F. Crosby, in the Crosby collection; two paratype males similarly labelled in the same collection.

GRAPHIUM MACLEAYANUS MOGGANA n. subsp.

Male forewing above with basal area uniformly pale green, extending only 7 mm. along costa, outwardly clearly defined and sharply recurved towards base at dorsum.

Hindwing above, the pale green basal area less extensive than in ssp. *macleayanus*, anal lobe produced and clearly coloured brown.

Beneath discal areas of forewing black, not brown as in the typical race, and with basal pale green area restricted as above; hindwing with discal brown bands outwardly edged with white crescentic spots in areas 1 to 5.

Forewing length 25 mm.

Female above as in male, larger, hindwing with distinct white sub-terminal spots in areas 2, 3, 4 and 5.

Beneath as in male, post discal spots white, merging into a suffused subterminal band.

Forewing length 31 mm.

Holotype male labelled Florentine River, Tas. (6 miles W. of Maydena) c. 1000 ft. 10 Nov. 1963. L. E. Couchman.

Allotype female with same data.

Two paratype males similarly labelled also in my collection. With these I associate specimens from the Cuvier River-Lake St. Clair district, c. 2500 ft. 25 Dec., 1948; Mt. King William 1, 2500 ft. 16 Dec., 1962; Mt. Acropolis, 3900 ft. 16 Jan., 1945, all collected by my wife and myself.

Ssp. *moggana* is much smaller, darker and with restricted markings of distinctive shape when compared with ssp. *macleayanus* from the coastal areas of the eastern mainland States. Moggana was the word used by the Western tribes for wet or rainy, an apt name for an insect from the high rainfall western districts of Tasmania.

SATYRIDAE

HETERONYMPHA PENELOPE PANOPE Waterhouse 1937.

Waterhouse possessed only males when describing this race in 1937, and although during the intervening years large numbers of specimens have been taken in the alpine areas of Tasmania the female has remained unknown and undescribed from the type locality. A brief hour's sunshine in almost continuous rain and sleet during the last week-end in February this year enabled my wife and I to take a number of both sexes, including two pairs *in cop.*, in grassy meadows near Daisy Dell, 12 miles north-east of Cradle Mt., c. 2800 ft.

Neallotype female, considerably smaller than the female of the lowland ssp. *diemeni* Waterhouse, forewing narrower, apex more acute, hindmargin much less bowed.

Above, ground colour of forewing is distinctly lighter than the hindwing, particularly the costal area and the spot below subapical ocellus as in the male described by Waterhouse, black markings more extended than in ssp. *diemeni*, hindwing with a somewhat elongated black subtornal ocellus, 3 mm. diameter, black subapical ocelli in areas 5 and 6 2 mm. diameter, both clearly white-pupilled.

Beneath, hindwing heavily suffused purplish, discal and submarginal bands dark and clearly defined, yellow band surrounding ocelli outlined black, pupil white.

Forewing length 23 mm.

Neallotype female labelled Daisy Dell, 12 miles N.E. Cradle Mt., Tas. c. 2800 ft. 29 Feb., 1964. L. E. Couchman. Five paratypes similarly labelled in my collection.

Specimens from the higher alpine areas of western and central Tasmania may be referred to this subspecies, I possess specimens from Miena, 3400 ft. 21st February to 2nd March, 1952; from the Steppes, 2300 ft. during the same period; Lake St. Clair, 2300 ft. 26th January, 1953, (males only); Waratah, c. 2000 ft. 26th January, 1961 (males only); St. Valentine's Peak, c. 2600 ft. 25th Janu-

ary, 1961. Females from Mt. Barrow, 2475 ft. 9th February, 1949 N. B. Tindale, do not differ, and even from high altitudes on Mt. Wellington the females at least are not appreciably different.

ACKNOWLEDGMENTS

I continue to be indebted to many friends, A. N. Burns and A. Neiboiss in the National Museum of Victoria, D. F. Crosby for the loan of specimens, Deniss Reeves for constant help and the preparation of the photographic plate, A. M. Hewer for continued interest and companionship in the quest for Tasmanian butterflies.

REFERENCES

BLANCHARD, C. E., 1848.—In d'Urville Voyage au Pôle Sud, Zoology Atlas Ins.: pl. 3.

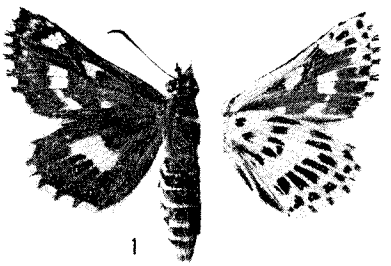
———————— , 1853.—ibid Zoology 4: 401.

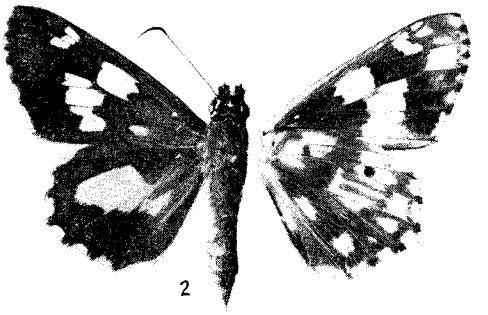
COUCHMAN, L. E., 1956.—*Pap. Proc. Roy. Soc. Tas.* 90: 1-33.

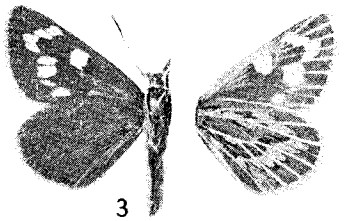
————————, 1962.—*ibid.* 96: 73-81.

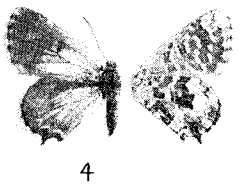
LEACH, W. E. 1814.—*The Zoological Miscellany.* Vol. 1: 17. pl. V.

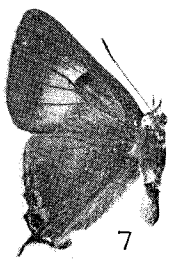
WATERHOUSE, G. A., 1937.—*Proc. Linn. Soc. N.S.W.*, 62 (5/6): 257-258.

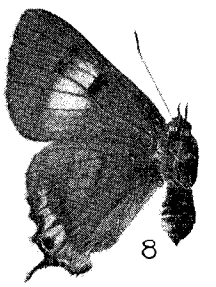


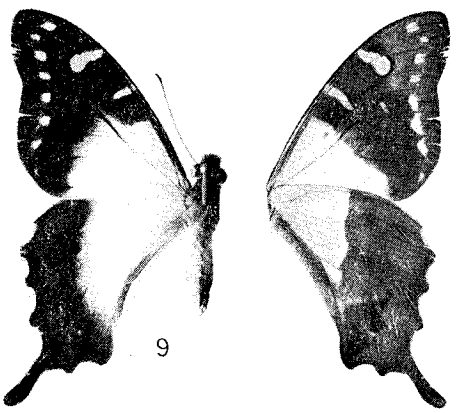


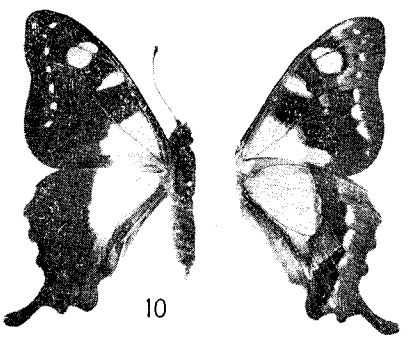












Photos – D.M. Reeves.

PLATE 1.

Fig. 1.—*Oreisplanus munionga larana* Couchman 1962. Female upper and underside. Marrawah, Tasmania.

Fig. 2.—*Hesperilla mastersi maralcupa* n. ssp. Female holotype, upper and underside. Bridport, Tasmania.

Fig. 3.—*Anisynta albovenata weemala* Couchman 1954. Male paratype, upper and underside. Gunnedah, N.S.W.

Fig. 4.—*Neolucia serpentata lavara* Couchman 1954. Male holotype, upper and underside. Cambridge, Tasmania.

Fig. 5.—*Pseudalmenus chlorinda myrsilus* (Doubleday and Hewitson) [1851]. Neallotype male, upperside, Saltwater River, Tasmania.

Fig. 6.—*Ps. chlorinda myrsilus* (Doubleday and Hewitson) [1851]. Female upperside. Saltwater River, Tasmania.

Fig. 7.—*Ps. chlorinda conara* n. ssp. Male holotype, upperside. Conara, Tasmania.

Fig. 8.—*Ps. chlorinda conara* n. ssp. Female allotype, upperside. Conara, Tasmania.

Fig. 9.—*Graphium macleayanus wilsoni* n. ssp. Male holotype, upper and underside. Kuranda, North Queensland.

Fig. 10.—*Graphium macleayanus moggana* n. ssp. Male holotype, upper and underside. Florentine River, Tasmania.

Figures 1 to 8 one and a half times life size, figures 9, 10 life size.