

Three New *Poecilmitis* Butler (Lep.: Lycaenidae) from the South Western Cape

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(Nos. 33-35)

This insect, the first of those described, which was found by Dr. C. B. Cottrell when in company with his father, Mr. J. A. Cottrell, near Spitzkop, Buffelsnek Forestry, in the Knysna Division of the Western Cape Province, differs quite markedly from both *Poecilmitis* (*Chrysoritis*) *zeuxo* (L.) and *P. (C.) zonarius* (Riley) and gives every indication of representing a separate species. Apart from other differences, the wing-shape in itself is characteristic of this butterfly. A description of it follows hereunder. (As *Chrysoritis* Butler has not received general acceptance as a full genus, it is being used as a subgenus in the present context.)

Poecilmitis (*Chrysoritis*) **cottrelli** spec. nov.

In both sexes forewings acutely pointed at apex—and in female a pronounced bulge in middle of distal margin; hindwing rather noticeably produced at anal angle.

Male (Upperside)

Forewing. Black spotting not completely developed discally in the specimens examined. Costal border dark, or mainly so, along its distal half, with marked intrusion of black marking of wing; black distal border moderately broad (almost twice as broad as costal border).

Hindwing. Black spotting on the whole not strongly developed; dark basal suffusion present. The dusky costal border extending down to, or even below, vein 7; dingy-grey inner-marginal area bounded along vein 1b by very dark scaling. Discal spots in areas 4-6 confluent or virtually so (in holotype, very slightly separated where crossed by vein 6) and larger than most, or any, of the other spots in wing. Space between submarginal series and marginal border almost, or entirely, filled in with black scaling from costal border down to vein 4.

Cilia of all wings dark or dusky, more or less variegated, especially in hindwing, with grey.

Underside

Forewing. Discal area rather light orange, the costal, distal and inner-marginal areas fawn-grey, shading into the orange gradually, but the degree of encroachment pronounced in this species. The black spotting, much of it steely-centred, far better developed in inner-half of wing, than it is on the upperside. Submarginal series of dusky markings (which diminish noticeably in size towards, and do not reach apex as well defined markings), fairly broad.

Hindwing. The characteristically fawn-grey surface of the wing has its dark (or dark-edged) spotting fairly well defined, and with the form of submarginal marking which is usual in this group also apparent.

Cilia, in all wings, less dark than on upperside.

Length of forewing: 11.5-12.5 mm. (the former measurement, that of holotype).

Female (Upperside)

This is substantially as in the male.

Forewing. Some additional, vestigial, spotting present. Discocellular marking larger than other spots. (In the female paratype, the wing is more heavily spotted than in the allotype.) Distal border in female allotype much broader than in male specimens—though not, relatively so, in female paratype.

Hindwing. More heavily spotted and marked than in male specimens. Three spots of discal series above vein 4 not necessarily larger than any of the other spots.

Cilia, in all wings, much as in male but, at least in female allotype, less uniform and rather noticeably partly light grey.

Underside

Forewing. Inner boundary of broad grey-brown distal border well defined and not extending into adjacent orange area beyond the series of markings parallel with margin, which it encloses.

Hindwing. Marking, though readily apparent, not contrasting as strongly with its background as in at least two of the males concerned, owing to the wing-surface as a whole being of a darker greyish-brown tone.

Length of forewing: 15.0 mm. (in allotype and single female paratype).

Body and ancillary parts in both sexes much as in *P. (C.) zeuxo* but, at least from the present material, the thorax and abdomen somewhat darker above and with a slightly lighter greyish tone beneath.

♂ Holotype, WESTERN CAPE PROVINCE: Nr. Spitzkop, Buffelsnek Forestry, Knysna, 16.XII.1969 (Dr. C. B. Cottrell); British Museum Reg. No. Rh.17371.

♀ Allotype, W. CAPE PROVINCE: data as for holotype; British Museum Reg. No. Rh.17372.

Paratypes in Coll. C. B. Cottrell: 2 ♂♂, 1 ♀, as holotype.

Owing to their close similarity the male genitalia of most of the species of *Poecilmitis* are of little taxonomic value, those of the present insect as well as the following ones being no exception in this respect. Dr. Cottrell has furnished excellent drawings of the male genitalia of the three taxa caught by himself, which are described in this paper, and has stated in a letter that, by and large, examination of the genitalia has not resulted in any information useful in separating the species or in deciding the status of the new taxa. There are minute differences in the case of the insect under discussion but he would not be prepared to attribute these to other than individual variation, without a major investigation.

It is of great interest that a female specimen of *P. (C.) zeuxo* which was caught by the late K. M. Pennington in Seven Weeks Poort should appear to be very similar to *zeuxo* from the Cape Peninsula, on superficial grounds, the date of capture of this somewhat worn specimen being 26th October, 1946. It

shows no approach whatsoever to the female of *P. (C.) cottrelli*. Seven Weeks Poort lies some 180 miles to the east of Cape Town and the type-locality of *cottrelli* 280 miles east of this town, and the Peninsula. The food-plant is doubtless *Chrysanthemoides* (Compositae) in each case.

Dr. Cottrell has written as follows concerning this newly described butterfly's habitat: — "Unfortunately when I was last there the area was being planted with Pines and although the little patch of indigenous forest at the stream-head will remain, the borders will by now be pretty heavily shaded by the Pines, with the possible exclusion of the *Chrysanthemoides*."

Much pleasure is taken in the opportunity to name this interesting discovery after Mr. J. A. Cottrell, O.B.E., B.A., the distinguished naturalist and ornithologist.

Poecilmitis (Poecilmitis) daphne spec. nov.

Discovered by Dr. C. B. Cottrell on the Kamanassie Mountains, to the east of Oudtshoorn, this very beautiful insect comes closest to *P. pyramus* Pennington, which was originally found near the top of the Zwartberg Pass, 40-50 miles W.N.W. of the Kamanassie Mountains—the two ranges being separated by some comparatively low-lying country. The relative status of the present butterfly has been difficult to determine with certainty, but when considering analogous cases of closely related *Poecilmitis* which are known to be separate species it is felt that it could be more correctly treated as a distinct species, rather than a subspecies of *P. pyramus*. Since there is some considerable doubt as to whether two female specimens which were found with the males in question were in fact conspecific, these females are not being included in the type material, but a short description of them is being appended to the following description of the male.

Average size of males much below that of males of *P. pyramus* Pennington.

Male (Upperside)

Orange-red ground-colour of the rich hue characteristic of *P. pyramus* and the silvery-blue areas with the very strong violaceous lustre in certain lights, which is present in this species—as against the paler (though not less metallic) colouring of *P. plutus* Pennington and some of the other members of the *P. thysbe* group.

Forewing. Blue from wing-base extends to lowest (double) black discal spot in area 1b, as in *pyramus*, but above area 1b is less extensive than in this species, barely entering area 2 and leaving an orange space at distal end of cell. Outer edge of blue area more clear-cut than in *pyramus* but without the black edging that occurs so frequently in its own case, or the frequent obliteration, by black scaling, of orange colouring in areas 1a and 1b distally.

Hindwing. Solid blue of approximately same extent as in *pyramus* specimens in which it is best developed or (as in holotype), more extensive; the degree of iridescence over the orange area rather variable, as in *pyramus*, but perhaps on the whole less extensive. The black marginal spotting, running into

dark divisions of cilia, more completely developed (down to vein 1c) and more neatly defined along length of margin, than in *pyramus*.

Underside

Very much as in *pyramus*, in all wings; in forewing, some of the adjoining black marking is more frequently enlarged so as to coalesce fully with the dark streak parallel with the distal margin.

Length of forewing: 11.0-14.5 mm. (14.0 mm. in holotype). The first measurement is that of an unusually small specimen.

♂ Holotype, WESTERN CAPE PROVINCE: Mannetjieberg, Kamanassieberg, 22.XII.1969. (Dr. C. B. Cottrell); British Museum Reg. No. Rh.17373.

Paratypes in Coll. C. B. Cottrell: data as for holotype, 2 ♂♂.

Description of female which is very doubtfully conspecific with above male.

Upperside

Forewing. Basal blue extends upwards nearer to costal margin than is usual in female of *P. pyramus*.

Hindwing. Marginal black border noticeably wider than in *pyramus*, though decreasing in width progressively and tending to become fragmentary towards anal-angle.

Cilia in all wings with the light spaces less clear-cut than in female of *pyramus* and with orange colouring mixed with the white, and in one specimen largely supplanting it. The wing-margins are in fact more dentate than in the female of *pyramus*—in which they are relatively even, especially in the forewings.

Underside

Forewing. As in *pyramus*, allowing for variation in specimens.

Hindwing. Basically like that of *pyramus* but with a broad median area of the wing which is relatively lighter, together with some other rather different features.

The anal-angular projection of the hindwing is longer than in the female of *pyramus*.

Length of forewing: 13.0-15.5 mm.

One of the specimens (the larger one) has been presented by Dr. Cottrell to the British Museum (Nat. Hist.).

In a recent letter Dr. Cottrell has stated that all the males of *P. daphne* were found at the top of the range and the females, which he assumed at the time were of the same species, not far from them. On the same occasion he caught a male *Poecilmitis* which resembled *P. nigricans* (Aurivillius) and which might need to be investigated if more specimens of it are secured at any time in the future. In view of the characters exhibited by the above two females, the writer is of the opinion that they could possibly represent the female of this *nigricans*-like insect, and thus not that of *P. daphne*.

Concerning the male genitalia of *P. daphne*, in comparison with those of *P. pyramus*, Dr. Cottrell has written: — "There are slight differences between the example of *P. pyramus* and

the Kamanassie Mts. example [*daphne*]. In the latter the valves are slightly less massive and somewhat more slender, the distal portion of the aedeagus is shorter and less pointed and the appendages on the 'elbows' of the subunci are in a partially lateral plane (instead of the anterior/posterior plane as in *pyramus*). Both examples exhibit the notches on the distal points of the juxta (see 1c of figure concerned). Once again I am not prepared to state that any of these differences are significant although the slight difference in aedeagal shape is certainly suggestive."

Dr. Cottrell has proposed the euphonious and appropriate name of *daphne* for this exceedingly beautiful insect—after his mother, Mrs. D. E. Cottrell—with a species thus being named for each of his parents—and, quoting his own words, "in recognition of their active assistance and encouragement of my entomological interests from school days onwards."

Poecilmitis (*Poecilmitis*) **hyperion** spec. nov.

This striking member of the group was found by Dr. Cottrell high up on the Zwartberg Pass (Oudtshoorn side), on 18th and 29th December, 1969, just within the area which is frequented by *P. pyramus* Pennington. It is close to *P. swanepoeli*, which was described by the present writer some ten years ago (*J. Ent. Soc. Sth. Afr.*, **27**, No. 2: 160-162, figs. 1-4 (1965)), from specimens from near Prince Albert on the northern side of the Zwartberg; and which, a few years later, was located by Mr. R. D. Stephen at about the same altitude near the Cango Caves, to the south of the Zwartberg.* While it might at first be assumed that the present butterfly was a high-altitude race of the latter insect, there are factors, including the distributional aspect, which do not altogether favour such treatment and it is therefore, somewhat tentatively, being accorded specific status in this paper.

Both sexes are characterised by marked broadening of the black distal border of the forewing upperside, and expansion of the dark marking near the distal margin of the forewing underside.

Male (Upperside)

Forewing. Black distal border so widened as to be in contact with discal spots in at least areas 2 and 4—besides leaving only small spaces of the reddish-orange ground-colour in areas 5 and 6 distad of the black marking in these areas (its reduction greater in area 6).

Hindwing. At least some of the black discal spots apparent in all specimens examined—sometimes absent altogether in the other taxon mentioned above. Dark scaling or marking sub-costally above vein 6, present in all examples—this in one paratype consisting of a solid black oblique streak.

Cilia of forewing mainly black, with very small white punctations; those of hindwing varying as regards development

* From subsequent examination of further material from near the Cango Caves, this has not agreed entirely with specimens from near Prince Albert.

of the dark spaces, but with these on the whole better developed than in the other insect.

Underside

Forewing. The dark streak parallel with the distal margin black in all specimens and broadened so as to run into the adjacent black spots in areas 2 and 4. The streaks extending along the veins, from the dark streak parallel with the margin to the edge of the wing, well defined in all specimens.

Hindwing. Consistently deeply marked in all examples and, in general, more so than in the other taxon concerned.

Length of forewing: 12.5-14.5 mm. (13.0 mm. in holotype).

Female (Upperside)

Forewing. Distal border widened to such an extent as to embrace all spots of discal series except those in areas 1b and 3. (There is, however, a minute spot of orange present in this black area, distad of the black spot in area 5, of discal series.)

Hindwing. Black marginal border decidedly broader than in the other insect, being unbroken through its length.

Cilia with white spaces reduced in size in forewing, but very clear; in hindwing also clear but much larger, and the dark spaces blackish to brown (not black, as in forewing).

Underside

Forewing. Remarks relating to male, fully applicable to female.

Hindwing. Colouring and marking not differing from that of the other insect in question.

Length of forewing: 13.75 mm. (that of allotype—the only known female).

♂ Holotype, WESTERN CAPE PROVINCE: Zwartberg Pass, 18.XII.1969 (Dr. C. B. Cottrell); British Museum Reg. No. Rh.17374.

♀ Allotype, W. CAPE PROVINCE: data as for holotype, 29.XII.1969 (C.B.C.); British Museum Reg. No. Rh.17375.

Paratypes in Coll. C. B. Cottrell, data as holotype, 2 ♂♂, 18.XII.1969, 1 ♂, 29.XII.1969 (C.B.C.).

The name *hyperion* (that for the sun god) was suggested by Dr. Cottrell as a pleasing name for this brilliantly coloured Lycaenid which is amongst the most beautiful of its group.

In this case again, the male genitalia do not seem to possess any clearly characteristic features.

The three interesting butterflies described in these pages have been brought to light through the enthusiasm of Dr. Cottrell and his investigation of the most promising spots in the course of his field work when visiting the Cape.

Final Note

The opportunity is taken to record the capture of a slight variation of *Poecilmitis pyramus* Pennington by Mr. C. W. Wykeham at a high altitude on the Langeberg, above Grootvaders Bosch, on 5th February, 1968—i.e., about 80 miles S.W. of the type-locality. The males, at least, in the series concerned are of a smaller average size than topotypical *pyramus* and have less-heavy black marking on the upperside.



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