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NEW SPECIES OF GUIANA AND JAMAICAN BUTTERFLIES.

BY WILLIAM JAMES KAYE, F.E.S.

(PLATE II.)

THE species of butterflies here described are all from the Guiana region, except the small *Chlosyne*, which is from Jamaica. The latter is of great interest, as indeed are all the species peculiar to this island, as showing how local the insect must be. It is now some years since the specimen was taken, and, owing doubtless to the exact locality (Manchester Mountains) not having since been visited, no further specimens have been taken. The Guiana species include a *Eueides*, which is apparently quite new. This insect has occurred in some numbers, but, strangely, only three males have been taken to some twenty females. The *Papilio* now described may be the female of some known male; but, on the other hand, if it should belong to the *latinus* group, the sexes would be similar, and the now described form would be entirely new. I lean to the latter view, on account of the yellow spots on the sides of the abdomen and the sides of the thorax. The row of red spots coming close up to the subterminal row of yellow spots is also suggestive of the *latinus* group. The Heliconius of the *cybele* group has remained undescribed for years. It is evidently a rare species. Mr. H. J. Adams has the insect also without a name. Unfortunately the *Protogonius* is not here figured. The species or race can, however, now be recognized readily from its special characteristics given below.

Protogonius hippona, Fab., verus.

The identity of this species has so commonly been lost sight of that a description seems badly wanted. There are in existence two specimens of *P. hippona* in the Banksian collection, and these were doubtless identified from Fabricius's type. The

species in some of its forms exhibits yellow instead of white spots to outer margin of hind wing. The large black area of hind wing is the special characteristic of the species.

Fore wing black and tawny, with a heavy yellow band which is very variable in its lower half from beyond cell to outer margin. Apical area black, containing two or three yellow blotches, the uppermost one of which is much the largest. A broad black edging on inner side of transverse band and a heavy black inner marginal band from base to tornus. Inner area of wing fulvous, more yellowish towards its outer confines. Hind wing with the costal half fulvous, a black dash running in towards base from outer margin along vein 7; above this, midway, is a large conspicuous fulvous blotch, well defined by black margins. Lower half of wing heavily black, but variable in extent towards and beyond the cell. Sometimes black irroration extends right across the wing, but more frequently the black area stops abruptly on reaching the lower corner of the cell. A row of large and conspicuous white marginal spots, those beyond the black area becoming obliterated, or only showing indistinctly as yellowish marks. Expanse 106 mm.

Hab. The Guianas (English, Dutch, and French). Lower Amazon.

The species varies considerably. From the very few individuals available for examination, it appears that the form in French Guiana (Cayenne) has a darker hind wing than those from British Guiana (Berbice), and these in turn are darker than those from Paraguay (?), if the latter should prove to be the same species, as is possible. In fact it may be that the vast majority of the described species of *Protogonius* are all one species, with different geographical forms, but all overlapping somewhere or other. Starting with the extremest black hind-winged form from Cayenne, one works through to a lighter form in British Guiana. In Venezuela there is a less black form still, and the band of the fore wing has become broken. Going northward, this reduction of the yellow area becomes more and more marked, until in *T. cecrops* some specimens have a very slender band. In Trinidad, where insularity has worked to bring about greater change, and where there is no fusion of any other race, the form has assumed quite a distinct facies in *T. ochraceus*. Northwestwards, in Columbia, in *T. tithoreides* there is an admixture of the Northern and Southern races: Northern, in retaining the large distinct marginal spots to fore wing; Southern, in showing a reduction in the size of the marginal spots to the hind wing. In Columbia there is a subform of *tithoreides* called *albinotatus*, in which all the spots and band of the fore wing have become white. Going from Guiana westward, one finds a similar form to the British Guiana race in the Lower Amazon. Higher up the same system, on the Rio Madeira, there is a chestnut-coloured form which shows an influence of northern form, but of

this race we know very little, especially as to how the intermediate forms fit in. In Peru the form called *diffusus* shows the yellow band partly obliterated by the ground colour in the lower half, and frequently the apical spots are entirely suppressed. From this form there is a gradation in aberration where the yellow is entirely suppressed, where the colours have become black and fulvous only, but where the hind wing has retained the usual coloration. This form is probably unnamed, but is probably only an aberration of *diffusus*. Lastly, as an extreme in one direction, there is the form *semifulvus*, in which the hind wing is greatly blackened as far as vein 6. Specimens of this are found, showing a transition of the orange band to the yellow band, as found in *diffusus*. Going southwards, no great change is found from the less extreme Guiana forms till one comes to Southern Brazil, where the chief distinction lies in the presence of a longer white apical patch instead of two or three yellow patches. The shape of the yellow band remains much the same as in the Guiana form, in fact almost identical with that of the Berbice specimen. The colouring of the hind wing varies greatly, from fulvous to a shade of lemon-colour, to yellow with a shade of fulvous. It may possibly be due to varying altitudes in some localities where two forms have been received from the same country, as they have been from Colombia and Ecuador. Accurate data are much needed to decide, but there is scarcely a doubt that continuity of forms prevails to a very large extent.

Papilio caburi, n. sp. (Pl. II. fig. 1).

Fore wing deep lustrous ivy-green, the basal half much darker and less lustrous. Hind wing lighter green than fore wing, and with a greater sheen on the costa; reaching to nervure 7 is an oblong patch of cream-coloured scales, and between nervures 6, 7 is just an indication of another patch; before the margin is a row of larger black blotches around the nervures extending to vein 6, where the blotches have become much reduced. Outer margin deeply crenulate, with sharp triangular tooth-like black marks running up between the nervures. Abdomen of the same colour above as hind wing; the sides with three rows of orange patches. On the under side of fore wing ground colour dull blackish; basal half much darker, with a small elongated patch of cream-coloured scales within the cell, lying near lower discocellular. Under side of hind wing blackish, with a marginal row of cream-coloured spots between the nervures, preceded by a row of brick-red heart-shaped blotches. On under side of abdomen is a double row of cream-coloured white dots. Expanse 150 mm.

Hab. Forest between Essequibo and Mazaruni Rivers, near Bartica (W. J. Kaye, April 16th, 1901).

Eueides nigrofulva, sp. n. (Pl. II. fig. 4, ♀ ; 5, ♂).

♂. Fore wing wholly orange and black. The costa black for entire length; the apex very broadly black; outer margin sinuated black; inner margin orange, except just at base, where a longitudinal black streak takes its rise, following the line of nervure 1 *b*, becoming much narrower before outer margin is reached. Discoidal blotch very large, black, hardly joined with the black of costa, and only connected with another large blotch situated between nervures 3, 4 by a small and narrow extension of the blotch; an ill-defined blotch between nervures 2, 3. Hind wing with a very broad marginal band, containing indications of lighter spots, and throwing up short tooth-like marks between all the nervures except between 6, 7. Between the band and the discoidal cell are series of black elongated patches, variable in size and intensity. Thorax with a pair of orange marks and first abdominal segment with another pair. On the under side of fore wing is a row of white marginal spots, largest at apex and smallest at tornus; within the black apex is a band of straw-colour, and again, just within the discoidal blotch, the tint is straw-colour. Under side of hind wing with a lightish area round upper disco-cellular; the black marks within the band very clear and distinct. A marginal row of very distinct large white spots.

♀. With the wings more ample, with the band inside apical black patch straw-coloured, and with the area immediately within the discoidal blotch also straw-coloured. Expanse: male, 82 mm.; female, 90 mm.

Hab. Essequibo River, Potaro tributary (C. B. Roberts, June, November, December, September).

Chlosyne pantoni, n. sp. (Pl. II. fig. 6).

Fore wing above dark black-brown, with deep ochreous markings. Near the base is a narrow obscured ochreous mark; a large irregular ochreous patch, chiefly lying within the cell, but extending towards the inner margin, and a patch of similar colour lying well beyond the cell between veins 4 and 7, extending indistinctly through to the costa. A series of large ochreous subterminal spots lying well in from the margin. On the under side the inner margin and outer margin broadly brownish black; within the latter is a series of spots, which are yellowish towards costa and ochreous towards tornus. The remainder of the wing as on upper side, except that there is a wedge-shaped ochreous mark extending to base, and not a small linear mark. Hind wing above, with the costa, broadly greyish black, the outer and inner margins dark brownish black; the central area of the wings ochreous. Central lunule indistinctly blackish. A large mark from inner margin to just beyond the lower corner of cell dark brownish black. On the under side the ground colour wholly blackish, with a slight ashy tone. In basal half are a number of cream-coloured large blotches. A double subterminal line of festooned whitish marks, preceded by a row of large dark-red spots, which become more and more suffused towards costa. Expanse 56 mm.

Hab. Jamaica (Manchester Mountains).

The species is named after Mr. E. S. Panton, its discoverer.

Heliconius tumatumari, n. sp. (Pl. II. fig. 2).

Fore wing black, the base crimson. A large yellow blotch within the cell, divided from the red area by a roundish black blotch. Discoidal blotch irregular black, joining another black mark just beyond the cell between veins 3 and 4. Beyond the cell are elongated patches of sulphur-yellow radiating round to the costa. Between veins 2, 3 there is a break with the ground colour, and just above vein 2 there is another yellow mark, sometimes elongated, and joining the yellow area with the cell. At the extreme angle of the tornus is an elongated yellow spot, and immediately before apex are three yellow spots, the centre one of which is usually most distinct. Abdomen not marked above, and with a white line running down the centre beneath, bordered on either side with a very fine more or less indistinct white line. Expanse 97 mm.

Hab. British Guiana.

The species is related to *H. cybele*, and from the very few specimens seen is tolerably constant.

Heliconius silvana var. *divisus*, nov. (Pl. II. fig. 3).

Fore wing as in typical *silvana*. Hind wing with the transverse black area divided by a band of the brownish ochreous ground colour as far as vein 5, where there is placed the usual lower yellow spot close to the margin. Both the upper and lower of these spots well defined, but the indications of the remaining marginal spots very ill defined, and hardly distinguishable beyond vein 3. The upper portion of the black area, above the band of ground colour, more arched than in typical *silvana*.

This form is probably a rare aberration only, and not confined to any one locality. Similar specimens occur on the Lower Amazon, as well as in British Guiana, from whence the form is now described.

LEPIDOPTERA AT RANNOCH IN 1905.

By E. A. Cockayne, F.E.S.

(Concluded from p. 40.)

In the birch woods, *Drepana lacertinaria* and *D. falcataria* were met with; the former, much the commoner of the two, was rather darker than the usual English form. *Falcataria* in this district is a most lovely insect. It has an almost white ground colour, crossed by an intensely dark-brown stripe curving round to the hooked wing-tip. *Cymatophora duplaris* was abundant on the smaller branches of the birches. All were more or less melanic, some nearly black.

Coremia salicata and *Emmelesia blandiata* were common locally, the former commoner near the tops of the hills.

On June 23rd *Psodos trepidaria* was flying in profusion on a