

# **DIOPETES KAKUMI, A NEW HAIRSTREAK FROM KAKUM NATIONAL PARK, GHANA (LEPIDOPTERA: LYCAENIDAE: THECLINAE)**

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**ABSTRACT.**— The Lycaenid *Diopetes kakumi* n. sp. is described from the Kakum National Park in Ghana. Both sexes are illustrated in colour. The male colour pattern differs strongly from any other member of the genus.

**KEY WORDS:** Africa, behavior, Cameroon, *Deudorix*, *Diopetes kakumi* n. sp., distribution, Ethiopian, Gabon, Ghana, *Hypokopelates*, *Philodeudorix*, Rhopalocera, Senegal, taxonomy, Togo.

In January, 1994, in the Kakum National Park near Cape Coast in Ghana, I caught a male of a splendid *Diopetes* hairstreak. Even in the field I was certain that it was new to West Africa, and probably undescribed. It differs from all other *Diopetes* by the iridescent greenish-blue sheen, the extent of which varies strongly according to the angle at which it is viewed, and by having prominently blackened veins and very irregular black margins. The underside, wing-shape, and venation on the other hand, are typical of the genus.

Most of the *Diopetes* are very scarce and several are known only from the types. Examination of the material in the Natural History Museum, London (BMNH), revealed a further pair of the new species, collected at Obuasi, Ashanti, in western Ghana a century or so ago, on the same date by the same collector. Obuasi is just 100 km north of Kakum. This pair is illustrated by D'Abrera (1980) under the name *D. corruscans* Aurivillius (1897), though the male only with reservations, and with no mention that they are from Ghana. Aurivillius' described *D. corruscans* after a male from Ogowé, Gabon, and a female from Cameroon coming from the Staudinger collection. Only the female is present in Stockholm, carrying a red printed type label. It also carries a handwritten note by N. D. Riley from 1956 saying that Felix Bryk considered the female to be the type. Since the material came from the Staudinger collection, which Bryk curated, one assumes Aurivillius must have returned the male and considered the female retained in Stockholm to be the holotype.

The male of *D. corruscans* is characterized as being 'closely related to *D. deritas* Hewitson and mainly differing through the strong iridescence and the blackish ground-colour towards the margin of the male upperside'. In the Latin description there is no mention of blackened veins, nor of the broad and very irregular margins. The picture in Seitz (Aurivillius, 1914-25) shows a hindwing with a much narrower dark margin and a much more regular boundary between black and blue. The veins are not blackened and the ground-colour is blue with no greenish tinge. It is definitely not the Ghana male, which basically could not meaningfully be compared with *D. deritas*.

As correctly pointed out by D'Abrera (1980), the female underside that he illustrates is very close to the holotype of *D.*

*corruscans* (it was originally placed as such by N. D. Riley after his visit to Stockholm). The possibility thus remained that the male associated with the female holotype by Aurivillius pertained to another species. I accordingly asked for the holotype to be sent to London for comparison. The undersides of the two hardly differ. In *D. corruscans* the black apical spot of the hindwing is better developed, but the main difference lies in the two submarginal lines of the forewing. In *D. corruscans*, these lines are formed by lunules; the outer of the two lines lies exactly half way between the inner line and the margin. In the Ghana specimen, these two lines are formed by almost straight striae and the outer line is very much closer to the inner line than it is to the margin. The upperside of both females is a dull steely blue. However, when the wings are viewed from an oblique angle, an underlying pattern of more brilliant blue is revealed. In *D. corruscans* this underlying sheen is limited to the base of both wings; in the Ghana specimen it covers the basal area of the forewing, as well as the base of spaces 2 and 3, and parts of the costal area - much as in the male. On the hindwing, it is limited to the basal-costal area and is not as extensive as in the male. This well-defined half-hidden pattern reveals that the two females are not conspecific and that the Ghana female is conspecific with the male.

There is thus no doubt that the Ghana specimens represent a new species which is described herein:

### *Diopetes kakumi* Larsen, new sp.

**Diagnosis.**— The male upperside is iridescent greenish-blue with a broad, irregular dark margin. In both these respects it differs completely from all known members of the genus.

**Description.**— *Male upperside* (Fig. 1A): Forewing 16mm. Labial palpi, legs, and wing venation as for the genus. The underlying ground-colour is a deep velvet black, but it is overlaid with greenish-blue iridescence, the extent of which varies with the angle at which it is viewed, and which does not cover the entire wing surface as is usual in the genus. It is possible to hold the specimen at an angle where all iridescence practically disappears. The iridescence is at its maximum at a very oblique angle, but the veins remain black, with the partial exception of vein 1 on the forewing. The maximum amount of iridescence on both sets of wings is shown in Fig. 2. Thus a very irregular black margin



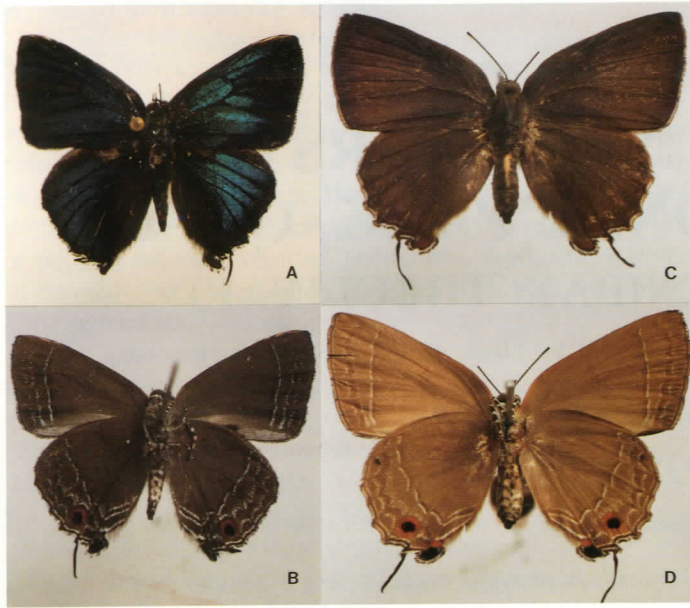


Fig. 1. *Diopetes kakumi* n. sp.: a) Male paratype upperside; b) Underside of same; c) Female paratype; d) Underside of same.

remains on the forewing irrespective of angle of view, as well as a two mm margin on the hindwing, extending inwards along the veins as small triangles. The strong greenish tinge of the groundcolour is unique for the genus. *Male underside* (Fig. 1B): The male underside is almost exactly like the female figured by D'Abrera (1980) as *D. corruscans*, except that the ground-colour is a cooler and somewhat darker greyish-black. The main difference is that faint black apical spot of the female is missing. *Male genitalia*: These have not been studied since they normally do not provide any diagnostic characters in *Diopetes* (Stempffer, 1967). The abdomen of the holotype is missing; I prefer to leave the male paratype intact for future genitalic study in the context of a revision of the genus using more subtle and detailed characters than so far used by Stempffer and others.

*Female upperside* (Fig. 1C): Forewing 19mm. The female upperside is a dull, steely blue with the hint of 3mm brown margin. When viewed at an oblique angle, however, an underlying pattern of a more brilliant blue appears. On the forewing this is almost like that of the male, though slightly less extensive. It is especially noticeable that there is costal shading even towards the apical area. *Female underside* (Fig. 1D): The female underside is perfectly illustrated by D'Abrera (1980) as *D. corruscans*; the differences from that species have already been enumerated.

**Types.**— *Holotype* ♂: Obwassi, Ashanti, Ghana, 1902/1903 (Bergman) (BMNH). *Paratypes*: ♀, same data as holotype; ♂ from Kakum National Park, Jan 1994 (T. B. Larsen leg. et coll.).

**Remarks.**— Like many members of the genus, *D. kakumi* appears to be extremely scarce. My male from Kakum suddenly dipped down where a shaft of sunlight penetrated some low bushes on a forest path at 1200h, where it perched on the tallest bush. This appears to be a mate-location strategy which can be termed 'sun-spotting' and which is favoured by the rarer Theclinae such as *Deudorix*, *Pilodeudorix*, and *Hypokopelates*. An hour earlier, under exactly the same circumstances, I had caught a male of an undescribed *Deudorix* previously known from a single specimen collected by Father Maessen at Kibi (related to but distinct from *D. kayonza* Stempffer, 1956). This is being described in collaboration with Lee and Jacqueline Miller of the Allyn Museum of Entomology.

I have named this splendid butterfly after the Kakum National Park in recognition of the park's importance as an example of conservation activities in Ghana and in West Africa as a whole.

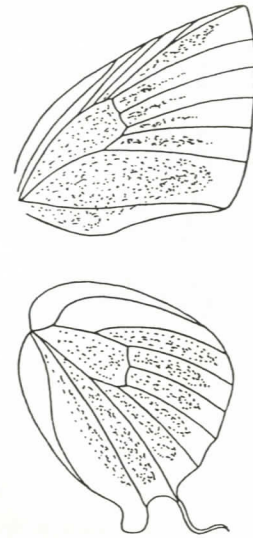


Fig. 2. The maximum extent of greenish-blue sheen in the male of *Diopetes kakumi* n. sp. shown by stippling.

It is a wonderful, nearly intact example of the West African moist evergreen forests. It contains one of the few remaining viable populations of the forest elephant. My own studies (over sixty days on eight separate occasions) have yielded almost 450 species of butterflies. The eventual total will certainly be near to 600, or about two-thirds of the known forest fauna in all of West Africa from Senegal to Togo. The park is currently being developed by the Ghana Wildlife Department, with technical assistance from Conservation International, and financial support from USAID.

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