

THE AFRICAN SKIPPER GENUS *CAENIDES* HOLLAND AND THE DESCRIPTION OF A NEW SPECIES (LEPIDOPTERA: HESPERIIDAE: HESPERIINAE)

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Abstract- The new species *Caenides dacenova* from Ebogo in Cameroun is described in relation to *C. dacenilla* Aurivillius – its closest relative – and *C. otilia*. It is so far only known from nine males and a single female collected on several different dates in the type locality and at Djoum close by, apparently being both rare and of restricted range. The general ecology and the distribution of the eight *Caenides* species currently accepted in the genus are discussed.

Key words: Hesperioidea, HesperIIDae, HesperIIDae, Afrotropical, Ebogo, Cameroun, *Caenides*, *dacenova*.

INTRODUCTION

The skippers (HesperIIDae) have generally had a somewhat step-motherly treatment among tropical butterflies, not least in Africa. A few years ago, Larsen, in continued collaboration with Collins and the African Butterfly Research Institute (ABRI) Nairobi, decided to embark on a monographic revision of the 570 or so described African species in the family and a further 200+ subspecies.

We have (jointly, separately, or in collaboration with others) already described about 25 new taxa of African HesperIIDae since 1994. As the monograph is still some way off, we decided that the best policy was to publish new species in separate scientific papers as soon as they could be definitively described. Such an approach allows more flexibility than within the framework of a book, simplifies collaboration when there is multiple authorship, and may result in obtaining additional information on the new taxa before publication of the monograph. Three such papers have already been published and resulted in new insights from consultation while they were being developed (Larsen 2010; Larsen & Cock 2011; Larsen & Congdon 2011).

THE GENUS *CAENIDES*

The genus *Caenides* Holland, 1896 was restricted by Evans (1937) to eight rather large hesperiid species, with *C. daceia* (Hewitson, 1876) as the type species selected by Lindsey (1925). One further species, *C. otilia* Belcastro, was described in 1990. However, two of the species placed in the genus by Evans definitely do not belong there (*C. hidaroides* Aurivillius and *C. dacena* (Hewitson)), and are not closely related to each other (Larsen 2005). These will have to be removed to other genera on both morphological and genitalic grounds.

With these two species removed, and with the new species here described, the genus comprises eight species that are homogenous in general patterns, genitalia, and behaviour. All males of the genus have a large recumbent hair-tuft arising from the hindwing cell and overlying the base of veins 2, 3, and 4 – this feature is rather similar to the Oriental genus *Baoris* Moore but not found in any other African skippers. In five species, the male forewing has a prominent discal androconial band crossing spaces 2 and 1b on the forewing, which is missing in the three remaining that otherwise do not differ.

Table 1. Members of *Caenides* and their geographical distribution.

Species	SEN	SEL	GHA	NIG	CAM	GAB	CAR	DRC	ALB	KEN	ZAM	
<i>C. daceia</i>	●	●	●	●	●	●	●	●	●	●	●	1
<i>C. kangvensis</i>	–	●	●	●	●	●	●	●	●	–	–	2
<i>C. xychus</i>	–	●	●	●	●	●	●	●	●	–	–	3
<i>C. bengala</i>	–	●	●	●	●	●	●	●	●	–	–	3
<i>C. soritia</i>	–	●	●	●	●	●	●	●	–	–	–	2
<i>C. dacenilla</i>	–	●	●	●	●	●	●	●	–	–	–	4
<i>C. otilia</i>	–	●	●	●	●	–	–	–	–	–	–	4
<i>C. dacenova</i>	–	–	–	–	●	–	–	–	–	–	–	4

Legends: SEN = Senegal; SEL = Sierra Leone; GHA = Ghana; CAM = Cameroun; GAB = Gabon; CAR = Central African Republic; DRC = Congo/western DRC; ALB = Albertine Rift; KEN = Kenya; ZAM = Zambia. 1 = common; 2 = not rare; 3 = scarce; 4 = rare to very rare.

The habitat everywhere is closed evergreen forests. The geographical range stretches from the Basse Casamance in Senegal to Uganda and Kenya, but generally does not penetrate much south of the Equator (mainly to Gabon and upper Kasai); only one species extends into the Zambesian zone proper. Species found in Sierra Leone and Ghana usually also occur in Guinea, Liberia, and Côte d'Ivoire; species found in Cameroun and Gabon or the Central African Republic (CAR) usually also occur in Equatorial Guinea, the Republic of Congo, Gabon, and western Democratic Republic of Congo (DRC) (Table 1).

All known species are found in Cameroun. *Caenides dacela* (Hewitson) is the commonest and most widely distributed, the only member of the genus to survive in severely degraded areas, and the only one to reach Senegal, Kenya, and Zambia where closed lowland evergreen forest is hardly present. *C. kangvensis* Holland, *C. xyachus* (Mabille), and *C. benga* (Holland) are found from Sierra Leone to the Albertine Rift in the eastern DRC, with the first two just penetrating into western Uganda and/or the extreme northwest of Tanzania. *C. soritia* (Hewitson) and *C. dacenilla* Aurivillius extend from Sierra Leone into western and central parts of the DRC, but do not extend east to the Albertine Rift area. *C. otilia* has a westerly distribution that stretches only from Sierra Leone to Cameroun. Finally, the new species described below has been found only in Cameroun.

Caenides dacenova Larsen & Collins, sp. nov.

This new species is closely related to *C. dacenilla*, one of the smaller and rarer species that was described from Cameroun (no locality data) by Aurivillius (1925) based on two specimens; an excellent image of the holotype in the Natural History Museum, Stockholm leaves no doubt as to the characteristics of the species. When revising the African HesperIIDae, based on the holdings of the British Museum (Natural History),

Evans (1937) had just a single male from Bitje, Cameroun. The Royal Africa Museum (MRAC), Tervuren, has a single female from the westernmost Democratic Republic of Congo (DRC). Collectors for T. H. E. Jackson found a few in eastern Nigeria during the 1960s, as did Larsen (1997) during 1995/1996 in the Oban Hills in the extreme east of Nigeria (the Cross River Loop). In 1993 Larsen caught the first specimen from west of the Dahomey Gap in Ghana, which was followed by a few from Côte d'Ivoire collected by H. Warren-Gash (Larsen 2005). In 2006 it was found in Sierra Leone during a joint expedition (Belcastro & Larsen 2006). G. Vande Weghe recently found it in Gabon (Evengué Island, Fernan Vaz) and saw a dozen specimens during a day, which is most unusual (pers. comm. & Vande Weghe 2010).

When taking the pictures for the book, "Butterflies of West Africa" a large specimen was selected at the African Butterfly Research Institute (ABRI), Nairobi (Larsen 2005: plate 121 – unfortunately mislabelled Côte d'Ivoire instead of Cameroun). This was actually *C. dacenova*, not yet recognized as a distinct species. After publication of the book, more material arriving at ABRI began to fall into two distinct series, including several of both from Ebogo in Cameroun, indicating that closely related species were involved. Further material, also of *C. dacenilla*, and examination of the male genitalia confirmed that two species were indeed involved (Figure 1).

Description and Diagnosis: Length of ♂ forewing 19-20 mm (n = 9) – on average clearly larger than *C. dacenilla* with which it is compared (17-18mm). The species is dark brown above. The forewing has two separate cell spots that are elongate with the lower spot twice as long as the upper. There are three clear subapical spots, almost in line, as well as a small spot in space 3 in the form of a narrow streak. Spots in 2 and 1b are absent. The hindwing is unmarked above. The recumbent



Fig. 1. Male specimens. Left: *Caenides dacenova* Holotype upperside; Centre: *Caenides dacenova* Holotype underside; Right: upperside of the smaller and darker *Caenides dacenilla*.



Fig. 2. Female specimens (upper side). Left: *Caenides dacenova* sp. nov. (paratype); Centre: *Caenides dacenilla*. Right: *Caenides otilia*.



Fig. 3. The male genitalia of three species of *Caenides*. Left: *C. dacenova* prep. SCC 576 Cameroun, Ebogo; Centre: *C. dacenilla* prep. SCC 586 Cameroun, Ebogo, with its unusual basal edge of the valve; both are collected from the same locality on different dates. Right: *C. soritia* prep. MRAC 237 DRC, Male with a normal basal edge of the valve and large gnathos flaps on the tegumen.

discal hair tuft is distinctly darker than the surface of the wing and is visually more evident than in more blackish members of the genus. The underside is typical of the genus. The forewing subapical area has a rather strong overlay of greyish scaling and the inner margin is very light. The hindwing underside is dark with the basal part of the wing from cell to costa slightly lighter, and with a faintly lighter marginal band also between veins 2 and 6. Two small postdiscal spots are just visible in the type, with hints of a spot at the end of the cell; however, no spots are visible in some paratypes.

The lack of a spot in space 2 is not known in Afrotropical Hesperinae with hyaline spotting except in *Caenides*, but is shared with *C. dacenilla*, which also lacks the discal brand on the forewing (also lacking in *C. xyachus* which has a large spot in space 2). However, *C. dacenilla* is smaller, with smaller, sub-equal cell-spots, more pointed forewings, and a rounded spot in space 3 instead of a narrow streak; the recumbent hair tuft on the hindwing does not stand out against the darker ground-colour (Fig. 1). *C. otilia* also lacks the spot in space 2 but has a prominent C-shaped discal brand.

We have seen relatively few females of *C. dacenilla*, *C. dacenova*, and *C. otilia*, mostly in poor condition. They were first figured before *C. dacenova* was known by Larsen (2005: plate 121): fig. 1410b most probably depicts *C. dacenova*, while 1411b is definitely a female of *C. dacenova* (as is the male). In the Gabon book a female *C. otilia* is correctly associated with the male (Vande Weghe 2010). With material now studied we can describe the three females, which are not normally difficult to identify.

The brown female of *C. dacenova* is larger than the two others (Fig. 2). The two cell spots are not as elongate as in the male, but still with the lower spot longer than the upper (sometimes barely so). There are three well-developed subapical spots, tiny spots in spaces 5 and 4, a larger spot in 3, a large spot in 2 (almost quadrate), and a small non-hyaline spot in 1b. A line drawn through the cell spots will touch the inner edge of the spot in 2 or nearly so. The hindwing is brown, slightly lighter in the basal third.

The female of *C. dacenilla* is smaller and has two well-separated sub-equal cell spots. It usually lacks the upper subapical spot and the spots in 5 and 4, the spot in 2 is smaller,

and there is usually no trace of a spot in 1b. A line drawn through the two cell spots will pass far inside of the inner edge of the spot in 2. The female of *C. otilia* is just smaller than *C. dacenova* and characterized by having two almost fully fused cell spots of equal length, both wider than they are tall. Usually all three subapical spots and those in spaces 5 and 4 are present. The spot in 2 is large but not nearly quadrate, the inner edge being rounded and the outer edge concave. The spot in 1b is rather large and tends to be triangular rather than round. The hindwing underside usually has more white spotting and markings along the margin than the other two. Confusion between *C. otilia* and *C. dacenova* might sometimes be possible. However, the comparative material was very limited.

Caenides xyachus is a species of similar size with a more ochreous hyaline spots; in the female the cell-spots are fully fused and the spot in space 2 very large, almost half of which is situated directly underneath the cell-spots, making confusion impossible.

Male genitalia: Unsurprisingly, the genitalia of *C. dacenova* show a clear affinity with *C. dacenilla* (four examined) but differ in several important respects (Fig. 3): the tegumen is taller and the side flanges of the tegumen larger; the dorsal edge of the valve is not extended as far back, though it is still longer than the ventral edge, giving it an unusual angle and forcing the vinculum to curve strongly in order for the uncus to reach its usual position at the anal opening of the abdomen. The valve itself is broader and the dorsal edge of the cucullus has two large inner teeth (rather like the head of a spanner) instead of having a continuous, undulating and strongly serrated edge. Though the *C. dacenova* specimen is larger than the *C. dacenilla*, the genitalia are actually smaller (SCC 576 Cameroun, Ebogo – the specimen is in coll. J. Stewart). To the right are the genitalia of *C. soritia* with the more normal shape of the basal edge of the valve for comparison.

Type material: Holotype: ♂ Cameroun, Ebogo, v.1996 (04°21'N, 11°25'E) (African Butterfly Research Institute (ABRI), Nairobi).

Paratypes: 7 ♂♂ Cameroun, Ebogo (ABRI); ♂ Cameroun, Ebogo ii.2007 (genitalia SCC 576 in ABRI) (coll. J. Stewart);

♀ Cameroun, Djoum (ABRI) (the additional Ebogo specimens are from eight different shipments).

A specimen from Mamfe, Cameroun matching *C. dacenova* in the British Museum (Natural History) is not included as a formal paratype in the absence of dissection. It matches in all features though being as small as a normal *C. dacenilla*, which is also known from Mamfe.

Etymology: When we first began e-mail discussion on this species, we used the name *daceno* as shorthand. It now actually seems quite an appropriate name for a new species allied to *dacenilla*, described nearly a century ago.

DISCUSSION

The type material was supplied by local collectors trained by ABRI at Ebogo, some 50 km south of Yaoundé, the Capital of Cameroun. A remarkable number of species have been obtained there and the collectors have learnt the importance of capturing HesperIIDae. If a list were made of all species from Ebogo, it would be one of the longest from anywhere in Africa (900 species or more). The female is from Djoum some 150 km southeast of Ebogo. All eight *Caenides* have been recorded from Ebogo. The area contains a mosaic of habitat types from rainforest in fair condition, to secondary growth, riverine vegetation, agricultural lands with various tree crops, and clearfelled fields. *C. dacenova* would only occur in intact forest and well-maturing secondary growth. The known host plants for *Caenides* are mainly palms (Arecaceae), with records for *C. kangvensis* from *Gloriosa superba* (Liliaceae), *Thalia welwitschii* (Marantaceae) (Vuattoux 1999), and *Zingiber* (Zingiberaceae) for *C. soritia* (Ackery *et al.* 1995), though these may have been wandering larvae.

The apparent rarity of *C. otilia*, *C. dacenilla* and – especially – *C. dacenova* is unusual. *C. dacela* is common and widespread. *C. soritia*, *C. kangvensis*, and *C. xyclus* are not rare, *C. bengala* scarce, with *C. otilia* even rarer than *C. dacenilla*. However, *C. dacenova* is the rarest of all and probably has the most restricted distribution, though it might occur also in neighbouring countries.

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the constancy of its genitalia. Eddie John once again improved the manuscript with his fine editorial eye. Larsen is, as always, indebted to grants from the Carlsberg Foundation in Denmark without which his research activities would not be possible. We are grateful to all of the above for their kind cooperation.

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