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First records of *Hypolycaena anara* Larsen, 1986 from Cameroon (Lepidoptera: Lycaenidae)

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Abstract

The species *Hypolycaena anara* Larsen, 1986, is reported as a new record for Cameroon, together with a description of two new montane localities. We also describe two previously unpublished localities of the species in Nigeria. Potential contribution of the discovery of this hilly-savannah butterfly in the Gulf of Guinea Highlands to the recent debate on the local submontane habitat history is discussed.

KEY WORDS: Lepidoptera, Lycaenidae, faunistics, submontane habitats, Cameroon.

Primer registro de *Hypolycaena anara* Larsen, 1986 para Camerún (Lepidoptera: Lycaenidae)

Resumen

Se registra como nueva cita para Camerún a *Hypolycaena anara* Larsen, 1986, junto con la descripción de dos nuevas localidades montaas. También se describen dos localidades no publicadas hasta ahora para la especie en Nigeria. Se discute la contribución potencial del descubrimiento de esta mariposa de la sabana en las zonas altas del Golfo de Guinea al reciente debate sobre la historia de los hábitats locales submontanos.

PALABRAS CLAVE: Lepidoptera, Lycaenidae, faunística, hábitat submontano, Camerún.

Introduction

Cameroon, lying along the boundary of Western and Central Africa and covering several biomes, from equatorial rainforests in the south to Sudan savannah in the north, has a tremendous importance for the biodiversity of butterflies and other organisms (KINGDON, 1990, LARSEN, 2005). Despite this, the butterfly fauna in Cameroon is still poorly known due to the lack of recent faunistic publications from the country. This report aims to partly fill this gap by presenting recent findings of a patchily distributed butterfly species recorded for the first time in the country.

Hypolycaena anara Larsen, 1986 (Fig. 1) is a recently described butterfly of hilly-savannah landscapes and forest-savannah transition habitats (LARSEN, 2005). The species is known from southern Burkina Faso, Guinea-Bissau (Labé), Guinea (Parc National de Haut Niger), Cote d'Ivoire (Mt. Sangbé) and Nigeria (Anara Forest Reserve and Mubi) (LARSEN, 2005). LARSEN (2005) also expected its occurrence in northern Ghana and Senegal but it has not been confirmed so far (SÁFIÁN *et al.* 2012). According to current literature it has not previously been documented from Cameroon (cf. mainly ACKERY *et al.*, 1995, LARSEN, 2005, SÁFIÁN *et al.*, 2009, WILLIAMS, 2012).



Figure 1.— A male of *Hypolycaena anara* Larsen, 1986 in the Amurum Forest Reserve, Nigeria (Photo by Oskar Brattström).

Methods and faunistic records

During our visits to Cameroon in winter 2011/2012 (Robert Tropek, Dan Leština and Petr Janšta) and spring 2013 (Szabolcs Sáfián, Robert Tropek and Marianne Espeland), we visited several submontane localities roughly covering the whole ridge of the Gulf of Guinea Highlands. In a majority of the sites, we spent between two and four days surveying all present habitats and documenting all butterfly species that could be found there.

Several specimens of *Hypolycaena anara* were recorded at two sites. Three specimens (1 ♂ and 2 ♀) were sampled on the slopes of the Tchabal Gandoua mountain (also known as Chappal Waddi, Tchabal Wadi, Tchabal Gangroua, Tchabel Ouade, and Gangirwal), Gotel Mountains, Nigeria (Taraba State) / Cameroon (Adamawa Province) border (N 7.028°, E 11.703°). The locality consists of a montane ridge covered by a mosaic of overgrazed, species-poor grassland with uncommon patches of scrubby vegetation along streams on the Cameroonian (SE) side, and patches of submontane forest with smaller non-intensive pastures on the Nigerian (NW) side (TROPEK *et al.*, 2013). This area was surveyed from 14-I-2012 to 16-I-2012, covering about 1 km² located predominately on the Cameroonian side of the border with an altitude ranging between 1750 and 2350 m a.s.l. Although the *H. anara* specimens were not identified in the field, it is highly probable that at least one of them was caught in Cameroon, as our sampling was overwhelmingly performed on the Cameroonian slopes. On the other hand, their occurrence on the Nigerian slopes is also possible, considering the presence of suitable habitats. This locality certainly has potential for further interesting faunistic records (e.g., *Telchinia wigginsii occidentalis* was recently found as new for Nigeria within the same locality (TROPEK *et al.*, 2013). In spring 2013, we recorded 2 specimens (1 ♂ and 1 ♀) at Abongphen, Sabga, Northwest Province, Cameroon, an area covered by a mosaic of forest remnants, species-rich shrubby vegetation, extensive grassland pastures, and relatively small crop fields (for details on the whole area see TROPEK & KONVICKA, 2010). Both specimens were caught in a small forest remnant

adjacent to the Mountain Misty School (N 6.0394°, E 10.2953°, 1900 m a.s.l.; 14-IV-2013) by Szabolcs Sáfaián.

Besides Cameroon, Oskar Brattström recorded the species in two so far unknown localities in Nigeria. In the Amurum Forest Reserve (N 9.874°, E 8.977°, 1320 m a.s.l.), an area of regenerating Guinea savannah woodland located on the Jos Plateau, several individuals (mostly ♂) have been observed between 2005 and 2009 at most times during the dry season (IX-III). We have no recorded observations of the species at the very end of the dry season in April, and no visits to the area were ever made in the rainy season. The observations have all been from the numerous erosion gulleys within the wettest part of the reserve with fairly tall trees providing shade. Males were frequently seen mud-puddling along the streams in these gulleys. The species was also documented during two separate visits (XI-2007 and X-2008) to the Kurra Falls, located just at the southern edge of the Jos Plateau (N 9.4°, E 8.7°, 700-1150 m a.s.l., no detailed location of these observations were made). This habitat receives a high rainfall amount due to the steep incline of the plateau itself, so the vegetation is lushier than what is usually found in the region. Unfortunately we never recorded the exact number of specimens at any of these two sites, but at times when daily monitoring walks were made in the Amurum Forest Reserve we observed the species on about half of the days. In total we collected 6 ♂♂ and 3 ♀♀ as voucher specimens.

Discussion

With the presented records, we extend the species' known distribution area almost 600 km to the south and add Cameroon as a new country of its occurrence. The finding of the two relatively outlying localities confirms a suspected patchy distribution pattern of the species in the whole distribution area (cf. LARSEN, 2005). The occurrence of the species at higher altitudes was already recognised (LARSEN, 2005), and both Cameroonian localities lie much higher than all previously known localities. Although no exact altitudes were published for the individual records, the highest point so far at any of the localities, the Labé area in Guinea in the mountainous area of Fouta Djallon, is about 1200 m, and some of the known records are from below 700 m as no higher points exist within the published localities (Anara Forest Reserve, Parc National de Haut Niger).

Besides its patchy distribution, *H. anara* seems to be very rare even in the particular localities, as there are only a few specimens in collections (Larsen, pers. comm.). Following our records, it seems that the species could also be rare in the Cameroonian localities. Especially in the surroundings of Abongphen (the Kedjom Keku community area, see TROPEK & KONVICKA, 2010), Robert Tropek spent several months since 2007 and never met the species. On the other hand, OB found *H. anara* in higher numbers in the Amurum Forest Reserve, but they were strongly localized at a small gully, a relatively wetter part of the savannah forest reserve. If such a strong patchiness is common also in other localities, we may expect many new records from so far unknown localities.

The occurrence of such open-habitat species in the Gulf of Guinea Highlands has recently been discussed. In butterflies, an existence of endemics specialised for open submontane habitats was proposed as an indication of a historical persistence of habitat mosaics, which besides submontane forests also included drier open habitats (TROPEK & KONVICKA, 2010). In the two Cameroonian localities, other sympatric open-area (sub)montane species are for example *Euchrysops sagba*, *Colias electo manengoubensis*, *Telchinia wigginsii occidentalis*, and *Issoria baumanni excelsior* (LIBERT, 1992; TROPEK & KONVICKA, 2010; TROPEK *et al.*, 2013). On the other hand, a relatively high proportion of birds specialized for open habitats in the Cameroonian mountains was explained by the recent degradation of submontane landscapes (HOŘÁK *et al.*, 2010). The presence of this savannah butterfly in areas considered as previously covered by submontane forests could have a potential to enrich the recent debates. Nevertheless, *H. anara* has a much broader distributional range and it is known from lower altitudes (in contrast

to the butterflies referred to in TROPEK & KONVICKA, 2010), therefore both hypotheses are relevant in the case of this species.

Our findings confirm the necessity of further faunistic research of butterflies in the so far understudied Gulf of Guinea Highlands. We expect that other interesting species will be discovered in the area, and also that *H. anara* will be gradually discovered in other Gulf of Guinea Highlands localities.

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