



Aslauga larseni (Lepidoptera: Lycaenidae: Miletinae), a unique new species from the Nimba Mountains, Liberia

Published online: 21 July 2015

DOI: <https://dx.doi.org/10.4314/met.v26i1.6>

urn:lsid:zoobank.org:pub: C65304EC-B114-4E4C-BD13-9405B7A069CD

Szabolcs Sáfian^{1, 2}

¹ Institute of Silviculture and Forest Protection, University of West Hungary, H-9400 Sopron, Ady E. út 5. Hungary.

² African Butterfly Research Institute, P.O. Box 14308, 0800 Nairobi, Kenya. E-mail: safian@bcghana.org

Copyright © Lepidopterists' Society of Africa

Abstract: A unique new species in the *Aslauga ernesti*-group was discovered in Liberia's Nimba Mountains in 2013. All species in the group are known to be very rare and local, and they seem to be associated with upland and sub-montane habitats in forest-savannah mosaic or transition zone. This new species might prove narrowly endemic to the Nimba Mountains or to mountainous areas in the Liberian sub-region.

Key words: *Aslauga ernesti*-group, *Egumbia*, new species, narrow endemism, Liberian sub-region

Citation: Sáfian, Sz. (2015). *Aslauga larseni* (Lepidoptera: Lycaenidae: Miletinae), a unique new species from the Nimba Mountains, Liberia. *Metamorphosis* 26: 26–29.

INTRODUCTION

The *Aslauga ernesti*-group – previously also referred to as a distinct genus *Egumbia* Bethune-Baker, 1924 (e.g. Libert 1994a, d'Abrera 2009), consists of four unique-looking species. All are extremely local and strongly seasonal, flying only in the short sunny periods during the rainy season. *Aslauga katangana* (Romieux, 1937) and *A. febe* (Libert, 1994a) are known only from a few specimens. Since *A. ernesti* (Karsch, 1895) and *A. karamoja* (Libert, 1994a) have been collected in a long series over years from well-studied localities, it is now known that males are avid hill-toppers on mountains, where the lower slopes are usually covered with forest or dense woodland but more open savannah or grassland replacing forest on and around the summits (Larsen 2005). *A. febe* and *A. katangana* probably also occur under similar conditions, as the Katanga region of the Democratic Republic of Congo is largely covered with a mosaic of forest and savannah grassland, while Mt. Fébé in Yaoundé, Cameroon is largely forested with smaller savannah clearings on rocky slopes. It is also probable that these species are associated with upland climate, as all known localities are in upland or mountainous regions, regardless of their biogeographic position. It was unexpected to discover a fifth species in the group in Liberia's Nimba Mountains, where a few males and a female were captured on a sparsely wooded grassy hilltop during the rainy season in August 2013.

MATERIALS AND METHODS

Received: 29 May 2015

Accepted: 21 July 2015

Copyright: This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. To view a copy of this license, send a letter to Creative Commons, Second Street, Suite 300, San Francisco, California, 94105, USA, or visit: <http://creativecommons.org/licenses/by-nc-nd/3.0/>

Holotypes of all described species in the *Aslauga ernesti*-group were examined using the good quality colour photographs in Libert's (1994a) revision, as well as the female allotype of *A. ernesti*. The males and females of *A. ernesti* and *A. karamoja* illustrated were examined at the African Butterfly Research Institute (ABRI) along with the only existing female of *A. febe*.

Genitalia dissections and photographic methods follow Sáfian & Collins (2014).

DESCRIPTION

Aslauga larseni Sáfian, sp. nov.

urn:lsid:zoobank.org:act: 06B8F9B7-DA8B-4D69-8D30-0C844B92A946

Holotype: ♂ LiberCell Radio Mast, Nimba Mountains, East Nimba Nature Reserve, Liberia. Leg.: Sáfian, Sz. 22.viii.2013. Coordinates: 07°32'6.39"N; 08°31'37.95"W. (Deposited in the ABRI collection).

Paratypes: 1♂, 1♀ LiberCell Radio Mast, Nimba Mountains, East Nimba Nature Reserve, Liberia. Leg.: Sáfian, Sz. (♀ deposited in the ABRI and ♂ in the SZS collection).

Description of the holotype: (Figs 1 – A, D) Forewing length: 20 mm. Wingspan: 40 mm. **Upperside:** Black with deep iridescent blue on forewing starting from base, covering three-quarters of space between inner margin and vein 1, about two-thirds of space between veins 1 and 2 and only one-fifth of space between veins 2 and 3. Lower half of discoidal cell covered with blue scales. Extent of blue on hindwing limited to area between veins 2 and 7, apart from marginal end of vein 2, where blue patch extends for short distance beyond. Scattered blue scaling also present beyond 2 and even beyond 1, but not forming very visible patch or cover, and well hidden between long whitish-grey and grey

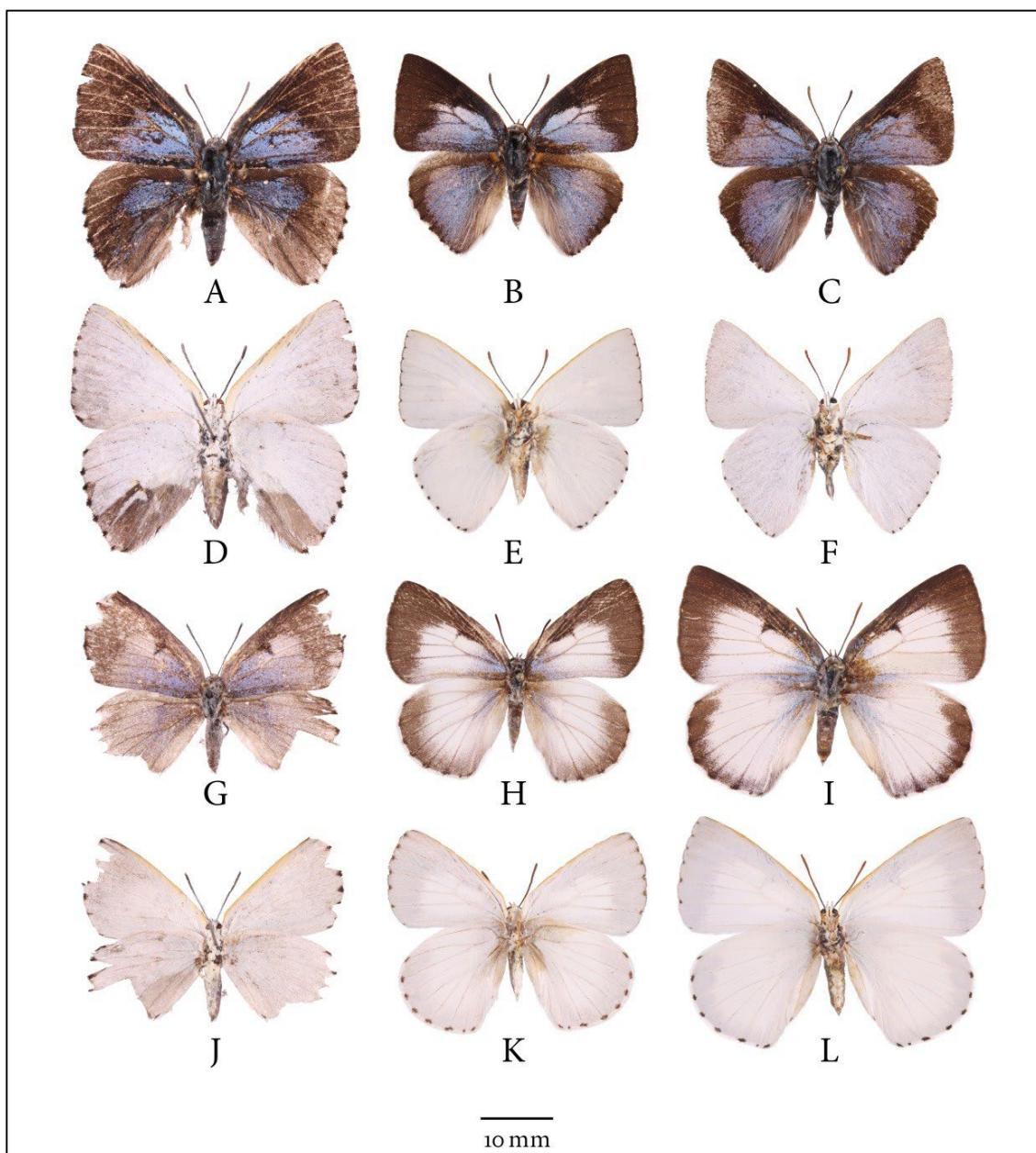


Figure 1 – *Aslauga ernesti*-group: *A. larseni* sp. n. male (holotype) A recto, D verso, *A. ernesti* male Amedzofe, Ghana B recto, E verso, *A. karamoja* male Wak (Wack), Cameroon C recto, F verso. *A. larseni* female Nimba Mountains, Liberia G recto, J verso, *A. ernesti* female Amedzofe, Ghana H recto, K verso, *A. karamoja* female Wak (Wack), Cameroon I recto, L verso.

hairs, which thickly cover wing between vein 2 and inner margin. Black margin on hindwing broadening evenly from end of vein 2 (where blue area reaches margin) to vein 7, extending for 4.5 mm along vein 6 and 6 mm along vein 4. Cilia very short, black and white chequered, well visible on hindwing, not so conspicuous on forewing. Underside: White, with very conspicuous orange band along forewing costa. Prominent black spots at the end of each vein. Veins between post-median and margin slightly blackened. Body robust. Width of thorax: 3.5 mm, width of abdomen in middle: 3 mm. Dorsal side black, slightly hairy, ventral side white, covered with short white hairs, similarly to legs. Antennae black, 9 mm long, with whitish rings at base.

Genitalia: (Figs 2: A–E). Rather simplified genitalia, (similar to all other species in *A. ernesti*-group), with very pointy, triangular tegumen, slightly convex uncus, complete lack of sub-unci, rather short, broad and gently curving saccus, sub-trapezoid valva, with pointy tip on costa. Aedeagus also broad, with large, very weakly sclerotized, oval-shaped membranous sack on vesica.

Description of female: (Figs 1: G, H). Forewing length: 18.5 mm. Wingspan: 36.5 mm. Upperside: Black with pale peachy blue between base and post-median from inner margin to across costal edge of cell, penetrating space 5. Black area 7 mm wide at apex, narrowing down to 2 mm at tornus. Costal edge of blue

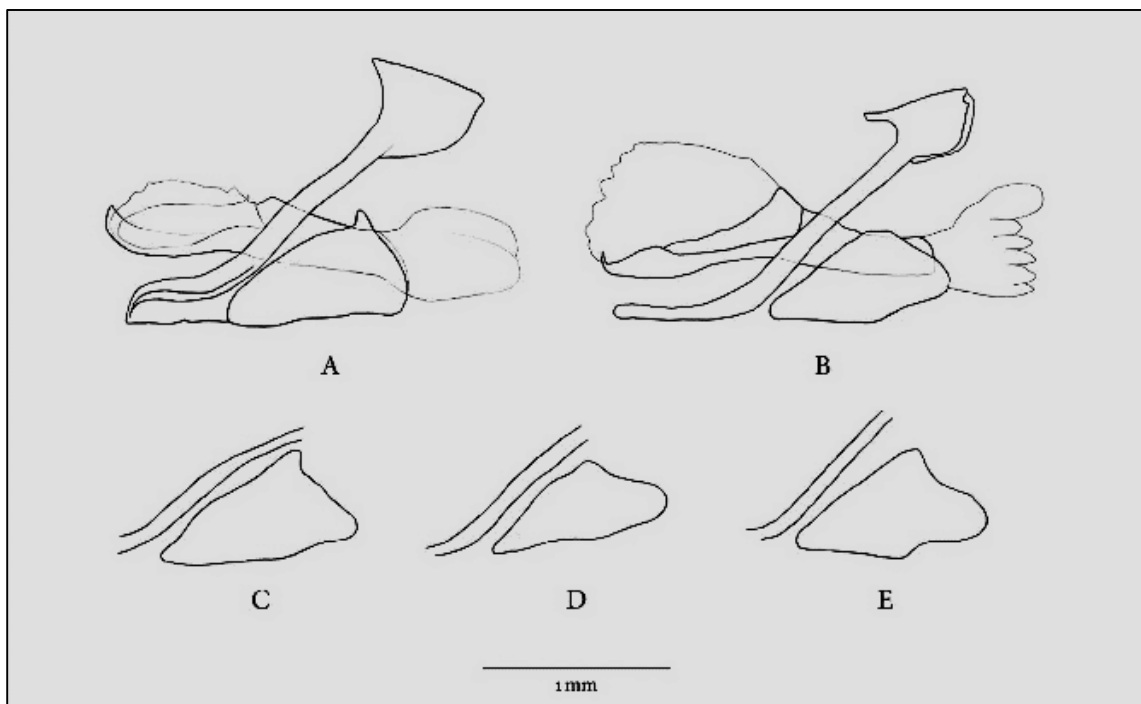


Figure 2 – Male genitalia of *A. larseni* (A) and *A. ernesti* (B), valvae of *A. katangana* (C), *A. karamoja* (D) and *A. febe* (E) (lateral view) (re-drawn from Libert 1994a).

area interrupted by prominent black v-shaped gap or ‘tooth’ at vein closing cell reaching base of vein 4. Hindwing with extensive peachy-blue, leaving a narrow blackish border along margin; extent of blackish margin is not clear due to physical damage to specimen. Blue colour slightly deeper over basal area, covering inner half of both wings, paler and silvery towards apex on forewing and margin of hindwing. Underside: similar to male, with dirty white colour, series of black marginal dots at end of the veins on both wings and an orange streak along forewing costa. Body much smaller and more slender, covered with peachy-blue hairs on dorsal side, white on ventral side. Head small, eyes dark brown, antennae black, their clubs being only slightly broader than shaft.

Differential diagnosis: The holotype and the male paratype of *A. larseni* with their wingspan of 40 mm are larger and have a more robust body than any other known males in the *A. ernesti*-group. The ground colour of the male is deeper blue compared to *A. ernesti*, the neighbouring species, which occurs in Ghana’s Volta Region, approximately 1000 km east of the type locality of *A. larseni*. The blue colour of the new species is actually more similar to that of the unique male holotype of *A. febe*, but the only known female of *A. febe*, similarly to those of *A. ernesti* and *A. karamoja*, are characterized by white scaling in the centre of their uppersides, ruling out conspecificity with *A. larseni* as the centre of the wings on the upperside of the female of the new species is pale peachy blue without a trace of white. The genitalia of *A. larseni* differ from all other species in the *A. ernesti*-group, with its distinctively pointed dorsal tip of valvae.

Distribution: The distribution of the members of the *A. ernesti*-group is depicted in Fig. 3. *A. larseni* has

been recorded only from the sub-montane zone of the Nimba Mountains in Liberia, and it is probable that apart from a few isolated mountains in the Liberian sub-region (e.g. Mt. Peko in Ivory Coast), it will not be found between the Nimba area and Ghana’s Volta Region, where it is replaced by its nearest relative, *A. ernesti*. As similar ecological conditions prevail at a few localities in the Guinea Highlands, it is possible that its distribution is not entirely restricted to the Nimba Mountains, but scattered colonies could be gradually discovered on various mountain tops between the Nimba Mountains and Fouta Djallon in north-western Guinea or the Loma Mountains in Sierra Leone in the west. It is also possible that some of the isolated mountains west of the Nimba Mountains host further distinct species of the *A. ernesti*-group. Considering present knowledge, *A. larseni* should be treated as a species narrowly endemic to the upland forests and woodlands of the Nimba Mountains (above 1100 m), which are of high conservation concern and globally threatened. *A. larseni* should be categorised as Critically Endangered (CR) according to the IUCN Red List criteria (www.iucnredlist.org), and thus its habitat needs strict protection.

Etymology: The name of the new species is a tribute to my late friend and mentor Torben Bjørn Larsen, who died unexpectedly in May 2015. Torben was one of the greatest specialists on African Rhopalocera. He was a really cheerful person, who was always ready to share his vast knowledge. Torben responded to my very first email to him I wrote after returning home from my very first trip to Ghana in 2001 within hours. We exchanged literally thousands of emails since, we spent beautiful times together in the field in Ghana and Ethiopia, and

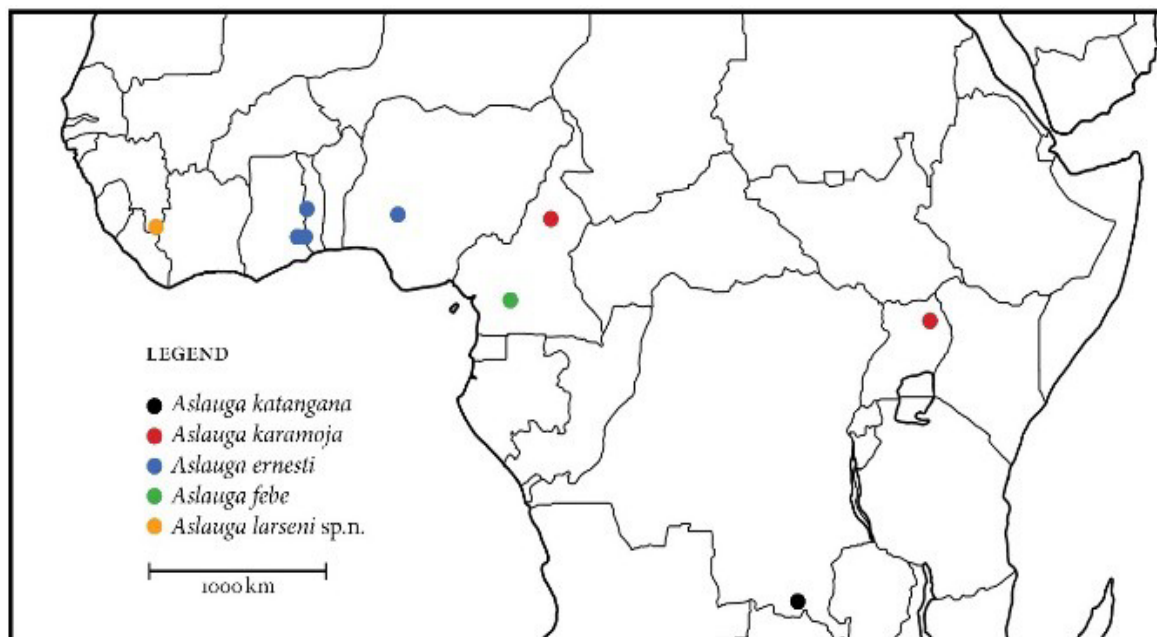


Figure 3 – Type locality of *A. larseni* (yellow) and known occurrences of other species in the *A. ernesti*-group: *A. ernesti* (blue), *A. febe* (green), *A. karamoja* (red), *A. katangana* (black).

also had long discussions about African butterflies in the UK and Hungary. Torben showed me the practice of genitalia dissection and how I could identify butterflies through examining their genitalia. He showed me the first caterpillars in Aburi Botanical Gardens, Ghana, which we bred together and which turned out to be my first *Epitola* s.l. larvae. Torben recently wrote me about his memories of the car stop, when we had to be stationary for an hour between Bobiri Butterfly Sanctuary and Aburi Botanical Gardens in Ghana, waiting until two imagos of *Cerautola crowleyi* eclosed from pupa, expanded and dried their wings properly. With my partner, we keep recalling the memories of Torben's visit to our home, where we were sitting on the balcony for hours talking. Torben was smoking his inevitable pipe, occasionally taking a cherry from the bowl, which we had picked together in our garden. He then identified the holotype of *Iridana agneshorvathae* in my collection as being new. He also insisted that the name *agneshorvathae* was definitely too long, but I stood firm, insisting that Ágnes really deserved that species and *Euriphene ernestibaumanni* is just as long. With my friends David Dennis and Peter Bygate we were planning to invite him to Liberia early next year, because Torben never saw *Papilio antimachus* in the field during his 40+ years of African experience, and we were all agreed that we should not let him go without seeing this miracle of the world. Unfortunately our plans could not be implemented due to Torben's untimely death. I really hope that *antimachus* flies in numbers where Torben is now in the Eternal Fields of African Butterflies.

ACKNOWLEDGEMENTS

The butterfly surveys in the Nimba Mountains have been supported by ArcelorMittal, Liberia under the supervision of Wing-Yunn Crawley and John Howell.

The author is indebted to Steve C. Collins, director of the African Butterfly Research Institute (ABRI), Nairobi for his kind help during the preparation of the manuscript.

LITERATURE CITED

- COLLINS, S.C., CONGDON, T.C.E., HENNING, A.G., LARSEN, T.B. & WILLIAMS, M.C. 2013. A review of d'Abrera's *Butterflies of the Afrotropical Region – Part III* (second edition), 2009 – Part 2 (Miletinae and Poritiinae). *Metamorphosis* **24**: 44–56.
- D'ABRERA, B.L. 2009. *Butterflies of the Afrotropical Region Part III: Lycaenidae, Riodinidae*. Hill House Publishers, Melbourne & London. 531–880.
- LARSEN, T.B. 2005. *Butterflies of West Africa*. Apollo Books, Svendborg, Denmark. 595 pp. + 135 colour plates.
- LIBERT, M. 1994a. Contribution à l'étude des Lycaenidae africains: révision du genre *Egumbia* Bethune-Baker (Lepidoptera Lycaenidae). *Lambillionea* **94**(1): 39–45.
- LIBERT, M. 1994b. Contribution à l'étude de Lycaenidae africains: mise au point sur le genre *Aslauga* Kirby (Lepidoptera Lycaenidae). *Lambillionea* **94**(3): 411–435.
- SÁFIÁN, SZ. & COLLINS, S.C. 2014. A new *Iridana* Aurivillius, 1920 and a new *Teratoneura* Dudgeon, 1909 (Lepidoptera: Lycaenidae) from tropical Africa. *Metamorphosis* **25**: 90–96.