

Faunitaxys

*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*



Volume 8
Numéro 3

Janvier 2020

ISSN : 2269 - 6016
Dépôt légal : Janvier 2020

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*Revue de Faunistique, Taxonomie et Systématique
morphologique et moléculaire*

ZooBank : <http://zoobank.org/79A36B2E-F645-4F9A-AE2B-ED32CE6771CC>

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La parution de *Faunitaxys* est apériodique

Imprimée sur les presses de SPEED COPIE
6, rue Tréfilerie, F- 42100 Saint-Etienne

Imprimé le 25 janvier 2020

New data on the distribution of *Iridana agneshorvathae* Collins, Larsen & Sáfián, 2008 with description of the previously unknown female (Lepidoptera, Lycaenidae, Poritiinae)

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Keywords:

Faunistic research;
Benin;
West Africa;
biogeography;
nocturnal activity;
Lepidoptera;
Lycaenidae;
Poritiinae;
Iridana;
agneshorvathae.

Abstract. – Recent distribution records of *Iridana agneshorvathae* (Collins, Larsen & Sáfián 2008), a very rare West African Lycaenida are presented and discussed with description of the previously unknown female. The species is newly recorded from Liberia and Benin showing a significant range extension. The record from Benin is of biogeographic significance as the locality, an isolated forest, is situated in the Dahomey Gap a predominantly savannah habitat, which separates the Upper Guinean forest zone from the Lower Guinean forests. The nocturnal activity of various species of *Iridana* is also briefly mentioned.

Sáfián Sz., Coache A. & Rainon B., 2020. – New data on the distribution of *Iridana agneshorvathae* Collins, Larsen & Sáfián, 2008 with description of the previously unknown female (Lepidoptera, Lycaenidae, Poritiinae). *Faunitaxys*, 8(3): 1 – 3.

ZooBank : <http://zoobank.org/5A2F7BF1-F448-4370-9671-F7B3F41617B2>

Introduction

Iridana agneshorvathae Collins, Larsen & Sáfián 2008 was described on the basis of a single male collected at light in the Bia National Park in 2006 and is so far known only from that unique holotype. Recently, further matching male specimens were collected, and on their latest trip Alain Coache and Bernard Rainon collected a relatively small and dark *Iridana* specimen in Niaouli Forest, Benin. Photos were sent to Szabolcs Sáfián for identification and from the underside colour and pattern it was immediately obvious, that the specimen belongs to *I. agneshorvathae* and the specimen represents the undescribed female. The species is a new country record for Benin and is of biogeographic significance. Given the scarcity of the species and the discovery of the previously unknown female, the authors decided to compile and present the known records of *I. agneshorvathae* and the description of the morphology of the female.

Methods

I. agneshorvathae specimens were recorded using conventional butterfly nets, except the female from Benin, which was captured by moth light equipped with 23W, UV light (actinic neon), 220V. The colour illustrations and the map were edited using Adobe Photoshop CC 2018 photo editor and Adobe Indesign desktop publishing software.

Results

Description of female (Fig. 5-6)

Forewing length: 16.3 mm. Wingspan: 31 mm. The upperside is completely brown with no trace of iridescent blue, similarly to *I. nigeriana* and *I. ghanana* (*I. ghanana* female was erroneously

illustrated in d'Abrera (2009) as a male), but the latter two have more reddish underside. The underside is very dark, virtually identical to that of male. As the authors of the species write in the original description:

« the underside has the usual pattern of silvery-green bands and spots on both wings: these are almost identical in the West African species, except for the small *I. hypocala* Eltringham, 1929. The chief character of the new species is its very dark underside: in particular the postdiscal half of the wing beyond the green discal band is so overlaid with dark scales that it is effectively black (except for the costal area). The forewing is also dark: there is a large brownish-white double spot just beyond the cell and a darker, diffuse white patch in space 1b. » (Collins, Larsen & Sáfián 2008).

Iridana with similarly dark underside occur in Central and Eastern Africa (e.g. *I. obscura*, *I. pseudobscura* and *I. michaelgwynnei*) (Bouyer 2014; Collins & Sáfián 2014), but they are larger and their forewing shape is also different, with the outer margin visibly concave. Iridescent blue patches of variable size are also present on the upperside of females of all other species with a dark underside.

Further distribution data and biogeographical remarks

Since the original publication of the species, only a couple of further specimens were collected. The second male was found by Simon Yevu in 2010 in the Volta Region of Ghana and the specimen was deposited in the African Butterfly Research Institute's collection in Nairobi. Most interestingly, a single male was collected by Szabolcs Sáfián in November 2018 in the Wologizi Mountains in North-western Liberia, a significant range extension. The specimen was displaying over the lower vegetation, early in the morning at 8.30 am on a hilltop disturbed by wildfire, probably as the forest canopy was largely destroyed by fire in the previous years. The typical *Iridana* pattern is slightly narrower than on the other known specimens, but there are no other significant differences between the Liberian and Ghanaian males (Fig. 1-4). Most recently, the first

female was captured by Alain Coache and Bernard Rainon at UV moth light in Southern Benin, in a small and isolated forest fragment, where several old trees form a higher canopy over a rather disturbed forest interior with clusters of bushes covered by creepers interspersed with Maranthaceae thickets (Fig. 8). This record is also of biogeographic significance as the locality, Niaouli Forest is situated in the heart of the Dahomey Gap, a predominantly savannah area, which separates the Upper Guinean forest zone from the Lower Guinean forests in Southern Nigeria and North-western Cameroon. *I. agneshorvathae* was not expected to occur east of the Ghanaian forests and the Togo Mountains, however, quite a few specimens of *I. incredibilis* were also collected by Coache and Rainon in Benin (Lama Forest) over several research expeditions between 2008 and 2019 (Coache *et al.* 2017). The currently known distribution of the species is presented (Fig. 7). The distribution records will also be accessible online on the African Butterfly DataBase (www.abdb-africa.org).

Specimen data

– Holotype ♂, GHANA, Bia National Park, Bia Research Centre, 6°32'33.22"N, 3°2'4.78"W, 218 m asl. 1.X.2006. Leg.: Sáfián, Sz., Aduse-Poku, K.

– 1 ♂, GHANA, Volta Region, Amedofze, VII.2009. ABRI coll. DNA sample code: SSZ-AB-3115. Deposited in the African Butterfly Research Institute, Nairobi.

– 1 ♂, LIBERIA, Lofa County, Wologizi Mountains, Belegizi Ridge and Summit, 8°7'27.24"N, 9°56'10.91"W, 1000-1086 m asl. 4-9.XI.2019. Leg.: Sáfián, Sz., Simonics, G. ANHRT: 2018.43. ANHRT unique number: ANHRTUK00058080. Deposited in the ANHRT.

– 1 ♀, BÉNIN, Attogon, Forêt de Niaouli, 6°44'6.96"N, 2° 8'26.74"E, 120 m asl. 24.X.2019, UV light, Leg.: Alain Coache. Deposited in Alain Coache's reference collection.

It is safe to state that *I. agneshorvathae* is an extremely rare West African species with a patchy distribution from the Dahomey Gap to the Liberian sub-region. Both Beninese and Liberian records are significant as they were collected in completely different biogeographic sub-regions, covering almost the entire Upper Guinean forest zone and the isolated relict forests inside the Dahomey Gap. Whether *I. agneshorvathae* occurs east of the Dahomey Gap in Western Nigeria is yet unknown. It is also not known if its scarcity is a result of observational bias caused by its activity at canopy level. *I. incredibilis* is obviously more commonly observed, despite its similar habits and several males of the newly described and supposedly strongly localized species, *I. kollariki* were found on at least two occasions displaying high up around individual tree-trunks, whereas *I. agneshorvathae* was seen only once displaying on a hilltop (Sáfián unpublished) and most other specimens were found at light.

Remarks on the nocturnal activity of *Iridana*

Quite a few *Iridana* are known to display nocturnal activity as they are frequently captured at artificial light. Sáfián first recorded *I. incredibilis* (2 males and 1 female) near Bibiani in Ghana, which were all attracted to 160W blended bulb of his moth trap in February 2014 (Sáfián *et al.* 2012). The holotype of *I. agneshorvathae* was also collected at moth light, and other species were also recorded at light: e.g. *I. exquisita* in Ankasa National Park, Ghana (Larsen 2005), *I. tororo* in Mpanga Forest, Uganda (Baron *et al.* 2017) and *I. pseudobscura* in the upper Dja area in Cameroon (Sáfián unpublished). Further specimens of *I. incredibilis* were also collected at light: Kakum Forest, Ghana (Ochse *et al.* 2014), Bunso Arboretum, Ghana and the Nimba Mountains, Guinea (Sáfián unpublished).



Fig. 1 - 6. - *Iridana agneshorvathae* Collins, Larsen & Sáfián 2008. – 1 : holotype upperside, Ghana. – 2 : underside. – 3 : male, Wologizi Mountains, Liberia, upperside. – 4 : underside. – 5 : female, Niaouli Forest, Benin, upperside. – 6 : underside.

Acknowledgments

The colour plate and the map were edited by Renátó Molnár. Steve C. Collins has kindly provided access to the ABRI records of *Iridana*. The manuscript was proof-read and corrected by Mike Williams.

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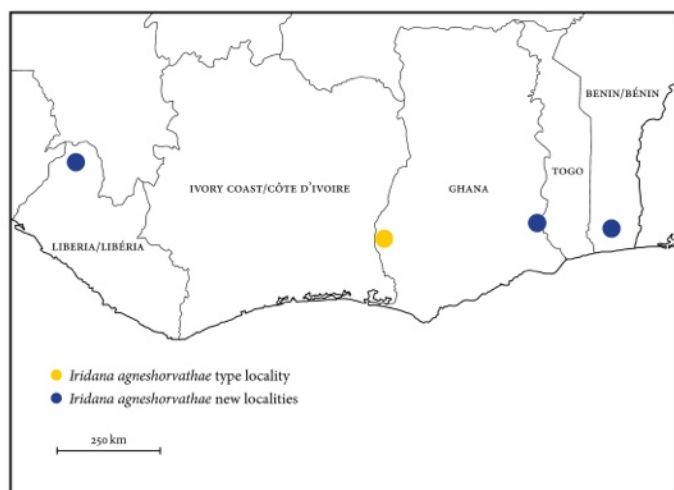


Fig. 7. - Known distribution of *I. agneshorvathae*.



Fig. 8. - Habitat of *I. agneshorvathae*, Niaouli forest, Southern Benin (Photo: Alain Coache).

Résumé

Sáfián Sz., Coache A. & Rainon B., 2020. – Nouvelles données sur *Iridana agneshorvathae* Collins, Larsen & Sáfián, 2008 avec la description de la femelle, jusqu'ici inconnue (Lepidoptera, Lycaenidae, Poritiinae). *Faunitaxys*, 8(3): 1 – 3.

Des enregistrements récents sur la distribution d'*Iridana agneshorvathae* (Collins, Larsen & Sáfián 2008), un très rare Lycaenidae d'Afrique de l'Ouest, sont présentés et discutés avec une description de la femelle jusqu'alors inconnue. L'espèce a été récemment enregistrée au Libéria et au Bénin, montrant une extension significative de l'aire de répartition. L'enregistrement du Bénin est d'importance biogéographique, car la localité, une forêt isolée, est située dans le Dahomey Gap, une terre à prédominance de savane, qui sépare la zone forestière de la Haute-Guinée des forêts de la Basse-Guinée. L'activité nocturne de diverses espèces d'*Iridana* est également brièvement mentionnée.

Mots-clés. – Faunistique, Bénin, Afrique de l'Ouest, biogéographie, activité nocturne, Lepidoptera, Lycaenidae, Poritiinae, *Iridana*, *agneshorvathae*.

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Illustration de la couverture: Bénin, Zogbodomey, forêt de la Lama, lampe ultra violet et vapeur de mercure en chasse de nuit (photo Jean-Marc Gayman).

Crédit:

Szabolcs Sáfián : Fig. 1-4

Alain Coache : Fig. 5-6, 8

Jean-Marc Gayman : couverture