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Scientific Note

Recent observations on the distribution of the endangered butterfly *Eresia erysice erysice* (Geyer, 1832) (Lepidoptera: Nymphalidae)

Gabriel Vila-Verde[1] ✉ **& Jacques Hubert Charles Delabie**[1,2]

1. Universidade Estadual de Santa Cruz, Ilhéus, BA, Brazil. 2. Centro de Pesquisas do Cacau (CEPEC), Ilhéus, BA, Brazil.

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Abstract. The Brazilian endemic butterfly *Eresia erysice erysice* (Geyer, 1832) (Lepidoptera: Nymphalidae) has been included in the Official List of Brazilian Endangered Fauna as critically endangered (CR). Until now, this rare butterfly has only been known to inhabit Atlantic Forest fragments in the "Hileia Baiana". This paper presents updated information on occurrences of *E. e. erysice*. A male and a female specimens were collected in a disturbed forest fragment near the experimental fields of the Centro de Pesquisas do Cacau (CEPEC), Ilhéus, Bahia. These new findings indicate that the distribution boundary of this subspecies extends about 80 km more to the north and suggest that it is not as exclusive to forest habitats as previously thought.

Keywords: Atlantic Forest; conservation; endangered species; Nymphalinae; state of Bahia.

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✉**Corresponding author:**

Gabriel Vila-Verde
gabvilaverde@gmail.com

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According to the most recent Official List of Brazilian Endangered Fauna, 63 butterfly (Lepidoptera: Papilionoidea) species are threatened with extinction (MMA 2022). In the "Hileia Baiana", a Forest Atlantic area that spans across the north of the state of Espírito Santo and the south of the state of Bahia, there are nine butterfly taxa in danger of extinction: *Arawacus aethesa* (Hewitson, 1867), *Eresia erysice erysice* (Geyer, 1832), *Glennia pylotis* (Godart, 1819), *Heliconius nattereri* C. Felder & R. Felder, 1865, *Hyalyris fiammetta* (Hewitson, 1852), *Melinaea mnasias thera* C. Felder & R. Felder, 1865, *Morpho menelaus eberti* Fischer, 1962, *Moschoneura pinthous methymna* (Godart, 1819), and *Napeogenes rhezia rhezia* (Geyer, [1834]) (Freitas & Marini-Filho 2011; Freitas *et al.* 2018; Gonçalves *et al.* 2021; ICMBio 2018; Rosa *et al.* 2023).

The "Hileia Baiana" contains the largest fragments of the Atlantic Forest in Northeast Brazil. Unfortunately, its biodiversity is threatened by various human activities such as real estate expansion, conversion of natural areas to agriculture, forestry, and uncontrolled tourism (Freitas & Marini-Filho 2011). The subspecies *E. e. erysice* is classified as critically endangered (CR) according to MMA (2022). Its habitat is restricted to forest fragments situated at altitudes below 800 meters in the "Hileia Baiana" region (Freitas *et al.* 2018).

Eresia erysice (Geyer, 1832) was first described as *Melinaea erysice* based on a female specimen from South America (Geyer 1832). There are two subspecies of *Eresia erysice*: *E. e. erysice*, found in the state of Bahia, and *Eresia erysice etesiae* (A. Hall, 1928), distributed in French Guiana and northern Brazil according to Higgins (1981). Higgins (1981) described the external morphology of the adults of *E. e. erysice* and presented a photograph of a female from the state of Bahia. While Freitas & Marini-Filho (2011) cited historical records of this subspecies in the state of Espírito Santo, no specific localities were mentioned. Currently, the only two reliable records of this subspecies are from the Camacan and Santa Luzia municipalities, both in southern Bahia (Freitas *et al.* 2018; Rosa *et al.* 2023) (Figure 1). In the "Livro Vermelho da Fauna Ameaçada de Extinção" (Red Book of Endangered Brazilian Fauna) (ICMBio 2018), Itambé, a municipality in Bahia, is listed as an occurrence locality of *E. e. erysice*. However, Rosa *et al.* (2023) suggested that the correct locality is the municipality of Itapebi and classified this record as doubtful.

This paper presents updated information on occurrences of *E. e. erysice*. Two individuals of this subspecies were found in an area (-14.7550190, -39.2291930, at 56 m altitude) of the Centro de Pesquisas do Cacau (CEPEC), Comissão Executiva do Plano da Lavoura Cacaueira (CEPLAC), Ilhéus, Bahia, Brazil (Figure 2). On October 24, 2023, a male specimen of *E. e. erysice* was spotted flying close to the ground in a clearing at around 10:00 am. Two days later, a female specimen of this subspecies was found flying at the same place at around noon. The individuals were found in a small Atlantic Forest fragment a few meters from the experimental fields of CEPEC. Most of CEPEC's area is covered by cocoa plantations in the "cabruca" system, which involves shading cocoa trees with tall trees, usually native to the Atlantic Forest. The area also contains fragments of secondary Atlantic Forest (ombrophilous dense forest) in various stages of regeneration. Additionally, the landscape comprises cultivated and exotic plants from the arboretum, pastures, experimental areas and gardens.

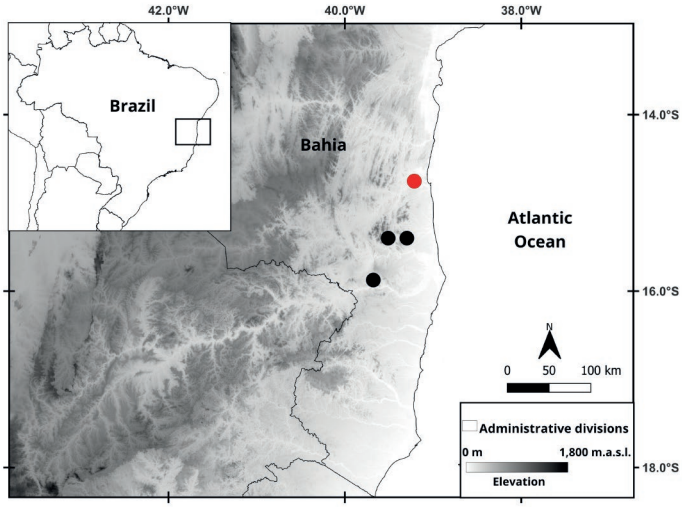

Figure 1. Map showing records of *Erysice erysice erysice*. Black dots indicate records from literature. The red dot represents a new locality record. Occurrence records that do not specify a locality are not represented.

The specimens were collected, mounted on pins and included in the Gregório Bondar Entomological Collection, CEPEC, Ilhéus. Unfortunately, information on the immature stages and the host plant is unavailable. The host plant probably belongs to the Acanthaceae family, based on the plants utilized by related species, as indicated by Higgins (1981) and Freitas *et al.* (2018). The new records of *E. e. erysice* expand its distribution limit by around 80 km to the north. However, more research is needed to understand the natural history, ecology, and population dynamics of this butterfly.

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AUTHORS CONTRIBUTION

GVV: Taxonomic identification, first draft, and final writing. JHCD: Revision and final writing of the article.

Figure 2. *Eresia erysice erysice*. Female: A. Dorsal view. B. Ventral view. Male: C. Dorsal view. D. Ventral view. The scale bar indicates 2 cm.

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CONFLICT OF INTEREST STATEMENT

The authors declare no competing interests.

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