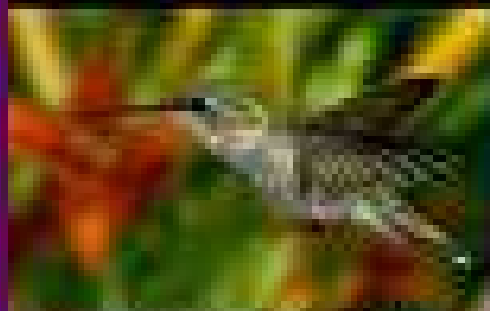
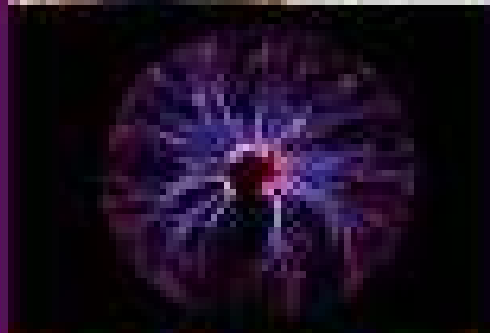




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Sumatran Pale Hedge Blue *Udara dilecta neodilecta* (Corbet, 1937) (Lepidoptera: Lycaenidae) in Kerinci Highlands, a southernmost record

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ABSTRACT

Two tiny individuals of Sumatra Pale Hedge Blue *Udara dilecta neodilecta* (Fruhstorfer, 1910) were observed and documented on 18 August 2014 in Lake Kaco of Kerinci Highlands, Jambi Province. This butterfly was determined using appropriate guides. Finding of *Udara d. neodilecta* represent a southernmost record (02°S) for this Sumatran endemic subspecies in its range.

Keywords: Lycaeninae, range, record, Sumatra, *Udara dilecta neodilecta*.

INTRODUCTION

The blues butterflies or family Lycaenidae are a large family with a generally small-sized, delicate and often tailed wings (Kirton, 2014). Family Lycaenidae are of world wide distribution, being mainly tropical, but with many well-known temperate species, some of which are considered minor pests of leguminous crops (Parsons, 1999). They are amongst the most beautiful butterflies with upperside of the wings is metallic blue or orange-red in most species; and iridescent blue, copper and green colour (Holloway *et al.*, 2001).

Family Lycaenidae in Indonesian are divided into four subfamilies: Poritinae, Miletinae, Curetinae and Lycaeninae colour (Holloway *et al.*, 2001). Subfamily Lycaeninae are delicate butterflies; and characteristic tail-tornal eyespot arrangement on the hindwing is wing's side of the butterfly allowing an opportunity for the butterfly to escape although without a less critical part of its

wings (Khoon, 2010). This enormous subfamily, probably accounting for at least one-third of the true butterflies species, can be separated from the other lycaenid subfamilies in which males use the foreleg for walking by two principal characters (Corbet & Pendlebury, 1992).

Udara are a large genus of subfamily Lycaeninae contains at least 40 species and occurs throughout the Indo-Australian region, from Srilangka, India, Southeast Asia, Japan, Indonesia, New Guinea, Solomon Islands and Australia (Parsons, 1999). They have small eyes and hairy, antennae slightly shorter or longer than the forewing cell and with a small patch of white scales near the tip of the club, forewing cell slightly longer than half the wing (Eliot & Kawazoe, 1983). The Pale Hedge Blue *Udara dilecta* is one species of genus *Udara* which widely distributed, from Pakistan, India, China, Japan, Southeast Asia, Indonesia and Papua New Guinea (Eliot & Kawazoe,

1983). In Sumatra, the species represented by endemic subspecies, *Udara dilecta neodilecta* (Corbet, 1937). In this paper, we report the occurrence of *U. dilecta neodilecta* from Lake Kaco of Kerinci Highlands (Jambi Province), represent a new locality and southernmost record of this subspecies in the island (Eliot & Kawazoe, 1983).

MATERIALS AND METHODS

On 18 August 2014, two individuals of tiny butterflies are found and documented in Lake Kaco of Kerinci Highlands, Lempur Village, Gunung Raya Subdistrict, Kerinci District, Jambi Province, Sumatra. Lake Kaco of Kerinci Highlands (02°20'31.85"S, 101°34'20.65"E) is located around 1.200 m above sea level. Refer to Whitten *et al.* (2000), this zone (1.200 to 2.100 m) is classified as lower montane forest in Sumatra. Due to the limitation on permits and equipments, these tiny butterflies are unable to be caught and preserved as specimens. However, some characters are seen, and it is determined based on the specific morphological characters from photographs (Figure 1). These tiny butterflies are identified using appropriate references (eg. Eliot & Kawazoe, 1983; Corbet & Pendlebury, 1992; Parsons, 1999; Schroeder 2020).

RESULTS AND DISCUSSIONS

Two tiny butterflies found in Lake Kaco of Jambi Province are identified as Pale Blue or genus *Udara dilecta* by its tiny size and pale blue colour on upperside of forewings and hindwings. Both butterflies have pale blue in upperside wings, with the forewing border a thread and the hindwing lacking marginal spots; and on the underside, the markings are very limited (Figures 1 and 2). This

species is very similar to *Udara rona* and *Udara cardia*. The two tiny pale butterflies from Lake Kaco of Jambi Province is eliminated from *U. cardia* by lacking darker spots in hindwing beneath; and unconsidered as *U. rona* because *U. rona* has a darker blue colour on upperside wings (Eliot & Kawazoe, 1983; Corbet & Pendlebury, 1992; Parsons, 1999; Schroeder 2020).



Figure 1. Two *U. dilecta neodilecta* found in Lake Kaco, Jambi Province, 18 August 2014 (©Reinaldo de Medeiros).



Figure 2. Close up of *U. dilecta neodilecta* found in Lake Kaco, Jambi Province, 18 August 2014 (©Reinaldo de Medeiros).

There are seven subspecies of *U. dilecta*: *U. dilecta coalitoides* (Rothschild, 1915), *U. dilecta dilecta* (Moore, 1879), *U. dilecta neodilecta* (Corbet, 1937), *U. dilecta paracatius* (Fruhstorfer, 1917), *U. dilecta parva* Eliot and Kawazoé, 1983, *U. dilecta subcoalita* (Rothschild, 1915) dan *U. dilecta thoria* (Fruhstorfer, 1910). *U. d. catius* (Fruhstorfer, 1910) and *U. rona rona* (Grose-Smith, 1894) (Eliot &

Kawazoe, 1983). The subspecies that occur in Sumatra is *U. dilecta neodilecta* or Sumatran Pale Hedge Blue, an endemic subspecies for the island (Eliot & Kawazoe 1983, Corbet & Pendlebury 1992). Records of *U. dilecta neodilecta* are very limited. In British Museum of Natural History (BMNH), there are two males ex Martin collection from the Batak Mountains (a group of mountains in North Sumatra, including Sibayak mountain, Sinabung Mountain and Sorik Merapi mountain), both without abdomens, which have been labeled as syntypes of *neodilecta* (Eliot & Kawazoe, 1983). The other has no white patch on the forewing, and as it is the normal form in Sumatra designate as lectotype; it is labeled /Type [red]/ CMB x.94/*neodilecta* [in Fuhstorfer's hand]/. The other male, labeled /Type [red]/ CMB xi.93/*catius* fa. *neodilecta* Fr. [in Fuhstorfer's hand]/ is a paralectotype. Other following records of *U. dilecta neodilecta* are five male specimens collected on 23 February 1974 from Berastagi (altitude 02°N, North Sumatra Province), specimen collected from Harau Valley (altitude 00°S, West Sumatra Province) without date information, and 23 individuals encountered during September to November 2013 in Sago Mountain (altitude 00°S, West Sumatra Province) (Rusman *et al.*, 2016; Teshirogi *et al.*, 2016; Schroeder 2020). Record of *U. dilecta neodilecta* from Lake Kaco of Kerinci Highlands (altitude 02°S, Jambi Province) represent a southernmost record of this subspecies in Sumatra (see Figure 3). All localities where *U. dilecta neodilecta* found in Sumatra are found c. 1.200 m above sea level. Corbet & Pendlebury (1992) reported *U. dilecta* as one of three species of *Udara* usually found at elevations above 2.000 feet or around 600 m above sea level.

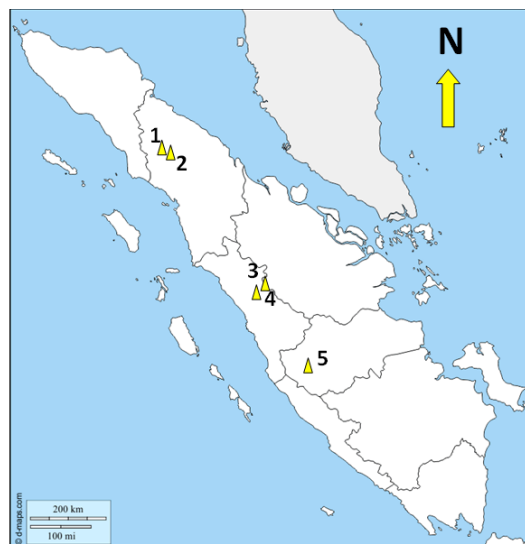


Figure 3. Locations of *U. dilecta neodilecta* recorded in Sumatra: 1. Batak Mountains; 2. Berastagi; 3. Harau Valley; 4. Sago Mountain; 5. Lake Kaco.

There is no information previously reported on host plants of *U. dilecta* (Eliot & Kawazoe, 1983; Corbet & Pendlebury, 1992; Robinson *et al.*, 2001), but based on vegetation survey conducted in Sumatran Highlands and combine to summarized host plants of genus *Udara*, potential host plants of *U. dilecta* in Sumatra are Fagaceae (*Quercus subsericea*, *Castanopsis* sp. and *Lithocarpus* sp.) and Euphorbiaceae (*Phyllanthus* sp., *Macaranga* sp., *Endospermum* sp., *Cleoxylon* sp., *Croton* sp. and *Aporosa* sp.) (Robinson *et al.*, 2001; Pragustiandi, 2020).

The occurrence of *U. dilecta neodilecta* in Lake Kaco of Kerinci Highlands suggests the importance of lower mountain forests in Sumatra as a habitat of endemic species and subspecies butterflies. The recent reports of Dempo Paris Peacock *Papilio paris dempo* and Hagen's batwing *Atrophaneura hageni* in lower mountain forests in southern Sumatra justify that spatial distribution of some endemic species and subspecies butterflies still lacking (Iqbal *et al.*, 2020; Setiawan *et al.*, 2020). More studies are

required to learn a better understanding about butterflies diversity in Sumatra.

CONCLUSIONS

Two tiny individuals of Sumatra Pale Hedge Blue *Udara dilecta neodilecta* (Fruhstorfer, 1910) were sighted and documented on 18 August 2014 in Lake Kaco of Kerinci Highlands, Jambi Province. This record represent a southernmost record (02°S) of this endemic subspecies in Sumatra.

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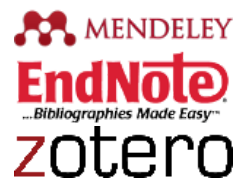
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