

Scientific Note

Addition of *Colias fieldii* Ménériés, 1855 (Lepidoptera: Pieridae: Coliadinae) to the checklist of Lepidoptera of Bangladesh

Adición de *Colias fieldii* Ménériés, 1855 (Lepidoptera: Pieridae: Coliadinae) a la lista de Lepidoptera de Bangladesh

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Abstract. *Colias fieldii*, commonly known as Dark Clouded Yellow, is under genus *Colias* Fabricius, 1807. This paper reports new addition of a genus as well as species, *Colias fieldii* to the existing list of the Lepidoptera of Bangladesh with photographic records from Mahadebpur (25°55'21" N, 88°37'29" E), in Birganj upazila, Dinajpur district.

Key words: Biodiversity; Dark Clouded Yellow; new genus; Northwestern Bangladesh.

Resumen. *Colias fieldii*, comúnmente conocida como Amarillo Oscuro Nublado, pertenece al género *Colias* Fabricius, 1807. Esta nota informa sobre la nueva incorporación de un género y una especie, *Colias fieldii*, a la lista de lepidópteros de Bangladesh con registros fotográficos capturados en Mahadebpur (25°55'21" N, 88°37'29" E), en Birganj upazila, distrito de Dinajpur.

Palabras clave: Amarillo oscuro nublado; biodiversidad; noroeste de Bangladesh; nuevo género.

Bangladesh is composed of diverse biogeography and rich in biodiversity. Butterfly diversity of the country is also very worthy in terms of species richness. Bangladesh (20°34' N to 26°38' N and 88°1' E to 92°41' E) is a land of 147,570 square km, a country in south Asia bordered by the Indian states of West Bengal in the West, Meghalaya in the North and Assam in the East, southeastern region is bordered by the Rakhine State of Myanmar and the Bay of Bengal determines the southern boundary of the country. The geographic location of the country engenders climatic variation. These enormous climatic variation and diverge floral and faunal communities have created an opposite milieu for butterfly. Butterflies occupy a vital position in ecosystems, and their occurrence and diversity are considered to be good indicators of the health of terrestrial biota (Kunte 2000), and it is an ideal subject for ecological analysis in topography (Thomas & Malorie 1985). Absolute relations have been organized between butterfly diversity and environmental variables viz., plant diversity, habitat complexity, landscape structure, topographic and moisture gradients (Bashar 2013). Considering the floral diversity and habitat variations, it is estimated that 500–550 butterfly species to be present in Bangladesh (Larsen 2004). 305 species are annotated by IUCN

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Bangladesh (2015). Chowdhury & Hossain (2013) documented a photographic field guide with 225 species and expected that it might exceed 400 species, but the exact number is still unknown. Some other noticeable works appended the existing species checklist of butterfly species of Bangladesh (Rahman *et al.* 2016; Neogi *et al.* 2017; Dey *et al.* 2020; Imam *et al.* 2020; Paul *et al.* 2021). A total of 13 genera under the family Pieridae (*Catopsilia* Huebner, 1819, *Gandaca* Moore, 1906, *Eurema* Huebner, 1819, *Leptosia* Huebner, 1818, *Pieris* Schrank, 1801, *Pontia* Fabricius, 1807, *Ixias* Huebner, 1819, *Appias* Huebner, 1819, *Belenois* Huebner, 1819, *Cepora* Billberg, 1820, *Delias* Huebner, 1819, *Pareronia* Bingham, 1907, *Hebomoia* Huebner, 1819) are recorded earlier from Bangladesh (IUCN Bangladesh 2015). The current research was carried out with the aim to document the diversity and distribution of butterfly as well as to record new addition to Bangladesh.

Colias fieldii Ménériés, 1855 Dark Clouded Yellow

The present study was conducted in Birganj upazila (25°48' to 26°03' North Latitude and 88°29' to 88°43' East Longitude), which is under Dinajpur district of northwestern Bangladesh (Fig. 1). Dinajpur district is bounded by Thakurgaon and Panchagarh districts in the north, Gaibandha and Joypurhat districts in the south, Nilphamari and Rangpur districts in the east, and Uttar Dinajpur and Dakshin Dinajpur district of West Bengal, India in the west. The total area of the district is 3,437 square kilometers. The authors regularly carried out field surveys in heterogeneous landscapes of the district like riverside, pondside, grasslands, rural roads, paddy fields and semi evergreen forest areas from April 2020 to March 2021. During this expedition, Ripon Chandra Roy sighted and photographed an individual of this species at Mahadebpur (25°55'21" N, 88°37'29" E) using Redmi 8 mobile phone at 2:58 pm (GMT+6.00) on 31.iii.2021. The Pierid (Fig. 2) was nectaring on *Clerodendrum infortunatum* L. Later, the photographs were compared with Ek-Amnuay (2012), and keys characterized by Talbot (1939). *C. fieldii* is quite similar to *C. erate*, but can be distinguished by its salmon-pink border on underside of both forewings and hindwings (Talbot 1939). In addition, discocellular black spot is centered with small silvery white dot on underside of forewings (Ek-Amnuay 2012). In underside of hindwings, conspicuous double silvery spots are encircled by the diffused salmon-pink ring (Evans 1932).

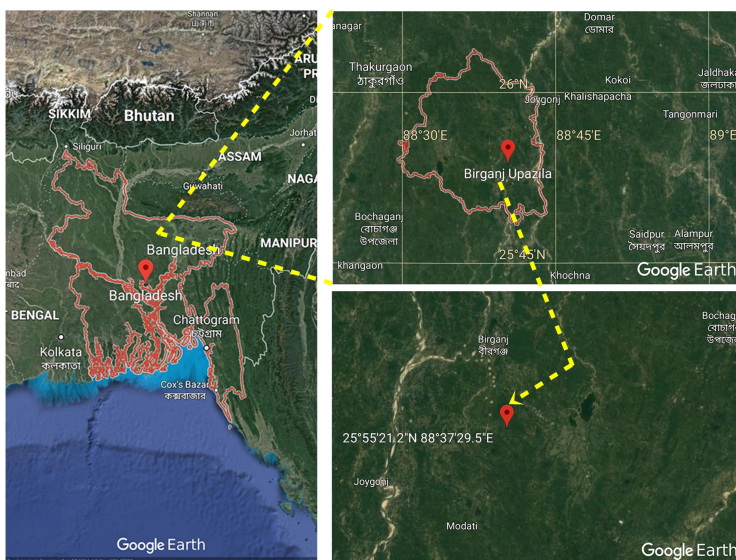


Figure 1. New locality record of *Colias fieldii* in Bangladesh/ Nuevo registro de localidad de *Colias fieldii* en Bangladesh.



Figure 2. The current sighting of *Colias fieldii* nectaring on *Clerodendrum infortunatum* L./ Avistamiento de *Colias fieldii* libando néctar en una flor de *Clerodendrum infortunatum* L.

Current known distribution until this study. The global distribution of the taxon is in South Iran, India to Myanmar, North Thailand, Laos and North Vietnam (Inayoshi 2021). Previously the species has been recorded from Buxa Tiger Reserve in West Bengal (Sinha *et al.* 2019). Subsequently, this species recorded from the Dinajpur district of Bangladesh (aerial distance: ~130 km from Buxa Tiger Reserve). So, the appearance of this distinctive species in the aforementioned study site is not very unusual (Dey *et al.* 2020). However, this new finding gives an insight into its distribution range and habitat in the northwestern part of Bangladesh.

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Literature Cited

- Bashar, M.A. (2013)** Forests of Bangladesh and butterfly biodiversity, Environmental Biology and Biodiversity Laboratory (EBBL), Dhaka University, 15 pp.
- Chowdhury, S.H. and Hossain, M. (2013)** Butterflies of Bangladesh-A (Revised and enlarged version), Skylark Printers, Dhaka, Bangladesh, 260 pp.
- Dey, R., Haider, I.K.A., Rudra, S. and Islam, M.R. (2020)** First record of Banded Lineblue *Prosotas aluta* Druce, 1873 (Insecta: Lepidoptera: Lycaenidae) from Bangladesh. *Journal of Threatened Taxa*, 12(4): 15507-15509. <https://doi.org/10.11609/jott.4849.12.4.15507-15509>
- Ek-Amnuay, P. (2012)** Butterflies of Thailand. 2nd Edition, Revised. Baan Lae Suan Amarin Printing, Bangkok, Thailand, 943 pp.

- Evans, W.H. (1932)** The Identification of Indian Butterflies. (2nd Edition). Bombay Natural History Society, Bombay. 454 pp + 32 pls.
- Imam, S.M.S., Neogi, A.K., Rahman, M.Z. and Hasan, M.S. (2020)** Butterfly species richness and diversity in rural and urban areas of Sirajganj, Bangladesh. *Journal of Threatened Taxa*, 12(4): 16971-16978. <https://doi.org/10.11609/jott.4796.12.14.16971-16978>
- Inayoshi, Y. (2021)** A Check List of Butterflies in Indo – China (chiefly from Thailand, Laos & Vietnam). Available at: <http://yutaka.it-n.jp> (retrieved May 22, 2021).
- IUCN Bangladesh (2015)** Red List of Bangladesh Volume 7: Butterflies. IUCN, International Union for Conservation of Nature, Bangladesh Country Office, Dhaka, 400 pp.
- Kunte, K. (2000)** Project life scape. *Resonance*, 5: 86-97. <https://doi.org/10.1007/BF02839004>
- Larsen, T.B. (2004)** Butterflies of Bangladesh- An Annotated Checklist. IUCN Bangladesh Country Office, Dhaka, 104 pp.
- Neogi, A.K., Islam, M.J., Salauddin, M., Mandal, A.C. and Hossain, S. (2017)** Two new addition of butterflies from northeast region of Bangladesh. 20th International Biennial Conference and Annual General Meeting 2017, 62 pp.
- Paul, P., Islam, S. and Dey, R. (2021)** First record of *Lestranicus transpectus* (Moore, 1879) and *Graphium macareus* (Godart, 1819) (Insecta: Lepidoptera: Papilionoidea) in Bangladesh. *Revista Chilena de Entomología*, 47(1): 115-119. <https://doi.org/10.35249/rche.47.1.21.12>
- Rahman, M.S., Haidar, I.K.A., Neogi, A.K., Hasan, M.A.U., Rahman, M.M. and Imam, S.M.S. (2016)** First record of six species and subspecies of butterflies (Insecta: Lepidoptera) in Bangladesh. *Journal of Insect Biodiversity and Systematics*, 2(3): 373-380.
- Sinha, R.K., Sengupta, S., Roy, A.B., Baidya, S., Roy, S., Das, N., Paul, A. and Pal, A. (2019)** Butterflies of Buxa Tiger Reserve. Kolkata, India: CITADEL. 248 pp.
- Talbot, G. (1939)** The Fauna of British India, including Ceylon and Burma: Butterflies, Vol. 1. Taylor and Francis, London, 600 pp.
- Thomas, C.D. and Malorie, H.C. (1985)** Rarity, species richness and conservation: Butterflies of the Atlas Mountains in Morocco. *Biological Conservation*, 33: 95-117.