

REPORTING THE OCCURRENCE OF THE VARIEGATED PLUSHBLUE *FLOS ADRIANA* (LEPIDOPTERA: LYCAENIDAE: THECLINAE) FROM GARHWAL, UTTARAKHAND EXTENDING ITS KNOWN RANGE

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The genus *Flos* Doherty, 1889 is represented by 14 species largely found in the Oriental region (Evans 1957; www.nic.funet.fi/index/Tree_of_life/insecta/lepidoptera). Of these 14 species, seven species are known from the Indian subregion: *adriana*, *apidanus*, *asoka*, *areste*, *chinensis*, *diardi* and *fulgida*. All of these species are known from the eastern Himalaya or the hills of northeastern India (Evans 1957; Wynter-Blyth 1957; Savelle 2011). Of these species, five species are recorded from central Himalaya in Nepal, namely, *Flos adriana*, *F. areste*, *F. asoka*, *F. chinensis* and *F. fulgida* (Smith 1994). Recently, the Spangled Plushblue *F. asoka* was reported by Singh & Bhandari (2006) from Garhwal and by Smetacek (2011) from Kumaon in Uttarakhand.

Results and Discussion: On 12 October 2015, I observed and photographed the Variegated Plushblue (Image 1) from the Chaukhamb area of the Lansdowne Forest Division in the Garhwal region in the Pauri Garhwal District, Uttarakhand. This individual was seen on grass at around 10:15hr, on a hill slope and was identified as *F. adriana* using published literature (Evans 1932; Evans 1957; Wynter-Blyth 1957; Kehimkar 2008).

The butterflies of Uttarakhand have been well studied over the last century or so. William Doherty published a list of 271 species of butterflies recorded primarily from the Kumaon region (Doherty 1886). Philip W. Mackinnon and Lionel de Nicéville published a series of papers listing 323 species from Mussoorie and surrounds in 1899 (Mackinnon & de Nicéville 1899). Between 1910 and 1915, Frank Hannington, published a series of papers listing 378 species of butterflies from the Kumaon region of Uttarakhand (Hannington 1910, 1911, 1915). O.C. Ollenbach published his records of butterflies from numerous sites he visited in Mussoorie in 1929 (Ollenbach 1930). These publications represent the major works on butterflies from Uttarakhand prior to India's Independence. A review of all these publications reveals that there were no pre-independence records of *Flos adriana* from either Garhwal or Kumaon regions of Uttarakhand. There are no reports of this species either in more recent publications by Smetacek (2012), Singh & Sondhi (2016), Singh (1999, 2009) and Singh & Bhandari (2003, 2006).

A review of other literature reveals that Evans (1932) mentions the distribution of *Flos adriana* as "Sikkim-Shan States" while Wynter-Blyth (1957) lists its distributions as "Sikkim to Assam and Shan States". Evans (1957), in his review of *Arhopala* continues to maintain this distribution. Smith (1994), however, lists records of the species from "East to Central Nepal" thereby extending its known range westwards. In more recent literature, Kehimkar (2008) lists the known range



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Image 1. Variegated Plushblue *Flos adriana* from Lansdowne, Pauri Garhwal, Uttarakhand, 12 October 2015.

of this species from “Uttaranchal” without listing any specific information about records or specific sightings, on the basis of his personal record from Corbett (Isaac Kehimkar pers. comm. July 2006).

van Gasse (2013), however, lists the distribution of this species from Kumaon on the basis on a single record by Sanders (1955). Sanders (1955) reported the collection of a rather “worn male on a stream bed about 5 miles from Kathgodam along the Nainital road, in Kumaon, in March, 1932”. Most authors, in subsequent works, have overlooked this record.

An online search for the records of this species reveals photographic evidence by Isaac Kehimkar of this species from Corbett National Park in March 2006 (<https://www.flickr.com/photos/26689187@N00/4638143931>). This represents the second record of *Flos adriana* from the Kumaon region of Uttarakhand after that reported by Sanders (1955).

The record of Variegated Plushblue *F. adriana* from Lansdowne, Pauri Garhwal not only confirms the presence of this species from Uttarakhand, but represents the first record from Garhwal, extending its known range in Kumaon, further westward by 250km.

References

- Doherty, W. (1886).** A list of butterflies taken in Kumaon. *Journal of the Asiatic Society of Bengal* Vol. LV. Part II, 103–140.
- Evans, W.H. (1932).** *The Identification of Indian Butterflies*. Bombay Natural History Society, Bombay, x+454pp+32pl.
- Evans, W.H. (1957).** A revision of the *Arhopala* group of Oriental Lycaenidae (Lepidoptera: Rhopalocera). *Bulletin of the British Museum, Natural History (Entomology)* 5: 85–137.
- Hannington, F. (1910).** The butterflies of Kumaon. Part I & Part II. *Journal of the Bombay Natural History Society* 20: 130–142; 361–372.
- Hannington, F. (1911).** The butterflies of Kumaon. Part III. *Journal of the Bombay Natural History Society* 20: 871–872
- Hannington, F. (1915).** Kumaon Butterflies. *Journal of the Bombay Natural History Society* 24(1): 197.
- Kehimkar, I. (2008).** *The Book of the Indian Butterflies*. Bombay Natural History Society and Oxford University Press, Oxford, xvi+497pp.
- Mackinnon, P.W. & L. de Nicéville (1899).** List of butterflies of Mussoorie in the Western Himalayas and neighbouring regions. *Journal of the Bombay Natural History Society* 11: 205–221, 368–389, 585–605.
- Ollenbach, O.C. (1930).** Butterfly collecting grounds at Mussoorie (U.P.). *Journal of the Bombay Natural History Society* 34(3): 836–840.
- Sanders, D.F. (1955).** Miscellaneous notes on Indian butterflies. *Journal of the Bombay Natural History Society* 52(4): 803–830.
- Singh, A.P. (1999).** New Forest, Dehra Dun, India: a unique man-made habitat for butterflies in the lower Western Himalayas. *Indian Forester* 125: 913–922.
- Singh, A.P. (2009).** Butterflies of Kedarnath Musk Deer Reserve, Garhwal Himalaya, India. *Journal of Threatened Taxa* 1(1): 37–48; <http://dx.doi.org/10.11609/JoTT.o1873.37-48>
- Singh, A.P. & R.S. Bhandari (2003).** Butterfly diversity in tropical moist deciduous sal (*Shorea robusta*) forests of Dehradun valley- the lower western Himalayas. *Indian Forester* 129: 1257–1269.
- Singh, A.P. & R.S. Bhandari (2006).** New additions to the butterflies of Dehra Dun Valley, the lower Western Himalayas. *Indian Forester* 132(6): 767–769.
- Singh, A.P. & S. Sondhi (2016).** Butterflies of Garhwal, Uttarakhand, western Himalaya, India. *Journal of Threatened Taxa* 8(4): 8666–8697; <http://dx.doi.org/10.11609/jott.2254.8.4.8666-8697>
- Savela, M. (2011). Markku Savela’s Lepidoptera and some other life forms – *Flos* <http://ftp.funet.fi/index/Tree_of_life/insecta/lepidoptera/ditrysia/papilionoidea/lycaenidae/theclinae/flos/> Accessed on 20 May 2016.
- Smetacek, P. (2011).** Four new Lycaenid records from the Kumaon Himalaya. *Journal of Threatened Taxa* 3(2): 1555–1558; <http://dx.doi.org/10.11609/JoTT.o2224.1555-8>
- Smetacek, P. (2012).** Butterflies (Lepidoptera: Papilionoidea and Hesperoidea) and other protected fauna of Jones Estate, a dying watershed in the Kumaon Himalaya, Uttarakhand, India. *Journal of Threatened Taxa* 4(9): 2857–2874; <http://dx.doi.org/10.11609/JoTT.o3020.2857-74>
- Smith, C. (1994).** *Butterflies of Nepal*. Revised Edition, Teapress Service L.P., Bangkok, Thailand, 368pp.
- van Gasse, P. (2013).** Annotated checklist of the Butterflies of the Indo-Burmese region (unpublished).
- Wynter-Blyth, M.A. (1957).** *Butterflies of The Indian Region*. Bombay Natural History Society, Bombay, xx+523pp+72pl.