SIGHTING OF BLUE-SPOTTED CROW *EUPLOEA MULCIBER MULCIBER* (CRAMER), 1777 (LEPIDOPTERA: NYMPHALIDAE: DANAINAE) IN PUNJAB, INDIA

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[Shrama, N. 2015. Sighting of blue-spotted crow *Euploea mulciber mulciber* (Cramer), 1777 (Lepidoptera: Nymphalidae: Danainae) in Punjab, India. Munis Entomology & Zoology, 10 (1): 183-185**]**

ABSTRACT: Recently, while conducting a 'General Faunistic Survey' of Punjab in the districts of Pathankot, Hoshiarpur, Rupnagar (Ropar) and Ludhiana, one specimen of *Euploea mulciber mulciber* (Cramer) was taken in the scrubby habitat at Takhni-Rehmapur Wildlife Sanctuary in district Hoshiarpur, Punjab in the forenoon of 10th November, 2013. The present record of *E. mulciber mulciber* from Takhni-Rehmapur WLS can be treated as an addition to the butterfly fauna of Punjab.

KEY WORDS: *Euploea mulciber*, Danainae, Takhni-Rehmapur WLS, Punjab.

The butterflies of the subfamily Danainae are commonly known as Milkweed butterflies. The Danaids are generally of moderate to large size, tough and leathery butterflies possessing an unpleasant smell and unpalatable juices. The odor and unpleasant taste has been evolved to protect them from their natural enemies like birds and lizards. These butterflies are distasteful to predators due to accumulation of toxic chemicals in their bodies derived from their larval food plants: distasteful, milky latex-bearing plants like milkweeds, dogbanes and figs. That is why Danaids are known as Milkweed butterflies. In fact, the Danaids have assumed the status of "Models" for protective mimicry and several species of different families like Papilionidae, Pieridae, Satyridae and Nymphalidae have mimicked them and gain protection. None of the Danaids exhibits seasonal variation.

Different workers have given different taxonomic treatment to this subfamily for example Marshall and de Niceville (1883), Bingham (1905), Haribal (1992) Kehimkar (2008), classified it as a subfamily Danainae under family Nymphalidae; Evans (1932), Talbot (1947), Wynter-Blyth (1957), Arora et al. (2009) treated it as a independent family Danaidae.

The family Danaidae is represented by six genera from India viz., *Idea* Fabricius, *Ideopsis* Horsfield, *Parantica* Moore, Tirumala Moore, *Danaus* Kluk, and *Euploea* Fabricius. Of these, the genera *Ideopsis* and *Idea* are not reported to occur in North-West India. Butterflies belonging to this genus *Euploea* are commonly known as 'Crows'. The genus *Euploea* is represented by 18 species from India (Varshney, 2010) of which only three species viz., *E. core* (Cramer) *E. mulciber* (Cramer), *E. midamus* (Linnaeus) are reported from North-West India. This genus is subcentered on Sundaland (Indonesia) and represented widely in the Oriental region. The different species of the genus *Euploea* are generally uniform in size, large long-winged, glossy-brown or glossy-black butterflies, often beautifully shot with blue. The forewings are usually marked with blue, white or mauve marginal and terminal spots and streaks. Discal and other spots and streaks may be present. The hindwings generally have a marginal and terminal series of spots.

MATERIAL AND METHODS

While conducting a 'General Faunistic Survey' of Punjab under the mandates of the Zoological Survey of India in the districts of Pathankot, Hoshiarpur, Rupnagar (Ropar) and Ludhiana, one female specimen of *Euploea mulciber mulciber* (Cramer) was collected in the scrubby habitat at Takhni-Rehmapur WLS in district Hoshiarpur, Punjab in the forenoon of 10th November, 2013. The specimen was deposited as the National Zoological Collection (NZC) at the Northern Regional Centre, Zoological Survey of India Dehradun.

OBSERVATION AND RESULTS

In India, the subspecies *E. mulciber mulciber* (Cramer) is found from Shimla (Himachal Pradesh) to Burma while *E. mulciber kalinga* Doh is found from Madras to Bengal (Evans, 1932). It extends from Burma as far the north as the Kulu Valley where, however, it is very rare and down the Eastern Ghats as far as Madras, where also it is extremely scarce. In Assam and Bengal it is common and is found in the hills and on the plains. It is found upto 2500 m and flies about 1-6 m above the ground. The species is found in almost all types of terrain although preferably adjacent to forest areas. The adults are attracted to flowers of *Ageratum conyzoides*, *Lantana camara* and many other nectar sources.

Its method of flight and habits are not different from the other species of the genus, but it is the only Indian *Euploea* species in which the female is markedly dissimilar from the male. The males of this species is easily recognized by forewing upperside with blue gloss and with discal, marginal and submarginal spots, spot in the cell present; uppserside hindwing unspotted, apical half has greyish scales and a small yellow patch of specialized scales. Females are similar to male except hindwing upperside with narrow white discal streaks, forewing upperside blue glossed area smaller.

Recently, while conducting a 'General Faunistic Survey' of Punjab under the mandates of the Zoological Survey of India in the districts of Pathankot, Hoshiarpur, Rupnagar (Ropar) and Ludhiana, one specimen of *E. mulciber* was taken in the scrubby habitat at Takhni-Rehmapur WLS in district Hoshiarpur, Punjab in the forenoon of 10th November, 2013. Being tough, the species need a prolonged pressure at thorax while killing them. Often these feign death and fly away immediately as soon as the pressure is released at thorax. Observations were made in Takhni-Rehmapur WLS with GPS reading on Oregon 550 GPS of Garmin make N 31º 38.985'; E 075º55.494'; Accuracy 20'; Elevation 1200'.

The species was not seen in other districts, viz., Pathankot (7-9 November- 6 localities); Hoshiarpur (10-11 Nov.-4 localities); Rupnagar (12-14 Nov.- 5 localities); Ludhiana (15 Nov., 2013- 2 localities) of Punjab that were surveyed during the same month.

The vegetation of the sanctuary mainly consists of Amb, *Mangifera indica,* Amla *Emblica officinalis,* Arjun *Terminalia arjuna,* Bargad *Ficus bengalensis,* Bamboo *Dendrocalamous strictus,* Dhak *Butea monosperma,* Khair *Acacia catechu,* Kikar *Acacia nilotica,* Krembal *Lemna grandis,* Mesquite *Prosopis juliflora,* Neem *Azadirachata indica,* Pipal *Ficus religiosa,* Chilbil Papri *Holoptelia integrifolia,* Shisham *Dalbergia sissoo,* Siris *Albizia lebbeck,* Subabul *Leucaena leucocephala* and a variety of shrubs, herbs and weeds.

Material examined: District Hoshiarpur: Takhni-Rehmapur WLS, 1 Female, 10.xi.2011 (Coll. N. Sharma & party). The material has been deposited in the National Zoological Collections (NZC), Zoological Survey of India, Dehradun.

Further, although butterfly fauna of Punjab have been studied from different localities by the workers such as : Rose & Sidhu (2001), Arora et al. (2006), Sharma & Joshi (2009); including a checklist of butterflies of Punjab available on the website of Punjab ENVIS Centre and also the above quoted workers. But none of them made any mention of this species in their studies, therefore, the present record of *E. mulciber mulciber* from Takhni-Rehmapur WLS (Distt. Hoshiarpur) can be treated as an addition to the butterfly fauna of Punjab.

ACKNOWLEDGEMENTS

Author is thankful to Dr. K. Venkataraman, Director, Zoological survey of India, Kolkata for encouragement throughout. My sincere thanks are also due to Sh. P.C. Tak, Officer In-charge, Northern Regional Centre, Zoological Survey of India, Dehradun for facilities. Thanks are also due the Chief Wildlife Warden, Punjab for necessary permission to undertake the General Faunistic Survey work and DFO, Hoshiarpur for various courtesies.

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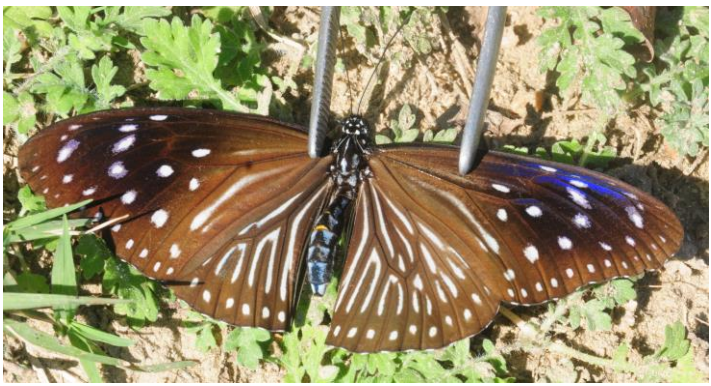

Euploea mulciber mulciber (Cramer) (Female) at Takhni-Rehmapur WLS.