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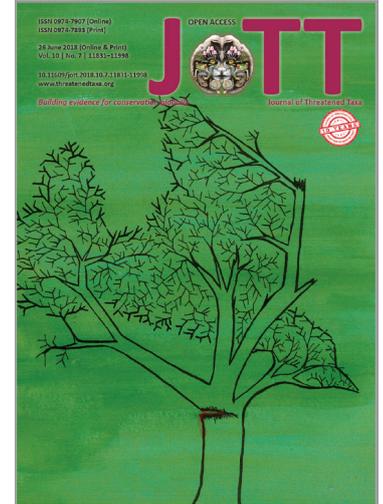
NOTE

NEW LYCAENID BUTTERFLY RECORDS FROM JAMMU & KASHMIR, INDIA

Shakha Sharma & Neeraj Sharma

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The Jammu region of the Himalayan state of Jammu & Kashmir has been the least explored for butterflies and there is a substantial lack of information on their habitat range and distribution except for few scattered reports (Sharma & Sharma 2017). The Jammu region offers a wide range of habitats contained in different geographical and climatic regimes ranging from the southern alluvial plains of Ravi and Chenab to the moderately elevated Shivaliks, Pir-Panjal and Great Himalaya further northwards bordering Kashmir in the north and Ladakh in the north-east. The recent reports on new records and range extension suggests that the region is least explored and underrepresented in terms of butterfly fauna in comparison to the neighbouring states of Uttarakhand, Himachal Pradesh and Punjab.

The butterfly surveys were conducted across different regions of Jammu province from the southern alluvial plains of Chenab and Ravi to the Himalaya through the Shivaliks and Pir-Panjal mountains during June 2016 to February 2018. The areas covered included Kalidhar and Dalhori forests in district Rajouri (west), Mansar-Surinsar-Manwal range, districts Jammu, Samba and Udhampur (south), Mansar-Manwal, Billawar-Basoholi-Bani, district Kathua (east), Bhaderwah, district Doda (north), and Paddar in district Kishtwar (northeast) within an elevation range of 320–3,200 m (Fig. 1). During the explorations, we observed seven lycaenid butterfly species previously not recorded from the state of Jammu & Kashmir. All the species were photographed in the field and geo-coordinates recorded. The species were identified by

NEW LYCAENID BUTTERFLY RECORDS FROM JAMMU & KASHMIR, INDIA

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consulting available literature, viz., keys (Evans 1927, 1932), catalogue (Varshney & Smetacek 2015), field guides and books (Varshney 1983, 1993; Kunte 2006; Pajni et al. 2006; Singh 2010; Kehimkar 2014, 2016; Smetacek 2016; Sondhi & Kunte 2018), annotated checklist (van Gasse 2013), besides the online resources (Anonymous 2018 a,b,c,d; Chandrasekharan 2018). The distribution range of butterflies was ascertained from the synoptic catalogue of butterflies of India (Varshney & Smetacek 2015).

Subfamily Lycaeninae

Eastern Blue Sapphire *Heliophorus oda* (Hewitson, 1865)

Known distribution until this study: India (Himachal Pradesh to Sikkim), Nepal, Bhutan (van Gasse 2013; Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Sondhi & Kunte 2018; Anonymous 2018a).

Remarks: A female individual (Image 1) was spotted sitting on a rock during an overcast afternoon on 13 June 2016 at Marwah (2,800m), Kishtwar. The species has not been recorded anywhere from the region afterwards. Eastern Blue Sapphire shows an established distribution across the Himalaya, particularly the neighbouring

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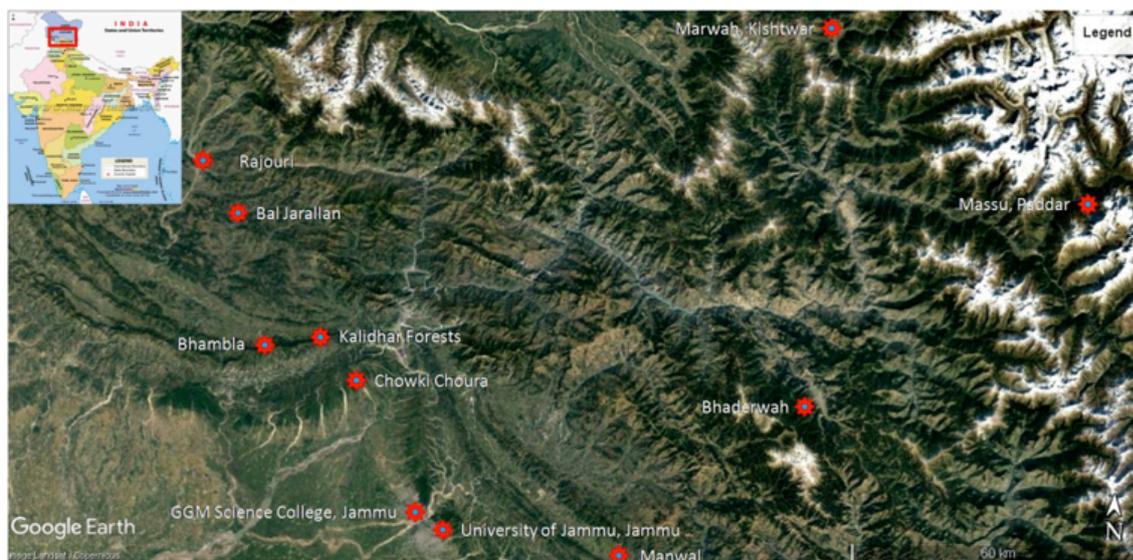


Figure 1. Study area showing locations of new butterfly records

Himachal Pradesh and Uttarakhand states and thus could be a possible range extension of the species.

Subfamily Curetinae

Bright Sunbeam *Curetis bulis bulis* (Westwood, 1852)

Known distribution until this study: India (Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Odisha, Chattisgarh, Andhra Pradesh), Nepal, Bhutan, Bangladesh, Myanmar (van Gasse 2013; Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Sondhi & Kunte 2018; Anonymous 2018b).

Remarks: An individual was spotted flying swiftly in open scrub interspersed with Chir Pine trees near Chwkichoura (950m), district Jammu on 20 October 2017 (Image 2). The individual kept flying around the Chir Pines intermittently and sitting on the leaves of *Carissa opaca* L. shrub. It was photographed in the field and identified as bright sunbeam butterfly. During our visit on 22 October 2017, we again encountered an individual, this time a few kilometers away near Kalidhar (820m) sitting with closed wings over a sedimentary rock, for salts probably. The species has so far been reported from the adjoining state of Himachal Pradesh and thus could be a possible range extension and a new record for Jammu & Kashmir State.

Subfamily Theclinae

Kinnaur Walnut Blue *Chaetoprocta odata* (Hewitson, 1865)

Known distribution until this study: India (Chitral, Himachal Pradesh) (van Gasse 2013; Varshney & Smetacek 2015; Smetacek 2016; Sondhi & Kunte 2018; Anonymous 2018c).

Remarks: One individual was spotted sitting on *Pteris baurita* L. in a patch of pure *Pinus wallichiana* A.B. Jacks. near Bhaderwah on 24 June 2016 at an elevation of 1,750m. Another individual (Image 3) was spotted basking over a leaf of *Rumex nepalensis* Sprengel on a sunny afternoon on 09 July 2017 near village Massu (2,750m) Paddar, Kishtwar District. Not common, it is the first confirmed report of its distribution in Jammu & Kashmir State.

Common Onyx *Horaga onyx onyx* (Moore, 1857)

Known distribution until this study: India (Western Ghats of Maharashtra southwards, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, Sikkim, Arunachal Pradesh), Nepal, Bhutan, Bangladesh, Myanmar, Sri Lanka (Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Chandrasekharan 2018; Sondhi & Kunte 2018).

Remarks: One individual was spotted near a spring beside a small market at Bhambla (680m), Rajouri District. The individual kept flying over the *Ipomea pes-tigridis* L., a climber before settling down for nectar feeding over the flower heads of *Tridax procumbens* L. (Image 4). The authors again recorded this species from G.G.M. Science College (320m) and Environmental Park (340m), Jammu as well. The species has its recorded distribution till Himachal Pradesh and thus could be a range extension further northwards to the state of Jammu & Kashmir

Brown Onyx *Horaga albimacula viola* (Moore, 1882)

Known distribution until this study: India (Western Ghats of Kerala and Karnataka, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh), Nepal, Bhutan,

Bangladesh, Myanmar (Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Anonymous 2018d; Sondhi & Kunte 2018).

Remarks: One individual was spotted in the botanical gardens (320m) of Government Gandhi Memorial Science College, Jammu on a sunny morning on 13 November 2017. The individual, a fast flier, suddenly dropped from the nearby plantation to settle over the leaf of *Catharanthus roseus* (L.) G. Don (Image 5) for a few seconds before flying away to be never seen again. The species has so far been recorded until Himachal Pradesh and thus a new record for the state of Jammu & Kashmir.

Acacia Blue *Surendra quercetorum* (Moore, 1858)

Known distribution until this study: India (Western Ghats, Madhya Pradesh, Andhra Pradesh, Odisha, Jharkhand, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, Sikkim, Arunachal Pradesh), Nepal, Bhutan, Bangladesh, Myanmar, Sri Lanka (Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Sondhi & Kunte 2018).

Remarks: A female individual was spotted basking on *Mallotus philippensis* (Lam.) Muell. Arg. near Kalidhar (750m), Rajouri on 22 October 2017. A male was again spotted swiftly flying and finally settling on a *Ficus benghalensis* L. leaf on 28 December 2017. Another male (Image 6) was spotted in the Environmental Park (340m), Jammu on 20 January 2018. The earlier reports on distribution of the species restrict it to Himachal Pradesh and its sightings around Jammu thus confirms the range extension and thereby an addition to the butterfly fauna of Jammu & Kashmir.

Silver Streak Blue *Iraota timoleon timoleon* (Stoll, 1790)

Current known distribution: India (Tamil Nadu, Kerala, Andhra Pradesh, Karnataka, Gujarat, Madhya Pradesh, Chhattisgarh, Jharkhand, Uttar Pradesh, West Bengal, Uttarakhand, Uttar Pradesh, Bihar, West Bengal, Arunachal Pradesh, northeastern India), Nepal, Bhutan, Myanmar, Sri Lanka (Kehimkar 2014, 2016; Varshney & Smetacek 2015; Smetacek 2016; Sondhi & Kunte 2018).

Remarks: A pair was noted flying swiftly around a *M. philippensis* tree until one individual (Image 7) settled on a dried leaf for a while near Bal Jarallan on 24 November 2017 at an elevation of 950m. The individual was photographed and identified as Silver Streak Blue. Another individual (Image 8) was spotted at a much lower elevation, this time at the Government Gandhi Memorial Science College, Jammu (320m) on a sunny afternoon on 01 February 2018. The species has its established distribution recorded in Himachal Pradesh thus suggesting



Image 1. Eastern Blue Sapphire *Heliophorus oda* (Hewitson, 1865)



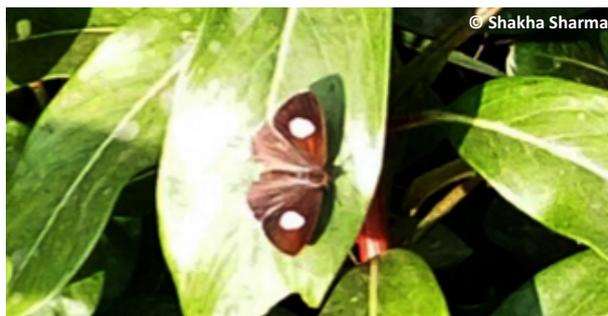
Image 2. Bright Sunbeam *Curetis bulis bulis* (Westwood, 1852)



Image 3. Kinnaur Walnut Blue *Chaetoprocta odata* (Hewitson, 1865)



Image 4. Common Onyx *Horaga onyx onyx* (Moore, 1857)

Image 5 Brown Onyx *Horaga albimacula viola* Moore, 1882Image 6 Acacia Blue *Suredra quercetorum* (Moore, 1858)Images 7 & 8. Silverstreak Blue *Iraota timoleon timoleon* (Stoll, 1790) (closed and open wings)

a possible range extension further northwards to the state of Jammu & Kashmir.

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