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New Records of Butterflies (Lepidopetra :Insecta) of Azmat Abad Village of Thanna Mandi District Rajouri of Jammu and Kashmir

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Abstract: *The present communication is based on the sighting of five new species of butterflies viz recorded first time in Azmat Abad Village and ThannaMandi District Rajouri Jammu and Kashmir, based on the field survey. The Butterflies recorded the first time in Azmat Abad village and ThannamandiViz (Junoniaiphita) Chocalate pansy, (Pieriscanidia) Indian cabbage white, (Fabricianandippe)High brown fritillary, (Aglaiscaschmirensis)Indian tortoiseshell. The Altitude is 1668 meters above the sea level support sub-tropical to temperate vegetation and offers congenial climatic condition favorable for growth of vegetation including fauna. Altitude distribution of butterflies from higher to lower altitudes. With an altitudes ranges number of species present in lower altitudes and keep decreasing toward higher altitude .The present study added valuable information on diversity of butterfly fauna and will contribute in developing effective conservation in Azmat Abad village and ThannaMandi District Rajouri of Jammu and Kashmir.*

Key words: *Butterfly, New record , species , Azmat Abad village*

Introduction

Butterflies are belonging toa long group of insects, belonging to the order 'Lepidoptera.' Linnaeus 1758 are holometabolous group of living organism as they complete metamorphosis cycle in four stage viz. egg or embryo, larva or caterpillar, pupa or chrysalis, imago or adult (Gullan and Cranston,2004,Capinera 2008).The seasonal variation groups were useful in the natural ecosystem as pollinator and as a food in the ecological food chain. Taxonomists often degree about whether any particular taxon of butterfly were a full species or just a sub-species or form. Therefore, published estimate of the total number of species of describe taxa in the world range from 17000, -20,000 (Shields 1989, Robins 1982.) Hoskin (2017) has a recently reported total 17,6980f butterflies distributed in five zoogeographical regions. Viz Holarctic, Neotropical, Afrotropical, Oriental, Australian regions, and not reported from Antarctica region. Total no, of species so for reported in India are 1439, (Evans1932; Kunte,2018) from oasis, high mountains, highlands, tropical to sub-tropical forest, grassland, and area surrounded by rivers. Jammu and Kashmir Knows as 'Terrestrial Paradise on earth' categorized to as a part of Shivalik range of Indian Himalayan State with a total forest cover of 8,128 km (Singh and Beedi, 2017) and Worldwide Known for rich biological diversity. These region encompasses a variety of habitats conducive to species of butterflies fauna of J and k UTs and elsewhere in the country (Home, 1938;Moore, 1874;Lang,1947;Wynter-Blyth 1957;Mani and Singh ,1962;Das et al.,1964; Das and Verma,1965; Tshikolovets,2005; Uniyal,2007; Khan et al., 2011; Sidhu et al., 2012;Quershi, 2014; Sondhi et al., 2017; Sharma and Sharma. 2017).

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Considering the importance of butterflies as pollinators in natural ecosystem and role in development of new species , the present study was undertaken to explore and document the butterfly fauna of Azmat Abad village and Thannamandi located in Jammu and Kashmir Himalaya.

Scientific classification
Kingdom : Animalia
Phylum : Arthropoda
Class : Insecta
Order : Lepidoptera
Suborder : Rhopalocera

Study areas:

The study on butterfly was conducted between Agust 2020 to september 2020.A total 55 days' observation was done during the study period. Field observation were done to bright sunny periods of the day when butterfly is most active
The study area includes :ThannaMandi, Azmat Abad, lower D.K.G, Ratan peer, and Baba Ghulam shah shrine.

Species identification

During survey for butterflies, the species were recorded in note book. The species identification was done by consulting the pictorial field guide, Catalogues and Key (Evan, 1972; Varshney, 1983; Kunte,2006; Panji et al,2006; Singh, 2010; Varsheney and Smetacek 2015, Kehimkar 2016.

Objective of Study:-

- To access the abundance& Diversity of butterflies fauna intheAzmat AbadVillageandThannaMandiDistrictRajouriJammuandKashmir,basedon the field survey.
- To identify` the species of butterfly which are of conservation importance
- To create knowledge, interest and necessary skills to investigate the butterfly species

CONCLUSION AND SUMMARY

The first record of these species clearly depicts the rich diversity of butterfly in Azmat Abadvillageandthannamandi of district Rajourijammu and KashmirHimalaya. Three species of Nymphalide,and two species of pieridae The plant diversity in Azmatabad is mixed type with herbs,shurbs, and tress dominating vegetation in the sub-tropical climate. Butterflies plays pollinators role of both wild and cultivated plants.

S.No	Family	Genus/Genera(no)	Total number of species
	Nymphalidae	3	3
	Pieridae	2	2
Total	2	5	5

Table..Number of genera and Species under various families monitored.

Note on Butterflies Sighting

Family NymphalideJunoniaiphita Chocolate Pansy

Discription

Upperside of both sexes brown of varying depths of colour. Forewing: cell with one pair of subbasal and one pair of apical transverse sinuous fasciae, the outermost defining the discocellulars; a short, broad, dark, oblique fascia beyond to vein 4, its inner margin diffuse, its outer sinuous but sharply defined; below vein 4 a sinuous, transverse, more faint fascia, followed by a discal blackish fascia, very broad and diffuse, below costa, bordered by a row of faint ocelli and a postdiscal and a subterminal similar fascia following the outline of the termen. Hindwing with a slender blackish loop near apex of cellular area; a broad inwardly diffuse, outwardly well-defined short discal fascia in continuation of the one on the forewing; a series of postdiscal somewhat ochraceousocelli with black pupils minutely centred with white;

postdiscal and subterminal broad lines as on the forewing.

Underside brown, with very broad darker brown transverse fasciae, the interspaces between the markings irrorated (sprinkled) with purplish silvery scales. Forewing with two sinuous fasciae on basal half succeeded by a discal fascia, very broad at the costal margin and decreasing in width to the dorsum, bearing on its outer border a row of obscure ocelli. This is succeeded by a zigzag dark line, and sinuous subterminal and terminal lines; apex and tornal area suffused with purplish silvery. Hindwing: two irregular, very broad, dark brown, curved short fasciae near base; a straight, transverse, prominent, narrow ochreous-brown discal band defined outwardly by a black line; a transverse postdiscal dark brown fascia, widest in the middle and bearing outwardly a curved row of ochreous-brown white-centred ocelli, followed by a zigzag dark line in continuation of the one on the forewing; a subterminal somewhat diffuse dark fascia and a terminal dark line. Antennae, head, thorax and abdomen dark brown.[

Distribution

It founds in india ,Nepal, Bhutan.Inindia , west Bengal ,Sikkim ,Himachal Pradesh, Jammu and kashmir

Remarks:

The species(fig 2a) was First recorded from Azmatabad Village and ThannaMandi of Rajouri district at an elevation of 1668min march 2020.Same species are found in adjoining area also. The butterfly mostly dominated the plantation like Ziziphus sp. Bauhinia sp., Tecomasp. Etc

Family NynphalidaeFabricianandippe, High brown fritillary

Discription:.

The high brown fritillary's wingspan is on average around 65 mm. Its upper wings are orange with black markings and the undersides are colored a duller orange with white and brown markings. While flying it is very hard to distinguish from the dark green fritillary which has many of the same markings. The male and female fritillary share many of the same physical features.

Larvae are brown with a single longitudinal white stripe down the length of their body. Their bodies are covered in brown spikes which aid in camouflaging them from predators as they move among dead fern fronds.

Distribution

This butterfly has many subspecies that span across Europe and throughout Asia and Africa, given that there are temperate temperatures in those regions. Northern Europe has seen a severe decline in fritillary population but it is still relatively abundant in other parts of Europe.

As of 2015, the high brown fritillary was the most threatened British butterfly species.] Populations remain in four areas in Great Britain. The Morecambe Bay Limestone hills, the Glamorgan Brackenlands, Dartmoor and Exmoor all support a fritillary population, while it has declined in most other Northern European regions.

Remarks:

The species(fig 2b) was First recorded from Azmatabad Village and ThannaMandi of Rajouri district at an elevation of 1668min march 2020.Same species are found in adjoining area also. The butterfly mostly dominated the plantation like like. Bauhinia sp., Tecomasp.Etc

Family Nymphalidae Aglaiscaschmirensis Indian tortoiseshell

Description

Upperside of forewings with the basal half of costa and termen pale brown, the former flecked with pale yellow, the latter bordered inwardly by a narrow darker brown band bearing a series of black lunules; outwardly traversed by sinuous slender subterminal and more slender terminal black lines: base of wing and the greater part of interspace 1a and of 1 posteriorly brown, irrorated with golden

scales, the rest of the wing anteriorly yellow, posteriorly and at base of cell red, with the following black markings: a broad band across the cell, another broader short band beyond, touching the discocellulars, not extending below vein 4, and a third not extending below vein 5, with a white patch beyond before apex, all three short bands rounded posteriorly; on the disc there is a large oval black spot, followed by a yellow patch in interspace 1, and above it smaller black spots in interspaces 2 and 3.

Hindwing has the basal half dusky brown, covered posteriorly with long brown hairs; anteriorly beyond the bases of veins 5, 6 and 7 black, followed by a broad red band anteriorly turning to yellow; a broad terminal brown band, traversed by a series of black-bordered blue lunules, and beyond them by very slender inner and outer black sinuous lines. Underside brown, with closely set transverse short black striae; basal half of wings clouded with dark purplish brown, the outer margin of the dark portion defined by a highly sinuous jet-black transverse line, most distinct on the hindwing, and also crossed, nearer the base of the wings, by two or three similar, much interrupted lines; terminal half of the wings paler, with two dark irregular patches below costa of forewing; finally a sinuous transverse subterminal narrow dark blue band across both forewings and hindwings, bordered on both sides by slender black lines, widening into spots on the veins of the forewing. This band is more distinct in the female than in the male. Antennae dark brown, minutely ringed with white; head, thorax and abdomen dark brown above and below.

Has a wingspan of 52–63 m.

Distribution

The Himalayas from Kashmir to Sikkim at elevations of 600 to 5,500 metres (2,000 to 18,000 ft) and as subspecies nixa (Grum-Grshimailo, 1890) Gissar Range- to Darvaz, Pamirs to Alay Mountains, Afghanistan, Pakistan, West China.

Remarks:

The species(fig 2c) was New recorded from Azmatabad Village and ThannaMandi of Rajouri district at an elevation of 1668min march 2020.Same species are found in adjoining area also. The butterfly mostly dominated the plantation

Family Pieridaepieriscanidia Indian Cabbage White

Discription: the male is white to pale cream on its upperside. the base of forewing, the basal portion of costa, and the base and upper margin of the cell have a scattering of black scales.It is black from the apex to about the middle of terminal margin. On the latter the black extend for a very short distance triangularly aling the veins. Ther is a round black spot in interspace 3.The hind wing has a subcostal black spot and a series of four or five terminal blackspot that vary in size at the apices of vein.

Distribution: It lives in sub Himalayan india and Pakistan from central Kashmir to Sikkim and Bhutan from2,000 to11,000ft(610 to 3350).Elevation;the hill of southern india.

Remarks: The species(fig 2 d) was New recorded from Azmatabad Village and ThannaMandi of Rajouri district at an elevation of 1668min march 2020.Same species are found in adjoining area also. The butterfly mostly dominated the plantation like Ziziphus sp. Bauhinia sp., Tecomasp. Etc

Family pieridaecoliascroceus Clouded yellow

Description

Coliascroceus has a wingspan of 46–54 millimetres (1.8–2.1 in). The upperside of the wings is golden to orange yellow with a broad black margin on all four wings

and a black spot near the centre forewing. Usually these butterflies settles with its wings closed, consequently the black margin of the uppersides of the wings is difficultly visible.

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The underside lacks the black borders and is lighter, with a more greenish tint, particularly on the forewings. In the forewing underside is the same dark spot as on the upperside, but often with a light centre; the hindwing underside has a white centre spot, often with a smaller white or dark dot immediately above it. Sometimes, a row of black dots occurs on the underwings' outer margins, corresponding to where the black border ends on the upperside. Females differ from the males in having yellow spots along the black borders on the upperside.

In flight, Coliascroceus is easily identifiable by the intense yellow colouring, much brighter than that of the lemon-yellow male common brimstone which also lacks black markings. Like all Colias species they never open their wings at rest.

In a small proportion of females (about 5%) the golden upperside colouration is replaced by a pale cream colour. These females have been distinguished as form helice. The pale form helice does not seem to be that distinct as intermediates exist and the variation is to some extent related to humidity during development, with dryer conditions producing paler colouration. These pale forms helice can be confused with Berger's clouded yellow (Coliasalfacariensis) and the rarer Pale clouded yellow (Coliashyale). Even the palest C. croceus tends to have more black on the upperside however, in particular on the hindwings.

Young caterpillars are yellow-green, with a black head. Later they become completely dark green, with a white red spotted lateral line after the third moult. The pupae are green and have a yellow side stripe.

Distribution

Coliascroceus is one of the most-widespread species in Europe. The common clouded yellow's breeding range is North Africa and southern Europe and eastwards through Turkey into the Middle East but it occursthrought out

Europe as a summer migrant, in good years individuals reaching Scandinavia. In Asia, its range extends into central Siberia in the north and barely into India in the south; it is not found in Central Asia.

This species is primarily an immigrant to the UK, originating from southern Europe and northern

Africa. In the UK they can be seen on the south coast almost every

year in varying numbers, and regularly breed there. Occurrence in the rest of the UK varies considerably from year to year,[4] but they are increasingly observed as far north as Dumfries and Galloway. It has also been recorded in Ireland from the Raven, Co. Wexford.

A truly migratory European butterfly, this species is famous for occasional mass migrations and subsequent breeding, which are often referred to in the United Kingdom as "clouded yellow years".

Remarks

The species (Fig e) was New recorded from Azmat Abad village and Thannamandi of district Rajouri at the evelation of 1668m in April 2020.The Species are mostly dominated on plantation

Chocolate Pansy(a)

Dark Clouded Yellow(e)

brown fritillary (b)

High

Indian Tortoiseshell (c)

Fig 2 Common to all

Indian cabbage white (d)

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