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NOTE

NOTES ON THREE SPECIES OF PALAEARCTIC SATYRINAE (LEPIDOPTERA: NYMPHALIDAE) FROM NORTHWESTERN HIMALAYA, INDIA

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The northwestern Himalaya in India extend from the states of Jammu & Kashmir and Himachal Pradesh and are separated naturally from the western Himalaya of Garhwal and Kumaon in Uttarakhand at the defile of the river Sutlej. The inner valleys in the northwestern Himalaya close to the Tibetan border include faunal components that are characterised by strong 'Palearctic' affinities from adjoining Tibet, also known as the 'Hypsobiont' species that have not been much studied in India. In comparison the faunal elements of the 'Oriental region' which are mainly 'forest' species, are found across the western, central and eastern Himalayan landscape below the tree line (Mani 1986). The author during the course of his surveys in Chamba District of Himachal Pradesh during September 2008 and then in Kashmir Valley, Jammu & Kashmir, India during August 2009, recorded three satyrid species having Palearctic affinities that are restricted in distribution to this part of the country, besides having only fragmentary site specific records from India (Evans 1932).

1. Oriental Meadowbrown *Hyponephele cheena* (Moore, 1865): Many individuals (10+; Images 1 & 2) were recorded from 12–14 September 2008 on riverside vegetation along the Ravi River on the Kuther-Batoli-Holi-Deol village stretch in Chamba District, Himachal Pradesh, India (1780–2160m; 32°20'32"–32°27'94"N & 76°32'72"–76°39'00"N; relative humidity: 58–65 %; day temperature: 21.7–27.0 °C), [wing span of two specimens: female 45mm (Image 3a,b) and female

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48mm]. The sub-species is 'not rare' from Kunawur (Kinnaur, Himachal Pradesh) to Nepal, inner ranges (wingspan 50–60 mm) (Evans 1932). 'Common' from Baluchistan to Nepal (Wynter-blyth 1957). *H. cheena* has also been listed from Nepal (Smith 1989). The sub-species *H.c. cheena* (Moore 1865) has a larger and fulvous ring around the ocellus in male and the fulvous areas about ocelli in female on upper forewing is larger, as compared to its congener the *H.c. kashmirica* (Moore, 1892). Specimens of this sub-species collected from Baspa Valley, Basahr (Rampur, Kinnaur, Himachal Pradesh) (female - July 1899; Image 4 and male - July 1893; Image 5) by O.C. Ollenbach are kept in the National Forest Insect Collection (NFIC) at the Forest Research Institute, Dehradun, Uttarakhand, India.

2. Yellow Wall *Kirinia eversmanni cashmierensis* (Moore, 1874): Two individuals [wing span: 54mm (Image 6) & 56mm (female: Image 7 a,b)] were recorded on 04 August 2009 inside a moist temperate-forest of Deodar, *Cedrus deodara* (Roxb.) G. Don in Rajwar, Langate Forest Range at Handwara (~1800m; temperature: 26–28 °C; relative humidity: 74–78 %) in Jammu & Kashmir, India. The species is 'rare' from Chitral

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Images 1 & 2 - Oriental Meadowbrown *Hyponephele cheena* (14 September 2008; Holi, Chamba District, Himachal Pradesh). a - dorsal view; b - ventral view

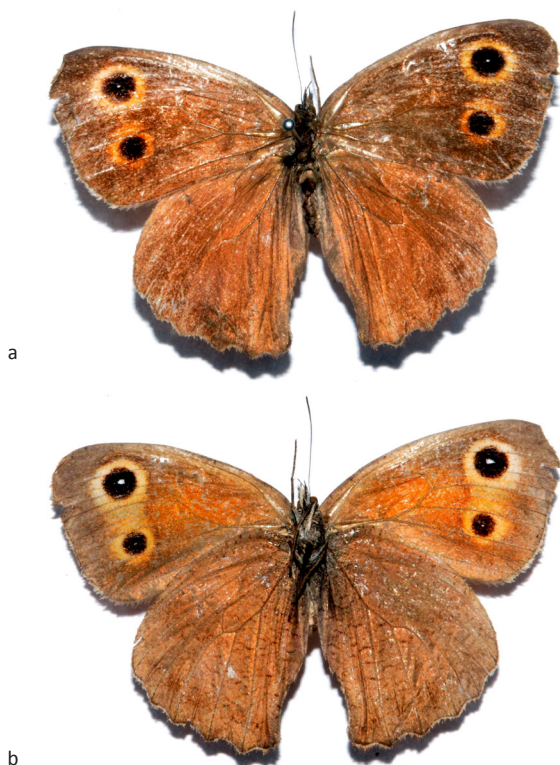


Image 3 a,b. Oriental Meadowbrown *Hyponephele cheena* (female: 45mm) - 13 September 2008; Holi, Chamba District, Himachal Pradesh [(National Forest Insect Collection at Forest Research Institute, Dehradun, India (NFIC-FRI-7653)). a - dorsal view; b - ventral view

to Kashmir (Evans 1932) and also found in Pakistan and Afghanistan between 1,800–2,700 m in open grassy hillsides and terraced fields (Kehimkar 2008). Recorded from Jammu & Kashmir in Pahalgam, Anantnag District on 27 July 2013 (by Rohan Lovalekar & Nikhil Chaudhari) & Gurais Valley, Bandipore District on 04 August 2007 by Vidya Venkatesh (<http://www.ifoundbutterflies.org/sp/2681/Kirinia-eversmanni>). Specimens of this subspecies from Chitral [Female: 42mm; 07 August 1917 (Image 8 a,b); male: 17 June 1910 at 2400m] collected by O.C. Ollenbach are kept in NFIC. This taxon is listed in Schedule II, Part II of the Indian Wildlife (Protection) Act, 1972.

3. Tawny Meadowbrown, *Hyponephele pulchella* (Felder & Felder [1867]). A few individuals were recorded [Wingspan: 40mm (Image 9); Female: 45mm (Image 10 a,b)] on 5 August 2009 in grassy meadows along the road in the heart of Gulmarg (~2,600m), Jammu & Kashmir, India. The species is common in higher valleys in Garhwal, Uttarakhand from July–September (Mackinnon & de Nicéville 1899); ‘not rare’ and being distributed from Chitral to Kashmir and Lahoul in Himachal Pradesh with a wing span of 38–45 mm (Evans 1932). The species is found from Turkestan to the western parts of the Himalaya and in Afghanistan. The upper forewing is bright tawny except at extreme base and margin. Underneath forewing discal line is ‘obsolete’ or nearly so, never shows above (Evans 1932); ‘not rare’ from Kashmir to Shipki (wing span: 36–45 mm) with upper forewing clear tawny and not overlaid with dark scales (Wynter-Blyth 1957). The female specimen of *H. pulchella* (44mm; 07 September 1923; Image 11) collected from TrajBal, Kashmir kept in the NFIC, is similar to the specimen of this female *H. pulchella* collected from Gulmarg on 05 August 2009 (Image 10). Other congeners being different with upper forewing are overlaid with dark brown scales (Evans 1932) and the pale yellow area occupied by the ‘iris’ surrounding the forewing ‘ocellus’ is either absent or reduced as compared to Dusky Meadowbrown / Felder’s Steppe Brown (*H. p. pulchra* Felder & Felder [1867]); *H. p. astorica* (Tytler 1926); *H. baroghila* (Tytler 1926) & *H. sylvia* (Hemming 1933) syn. *H. p. chitralica* (Tytler 1926) and Spotted Meadow Brown, *Hyponephele coenonympha* (Felder & Felder [1867]) which has a pale yellow spotted under hindwing, upper forewing ocellus obscure in male and apical ocellus in space two prominent and yellow ringed in female (Evans 1932), besides the tawny coloured area on the upper forewing is lacking (Images 13–21: images of specimens all these congeners kept at NFIC collected by O.C. Ollenbach).

As *Hyponephele* is a very complex group of Palaearctic



Image 4 a,b. Oriental Meadowbrown *Hyponephele cheena* (female: 55mm) - July 1873; Baspa Valley, Basahir (Rampur, Kinnaur, Himachal Pradesh) (NFIC-FRI-7653). a - male, dorsal view; b - male, ventral view



Image 5 a,b. Oriental Meadowbrown *Hyponephele cheena* (male: 50mm) - July 1873; Baspa Valley, Basahir (Rampur, Kinnaur, Himachal Pradesh) (NFIC-FRI-7653).



Image 6. Yellow Wall *Kirinia eversmanni cashmierensis* perched on a deodar, *Cedrus deodara* (Roxb.) G. Don in Handwara, Kashmir; 4 August 2009.

satyrids, the study suggests the need to carry out more field surveys for collecting and documenting individuals of this genus from the higher reaches of the northwestern Himalaya in order to correctly ascertain their distribution and the taxonomic status of different taxa using molecular analysis / dissecting the genitalia of fresh specimens for morphometric analysis for comparison with congeners.

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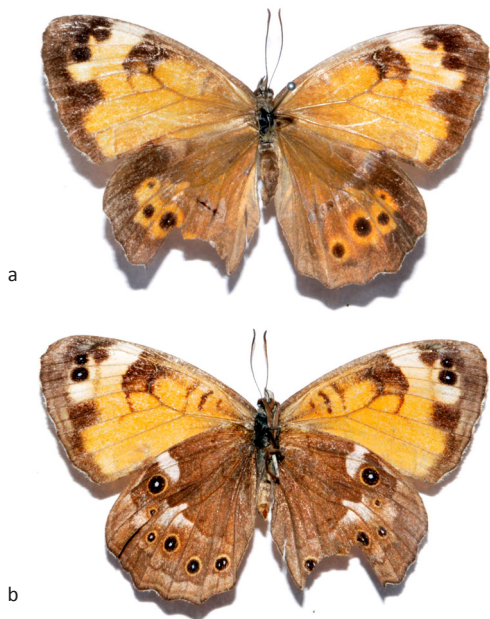


Image 7 a,b. Yellow Wall *Kirinia eversmanni cashmierensis* (female), Handwara, Kashmir; 4 August 2009. a - dorsal view; b - ventral view (NFIC-FRI-11132)



Image 9. Tawny Meadowbrown *Hyponephele pulchella* (Felder & Felder [1867]) (male) in Gulmarg, Kashmir (5 August 2009)



Image 8 a,b. Yellow Wall *Kirinia eversmanni cashmierensis* (female: 42mm) - Chitral; 4 August 1917 (NFIC-FRI-11132).

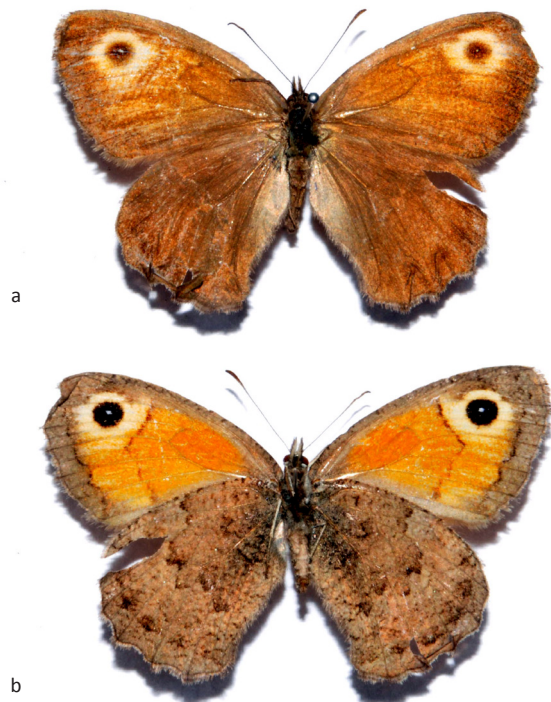


Image 10 a,b. Tawny Meadowbrown *Hyponephele pulchella* (Felder & Felder [1867]) (female: 45mm) - 05 August 2009, Gulmarg, Kashmir. a - female-dorsal view; b - female-ventral view (NFIC-FRI-7654).



Image 11 a,b. Tawny Meadowbrown *Hyponephele pulchella* (Felder & Felder [1867]) (female: 45mm) - 07 September 1923; 2,761m; Tnuj bal (Kashmir) (NFIC-FRI-7654). a - male-dorsal view; b - male-ventral view

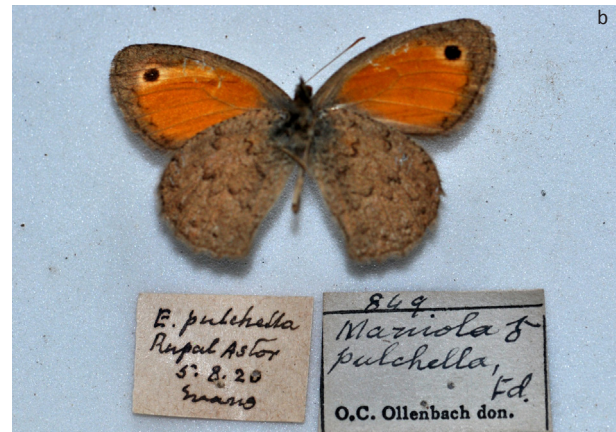


Image 12 a,b. Tawny Meadowbrown *Hyponephele pulchella* (Felder & Felder [1867]) (male: 44mm) - 04 April 1920; Rupal, Astor (Kashmir) (NFIC-FRI-7654). a - male-dorsal view; b - male-ventral view



Image 13 a,b. Dusky Meadowbrown *Hyponephele pulchra* (Felder & Felder [1867]) (male: 40mm) - 14 August 1889; Nila Valley (Garhwal), northwestern Himalaya (NFIC-FRI-11139). a - female-dorsal view; b - female-ventral view



Image 14 a,b. Dusky Meadowbrown *Hyponephele pulchra* (Felder & Felder [1867]) (female: 40mm) – 11 August 1922; Rama, Astor (Kashmir) (NFIC-FRI-11139). a - male-dorsal view; b - male-ventral view



Image 15 a,b. Dusky Meadowbrown *Hyponephele astorica* (Tytler, 1926) (male: 43mm) - 02 August 1920; 307m; Rupar, Astor (Kashmir) (NFIC-FRI-11149). a - female-dorsal view; b - female-ventral view



Image 16 a,b. Dusky Meadowbrown *Hyponephele astorica* (Tytler, 1926) (female: 45mm) - 04 July 1923; 3,048m; Rama, Astor (Kashmir) (NFIC-FRI-11149). a - male-dorsal view; b - male-ventral view

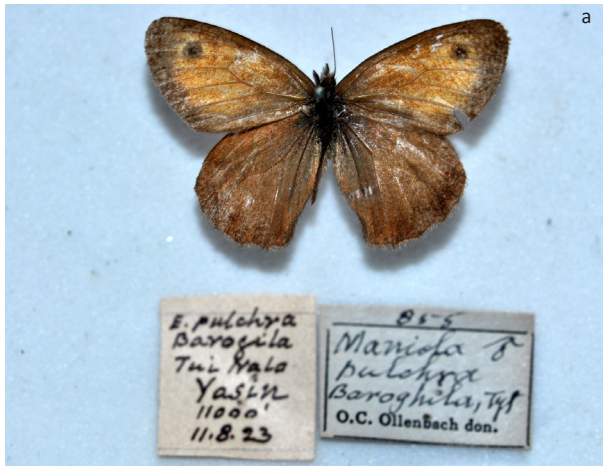


Image 17 a,b. Dusky Meadowbrown *Hyponephele baroghila* (Tytler, 1926) (female: 40mm) – 11 August 1923; TuiNala, Yasin, Gilgit; 3,353m (NFIC-FRI-11150). a - female-dorsal view; b - female-ventral view

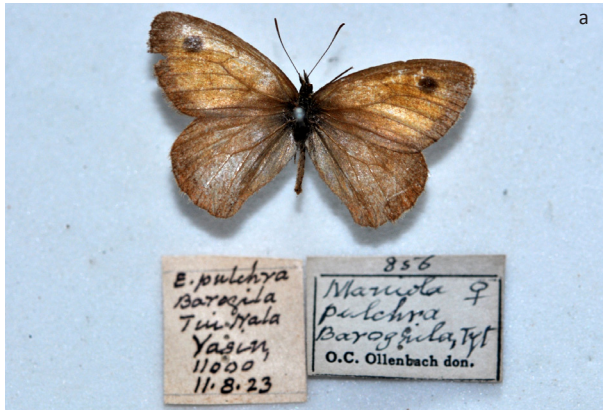


Image 18 a,b. Dusky Meadowbrown *Hyponephele baroghila* (Tytler, 1926) (female: 41mm) – 11 August 1923; TuiNala, Yasin, Gilgit; 3,353m (NFIC-FRI-11150). a - dorsal view; b - ventral view



Image 19 a,b. Dusky Meadowbrown *Hyponephele sylvia* (Hemming, 1933) syn. *H.p.chitralica* (Tytler, 1926) (37mm) - Chitral (NFIC-FRI-20036). a - male-dorsal view; b - male-ventral view



Image 20 a,b. Spotted Meadowbrown *Hyponephele coenonympha* (Felder & Felder, [1867]) (male: 40mm) – 10 August 1920; Kalapani, Astor (Kashmir); 3,353m ((NFIC-FRI-11140). a - female-dorsal view; b - female-ventral view



Image 21 a,b. Spotted Meadowbrown *Hyponephele coenonympha* (Felder & Felder, [1867]) (Female: 40mm) - 10 August 1920; Kalapani, Astor (Kashmir); 3,353m ((NFIC-FRI-11140)

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