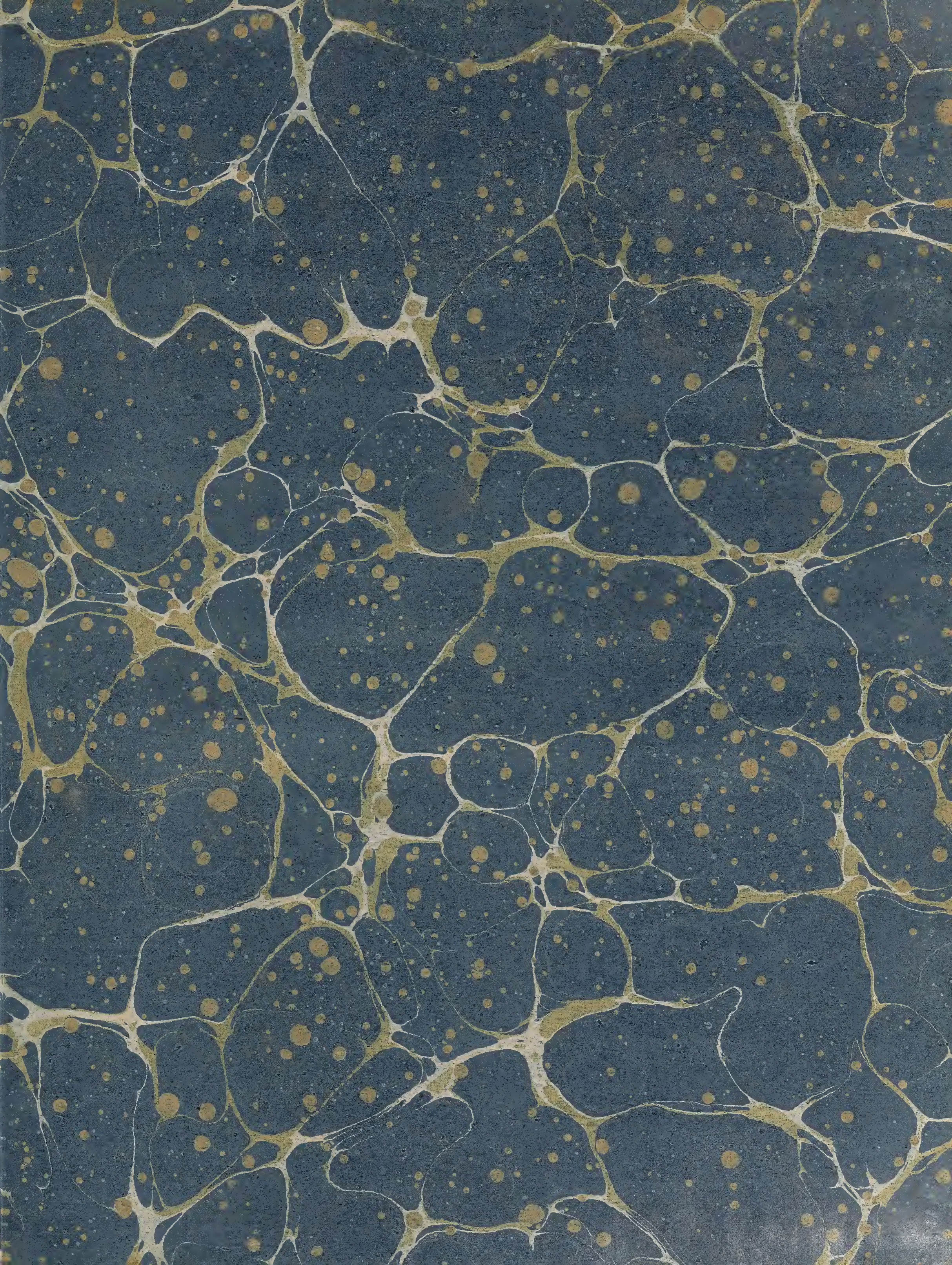




J. C. Mansel-Pleydell.



SCIENTIFIC RESULTS
OF
THE SECOND YARKAND MISSION;

BASED UPON THE COLLECTIONS AND NOTES
OF THE LATE
FERDINAND STOLICZKA, PH.D.

LEPIDOPTERA,

BY
FREDERIC MOORE, F.Z.S., ETC.,
ASSISTANT CURATOR, INDIAN MUSEUM, LONDON.

Published by order of the Government of India.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING.
1879.

CALCUTTA:
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING,
8, HASTINGS STREET.

SCIENTIFIC RESULTS
OF
THE SECOND YARKAND MISSION.

LEPIDOPTERA.

BY FREDERIC MOORE, F.Z.S., ETC., *Assistant Curator, India Museum, London.*

Tribe—PAPILIONES.

Family—NYMPHALIDÆ.

Sub-Family—SATYRINÆ.

1. HIPPARCHIA LEHANA. Plate I, fig. 4, ♂.

Hipparchia lehana, Moore, Ann. and Mag. Nat. Hist. 1878, p. 227.

Allied to *H. baldiva*, Moore, from Upper Kunawur, the upperside being paler in colour, the discal transverse ochreous band broader on both wings, and its inner border, in the male, inwardly oblique. Both sexes above and beneath are without the small ocellus on the discal band above the anal angle. The underside is also very much paler, and the transverse sinuous lines wider apart.

Expanse ♂ 2, ♀ $2\frac{1}{4}$ inches.

Habitat.—Leh (September 6th, 1873), Kharbu, 13,000 feet, both in Ladák.

2. HIPPARCHIA CADESIA.

Hipparchia cadesia, Moore, Proc. Zool. Soc. 1874, p. 565, pl. 66, fig. 7.

Hab.—Leh, September 8th.

3. EPINEPHILE CHEENA.

Epinephile cheena, Moore, Proc. Zool. Soc. 1865, p. 501, pl. 30, fig. 6.

Hab.—Gaganghir, Kashmir.

SECOND YARKAND MISSION.

4. AULOCERA SWAHA.

Satyrus swaha, Kollar, Hügel's Kaschmir, iv, p. 444, tab. 14, figs. 1, 2 (1844).

Satyrus brahminus (part), Blanch., Jacq. Voy. dans l'Inde, iv, Ins. p. 22, t. 2, figs. 5, 6, ♂.

Hab.—Gaganghir, Kashmir.

5. AULOCERA BRAHMINA.

Satyrus brahminus, Blanchard, Jacq. Voy. dans l'Inde, iv, Ins. p. 22, t. 2, fig. 4 (1844), ♂.

Aulocera weranga, Lang, Ent. Monthly Mag. iv, p. 247 (1868).

Hab.—Mataian, Dras Valley, 11,200 feet.

Sub-family—*NYMPHALINÆ*.

6. VANESSA LADAKENSIS. Plate I, fig. 2.

Vanessa ladakensis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 227.

Nearest allied to *V. rizana*, Moore, from Cheeni, but is somewhat smaller, less angled below the apex of fore wing and at middle of the hind wing; the black markings on the upper-side are much less prominent, the black oblique bands on forewing merging into the red and thus appearing somewhat confluent; the outer transverse discal yellow band on fore wing is also broader; other markings similar. On the underside the interspaces between the markings on fore wing are very much paler.

Expanse $1\frac{5}{8}$ inch.

Hab.—Gogra, Changchenmo, 15,000 feet, October 1873; Karatágh Lake, on snow, midday temperature 33° , October 11th, 1873.

7. PYRAMEIS CARDUI.

Pyrameis cardui, Linn. Faun. Suec. p. 276 (1761).—Esper, Schmett. i, t. 10, fig. 3.—Eversmann, Ent. Imp. Ross. v, p. 107, t. 12, figs. 1, 2.—Erschoff, Lep. Turkestan, p. 15.

Hab.—Karghálík, November 11th, seen also south of Sánju and at Sánju, all in Eastern Turkestan.

8. ARGYNNIS JAINADEVA.

Argynnis jainadeva, Moore, Ent. Monthly Mag. i, p. 131 (1864); Proc. Zool. Soc. 1865, p. 495, pl. 30, fig. 1.

Hab.—Leh, September 6th.

Family—*PAPILIONIDÆ*.Sub-family—*PIERINÆ*.Genus *BALTIA*, Moore.*Baltia*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 228.

Fore wing very short; costa considerably arched from the base, apex and posterior angle rounded, exterior margin oblique, costal vein short, subcostal vein arched to end of the cell, six-branched, first and second branches arising at equal distances apart before the end of the cell and terminating on the costa before the apex, third branch bent near its base, middle, and immediately before its termination before the apex, the fourth, fifth, and sixth branches starting below from each of these angles, the fourth branch being very short; cell broad; discocellulars of nearly equal length, bent inwards; median vein three-branched, branches at equal distances apart; submedian vein curved: hind wing long, somewhat oval, slightly broader than fore wing, apex and exterior margin very convex, abdominal margin long; costal vein short; subcostal three-branched; cell broad; discocellulars oblique, upper the shortest; median vein three-branched; submedian nearly straight. Body small, abdomen short, thorax and front of head clothed with long lax hairs. Palpi very long, slender, densely hairy beneath. Legs short, femora fringed beneath with long lax hairs. Antennæ short, club large and spatulate.

Type. *Baltia shawii* (*Mesapia shawii*), Bates, in Henderson and Hume's Lahore to Yárkand, p. 305 (1873).

9. *BALTIA SHAWII*. Plate I, fig. 5, ♂.

Mesapia shawii, Bates, Henderson and Hume's Lahore to Yárkand, p. 305, ♀, 1873.

Baltia shawii, Moore, Ann. and Mag. Nat. Hist. 1878, p. 228.

Male. Upperside white; base of both wings densely black-speckled: fore wing with the costal edge ochreous and slightly black-speckled; a large black triangular oblique spot at end of the cell; a short discal transverse subapical black band, and a marginal row of black decreasing triangular spots: hind wing minutely and sparsely speckled with dark grey; a slight black streak at end of the cell, the speckles dense across the disc, and there forming a curved sinuous indistinct band. Body black. Palpi ochreous above and fringed with black beneath. Underside: fore wing with markings as above; costa and exterior margin tinged with ochreous: hind wing black-speckled, the speckles thickly disposed at the base, and also forming a narrow curved discal band; a slight black streak at end of the cell. Antennæ black, stem black-ringed. Abdomen beneath yellow. Legs black above, white beneath.

Female differs above in having the markings less prominently black, and the subapical band on fore wing continued across the wing on both upper and underside.

Expanse $1\frac{5}{6}$ inch.

Hab.—Aktâgh, north of the Karakoram Pass (15,590 feet), June 14th, 1874.

The male insect only was captured by Dr. Stoliczka; the female was taken on the Chang Lung Pass (18,000 feet) by Mr. R. B. Shaw during the expedition of 1870.

SECOND YARKAND MISSION.

10. SYNCHLOE BRASSICÆ.

Pieris brassicæ, Linn., Faun. Suec. p. 269 (1761); Syst. Nat. i, p. 759.—Esper, Schmett. i, t. 3, fig. 1.—Erschoff, Lep. Turkestan, p. 4.

Pieris nipalensis, Gray, Lep. Ins. Nepal, pl. 6, fig. 1 (1846).

Hab.—Leh, September 6th.

11. SYNCHLOE RAPÆ.

Pieris rapæ, Linn., Faun. Suec. p. 270 (1761); Syst. Nat. i, p. 759.—Esper, Schmett. i, pl. 3, fig. 2.—Erschoff, Lep. Turkestan, p. 5.

Hab.—Yangihissár, April, Aktalla, May 17th, both in Eastern Turkestan.

12. SYNCHLOE DAPLIDICE.

Pieris daplidice, Linn., Syst. Nat. i, p. 760 (1767); Esper, Schmett. i, figs. 414, 415.—Erschoff, Lep. Turkestan, p. 5.

Hab.—Gond and Sonamarg, both in Kashmir.

13. SYNCHLOE CHLORIDICE.

Pieris chloridice, Hübner, Eur. Schmett. i, figs. 712, 713 (1803-1818).—Esper, Schmett. i, pl. 90, fig. 1.

Hab.—Sarikol, May 2nd and 8th.

14. COLIAS HYALE.

Colias hyale, Linn. Faun. Suec. p. 272 (1761); Syst. Nat. I, p. 764.—Esper, Schmett. I, pl. 4, fig. 2.

Hab.—Gaganghir, Kashmir; Sánju, October 30th; Sarikol, May 2nd; Yangihissár, April.

15. COLIAS FIELDII.

Colias fieldii, Menétries, Catal. Lep. Mus. Petrop. i, p. 79, t. 1, fig. 5 (1855).—Gray, Lep. Ins. of Nepal, pl. 5, fig. 2.

Hab.—Sonamarg, Kashmir, August 10th.

16. COLIAS STOLICZKANA. Plate I, fig. 1.

Colias stoliczkana, Moore, Ann. and Mag. Nat. Hist. 1878, p. 229.

Male. Upperside pale chrome-yellow, base of costal and abdominal borders greenish-yellow; base of wings speckled with blackish-brown; both wings with a broad yellowish-

brown marginal band; a light narrow dusky-brown lunular streak at end of the cell in the fore wing. Underside: fore wing pale yellow; costal border and outer margin greenish-yellow; a dusky black-speckled lunular spot at end of the cell, and discal row of indistinct speckled spots: hind wing greenish-yellow, with darker green speckles; an ochreous-brown patch at end of cell, enclosing a white triangular mark and small spot; a discal series of dusky-brown dentate spots. Antennæ and legs reddish.

Expanse $1\frac{5}{8}$ inch.

Hab.—North of Changla (17,000 feet), Ladák.

Differs from *C. eogene*, Feld. (Novara Reise, Lep. t. 27, fig. 7), in being smaller, and in having the wings, including the cilia, pale chrome-yellow instead of orange-yellow; the discocellular mark is less prominent and lunular, not oval; the broad marginal band is of a much yellower colour. On the underside, the discocellular mark on the fore wing is also lunular and is not pale-centred.

Sub-Family—*PAPILLIONINÆ*.

17. *PARNASSIUS CHARLTONIUS*. Plate I, fig. 3, ♀.

P. charltonius, Gray, Catal. Lep. Ins. Brit. Mus. i, p. 77, pl. 12, fig. 7, ♂, (1852).

Hab.—Kharbu (13,000 feet), Ladák.

18. *PARNASSIUS JACQUEMONTII*.

P. jacquemontii, Boisd., Spéc. Gén. Lep. i, p. 400 (1836).—Blanchard, Jacq. Voy. dans l'Inde, iv, Ins. p. 16, t. 1, figs. 3, 4.—Gray, Catal. Lep. Ins. Brit. Mus. i, pl. 12, figs. 1, 2.

Hab.—North of Changla (17,000 feet), Ladák.

Sub-Family—*LYCENINÆ*.

19. *POLYOMMATUS KASHGHARENSIS*. Plate 1, fig. 7.

Polyommatus kashgharensis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 230.

Male. Upperside pale blue, with narrow black exterior-marginal line; costal edge white. Cilia white, with dark inner border. Underside slightly pearly-grey, base of wings pale metallic green: fore wing with a white-bordered black spot in middle of the cell, and a curved discal series of five spots; a very indistinct spot at end of the cell, and a less distinct marginal series of spots: hind wing with three sub-basal and a curved discal series of six small white-circled black spots; an indistinct spot at end of the cell, and marginal row of spots with slightly ochreous interspaced upper dentated line.

Expanse $1\frac{2}{3}$ inch.

Hab.—Yangihissár, Eastern Turkestan, April 1874.

Allied to *P. semiargus*.

20. POLYOMMATUS LEHANUS. Plate I, fig. 6.

Polyommatus lehanus, Moore, Ann. and Mag. Nat. Hist. 1878, p. 230.

Male. Upperside violet-blue, somewhat brownish-blue at the margins. Cilia white. Underside leaden grey, palest at the apex and on hind wing: fore wing with a white-bordered black spot at end of the cell and a transverse discal oblique series of five spots: hind wing with a large triangular greyish-white spot at end of the cell, and a series of eight small round spots recurving from near base of costa across the disc to anal angle.

Expanse $\frac{9}{16}$ inch.

Hab.—Leh, 8th September 1873.

Allied to *P. pheretes*.

21. POLYOMMATUS YARKANDENSIS. Plate I, fig. 8.

Polyommatus yarkandensis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 229.

Allied to *P. icarius*. Upperside dark blue, anterior and exterior borders dusky-brown: an indistinct streak at end of the cell on fore wing: hind wing with a marginal row of indistinct ochreous-bordered black spots. Cilia cinereous-white. Underside ochreous grey; fore wing with a white-circled black spot in middle of the cell, another below it, one at end of the cell, and a curved discal series of seven spots; a marginal row of indistinct spots bordered above by a dentated line with pale ochreous interspaces: hind wing with three white-circled black subbasal spots and a curved discal series of seven spots; a marginal row of prominent spots, bordered above by ochreous-interspaced dentated line.

Expanse $1\frac{2}{3}$ inch.

Hab.—Yarkand, 23rd May 1873.

22. POLYOMMATUS ARIANA.

Polyommatus ariana, Moore, Proc. Zool. Soc. 1865, p. 504, pl. 31, fig. 2.

Hab.—Mataian, Drás valley (11,200 feet), Leh, September 6th and 8th.

23. POLYOMMATUS GALATHEA.

Polyommatus galathea, Blanchard, Jacq. Voy. dans l'Inde, iv, Ins. p. 21, pl. 1, figs. 5, 6, ♂, (1844).

Hab.—Sonamarg, Kashmir, 10th August.

24. DIPSAS ODATA.

Dipsas odata, Hewitson, Illustr. D. Lep. p. 66, pl. 30, fig. 13-4.—Moore, Proc. Zool. Soc. 1865, p. 507.

Hab.—Gaganghir, Kashmir.

LEPIDOPTERA.

7

Tribe—SPHINGES.

25. LEUCOPHLEBIA BICOLOR.

Leucophlebia bicolor, Butler, Proc. Zool. Soc. 1875, p. 16, pl. 2, fig. 5.*Hab.*—Hatti, July 21st, Uri, July 23rd, both in Jhilam valley, on the road from Murree to Kashmir.

Tribe—BOMBYCES.

Family—ARCTIIDÆ.

26. HYPERCOMPA PRINCIPALIS.

Euprepia principalis, Kollar, in Hügel's Kaschmir, iv, p. 465, tab. 20, fig. 2 (1844).*Hab.*—Gaganghir and Gond, in Kashmir.

27. ARCTIA ORIENTALIS.

Arctia orientalis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 230.

Similar to *A. caja*, but differs, above, on the fore wing, in the general form of the bands, these being entire and transversely continuous, not broken longitudinally as in *A. caja*. On the hind wing the spot at the end of the cell is absent; this wing also has a yellowish-white narrow marginal line above, and brown cilia both above and beneath; the dorsal black band is on each segment and is moreover longer.

Expanse $2\frac{4}{8}$ inches.*Hab.*—Sonamarg, Kashmir, 8th August 1873.

This species has also been taken at Allahabad.

28. EUPROCTIS KARGHALIKA. Plate I, fig. 18.

Euproctis karghalika, Moore, Ann. and Mag. Nat. Hist. 1878, p. 231.

Male and female. Fore wing creamy-white, veins greyish-white; a large brown-speckled ochrey discocellular spot and submarginal row of spots: hind wing white. Thorax creamy-white; abdomen of male golden-yellow, of female grey slightly ringed with black, and tipped with large glossy golden-yellow tuft. Shaft of antennæ white, pectinations brown. Underside glossy white, costa of fore wing in male broadly suffused with brown.

Expanse, ♂ $1\frac{5}{16}$, ♀ $1\frac{6}{16}$ inch.*Hab.*—Kárghalik Eastern Turkestan, May 29th and 30th.

29. EUPROCTIS LACTEA.

Euproctis lactea, Moore, Ann. and Mag. Nat. Hist. 1878, p. 231.

Uniform creamy-white, without markings. Abdomen tipped with pale yellow. Underside paler creamy-white; costal border of fore wing ochreous-brown. Palpi ochreous-brown. Antennæ pale ochreous-brown, shaft white. Fore tibiæ with ochreous-brown tuft.

Expanse $1\frac{2}{8}$ inch.*Hab.*—Kárghalik, May 29th, 1874.

Family—*NOTODONTIDÆ*.30. *PTILOPHORA KASHGHARA*. Plate I, fig. 19.*Ptilophora kashghara*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 231.

Male. Fore wing dark grey, irrorated with brown scales, crossed by three indistinctly defined narrow zigzag brown bands, which are slightly dentated on the veins. Cilia alternately pale grey and brown: hind wing pale grey, sparsely sprinkled with brown scales. Thorax greyish-brown. Abdomen brown; three anterior segments with dorsal row of blackish tubercular scales; tip also black. Antennæ yellowish-testaceous. Underside grey, sparsely brown-speckled; long pubescence of abdomen brown and black. Legs pale brown.

Expanse $1\frac{5}{8}$ inch.*Hab.*—Yangihissár, Eastern Turkestan, March 3rd, 1874.31. *OXICESTA MARMOREA*. Plate I, fig. 17.*Oxiesta marmorea*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 231.

Male. Upperside greyish-brown: fore wing with a pale yellowish irregular streak along middle of cell to costa near apex, and a small spot beyond the cell, an indistinct pale streak below the cell; apical margin of costa and outer margin pale testaceous alternated with a short black streak, which extends through the cilia: hind wing uniform pale greyish-brown, slightly yellowish at base. Body and legs greyish-brown. Antennæ brown. Underside uniform greyish-brown; cilia of fore wing with black streaks.

Expanse $1\frac{1}{8}$ inch.*Hab.*—Sasák Taka, Eastern Turkestan, May 16th, 1874.

Differs from *O. geographica* in being longer in the wings, of a different colour, and without the two transverse zigzag white bands on the fore wings.

Family—*SATURNIIDÆ*.32. *NEORIS SHAHIDULA*.*Neoris shadulla*, Moore, Proc. Zool. Soc. 1872, p. 577.*Hab.*—Shahidula, Kuenlun (R. B. Shaw, 1870).

A distinct species from that figured by Felder (Nov. Reise, pl. 87, fig. 3), and named *Saturnia stoliczkai*, from Ladák.

Tribe—*NOCTUES*.Family—*BOMBYCIDÆ*.33. *ACRONYCTA KARGHALIKA*. Plate I, fig. 9.*Acronycta karghalika*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 232.

Female. Fore wing pale silvery brownish-grey; reniform and orbicular marks whitish, brown-bordered, and contiguous; a longitudinal streak from the base, a contiguous trans-

verse subbasal recurved line, a discal transverse lunular line (crossed near posterior angle by a short streak), some short costal marks, and a streak on cilia between each vein, brown: hind wing glossy greyish-white, outer borders and veins pale greyish-brown. Thorax and abdomen dark grey. Antennæ grey. Underside greyish-white: fore wing with greyish-brown costal streaks and hinder margin: hind wing with brown basal costal streak and discocellular spot. Palpi brown at sides. Legs grey, femur tipped, tibia longitudinally streaked, and tarsi banded with black.

Expanse $1\frac{5}{8}$ inch.

Hab.—Kárgalik, May 29th, 1874.

Nearest allied to *A. tridens*, but differs in being darker; the markings are somewhat similar, but the basal longitudinal streak is shorter, which gives a wider interspace between the two transverse lines.

Family—*APAMIDÆ*.

34. *HYDRÆCIA TIBETANA*. Plate I, fig 21.

Hydræcia tibetana, Moore, Ann. and Mag. Nat. Hist. 1878, p. 232.

Male. Fore wing pale reddish-testaceous, crossed by two pale brown narrow lines with pale inner border, the first line subbasal and outwardly oblique, the other discal; a submarginal row of blackish dots and pale marginal line; orbicular and reniform marks indistinctly defined by a brown border: hind wing and abdomen paler. Underside palest on middle of wings, discal line on both wings and discocellular spot on hind wing slightly perceptible. Antennæ, palpi, and fore legs reddish-testaceous.

Expanse $1\frac{5}{10}$ inch.

Hab.—Leh, September 1st, 1873.

35. *MAMESTRA CANESCENS*. Plate I, fig. 13.

Mamestra canescens, Moore, Ann. and Mag. Nat. Hist. 1878, p. 233.

Male. Fore wing brownish-grey: orbicular and reniform marks greyish-white with narrow black border; a short double black streak below the base of the cell, and a quadrate mark below the orbicular spot; an indistinct pale submarginal irregular fascia and black marginal lunular line with whitish inner border: hind wing pale greyish-brown. Antennæ brown. Underside glossy pale greyish-brown, each wing with indistinct short transverse discocellular streak.

Expanse $1\frac{5}{8}$ inch.

Hab.—Kárgalik, Eastern Turkestan, May 30th, 1874.

36. *MAMESTRA BRASSICÆ*.

Phal. noct. brassicæ, Linn., Syst. Nat. i, p. 516.

Hab.—Srinagar, Kashmir, August 9th.

Family—*NOCTUIDÆ*.37. *AGROTIS SEGETUM*.*Noctua segetum*, Schiff., W. V. p. 252 (1776).—Eversm., Fauna Volgo-Ural, p. 196.*Agrotis segetum*, Steph., Haust. ii, p. 115.—Erschoff, Lep. Turkestan, p. 41.*Hab.*—Tankse, Ladák; Kárghalik, Eastern Turkestan, May 29th.38. *AGROTIS AQUILINA*.*Noctua aquilina*, Schiff., W. V. p. 80 (1776).*Hab.*—Tankse, 13,000 feet, Leh, August 29th, September 8th.39. *AGROTIS TIBETANA*. Plate I, fig. 16.*Agrotis tibetana*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 233.

Upperside: fore wing greyish-brown, with indistinct dusky transverse subbasal double sinuous line, discal dentate lines, and pale outer-bordered wavy narrow submarginal band, speckled orbicular spot, and quadrate reniform mark. Cilia with narrow white marginal line: hind wing brownish-white, veins and outer margin brown; cilia white. Antennæ and body greyish-brown, tip of abdomen yellowish.

Underside: fore wing greyish-white, dusky-brown basally along the costa and hind margin, speckled on outer margin: hind wing whitish, an indistinct dusky spot at end of the cell, a spot medially on each vein, and narrow lunular marginal line. Legs greyish-brown, femora and tibiæ streaked, and tarsi banded, with black.

Expanse $1\frac{3}{8}$ inch.*Hab.*—Leh (August 8th, 1873).40. *SPÆLOTIS UNDULANS*. Plate I, fig. 10.*Spælotis undulans*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 233.

Male and female. Fore wing grey-brown, irrorated with darker scales, crossed by subbasal and ante and post-medial double pale-bordered undulated brown bands, each ending on the costa in a darker spot; a submarginal pale outer-bordered brown wavy fascia, and small black marginal lunules: hind wing glossy greyish-white with brownish-tinged borders, brown veins and lunular marginal line. Thorax grey-brown, abdomen greyish-white. Antennæ and palpi greyish-brown. Underside glossy greyish-white. Tibiæ streaked, and tarsi banded, with black.

Expanse $1\frac{8}{10}$ inch.*Hab.*—Ak Masjid, June 2nd, south-east of Chiklik, June 5th, 1874, both south of Yárkand.Allied to *Spælotis pyrophila*.

Family—*ORTHOSIDÆ*.41. *TÆNIOCAMPA CHIKLIKA*. Plate I, fig. 11.*Taniocampa chiklika*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 234.

Male. Upperside grey: fore wing densely brown-speckled. Cilia with a brown-speckled line; orbicular and reniform spots pale; an indistinct transverse subbasal sinuous pale-bordered line: hind wing minutely brown-speckled, and with a pale brown ciliary line. Underside paler; both wings uniformly speckled, and with a very indistinct sinuous discal band. Antennæ blackish, shaft grey. Body, palpi, and legs brown-speckled.

Expanse $1\frac{5}{8}$ inch.*Hab.*—South-east of Chiklik, June 6th, 1874.Family—*HADENIDÆ*.42. *HADENA STOLICZKANA*. Plate I, fig. 12.*Hadena stoliczkana*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 234.

Male. Fore wing pale greyish-brown, crossed by three indistinct narrow brown zigzag double bands; orbicular spot pale, reniform mark very indistinct; two black spots below the apex; a double narrow marginal blackish lunular line; some short streaks on the costa: hind wing with the veins and a broad marginal band fuliginous-brown. Cilia white. Body pale greyish-brown. Antennæ brown. Underside greyish-white; both wings crossed by a distinct curved discal brown band: fore wing with a discocellular brown lunule, and hind wing with a spot; a marginal lunular dotted line. Legs grey; tarsi banded with black.

Expanse $1\frac{4}{8}$ inch.*Hab.*—Kufelang (14,810 feet), June 6th, 1874.Family—*HELIOTHIDÆ*.43. *HELIOTHIS SCUTOSA*.*Heliothis scutosa*, Schiff., Wien. Verz. p. 89 (1776).—Guén., Noct. ii, p. 182.*Hab.*—Ganganhir, Kashmir.44. *HELIOTHIS DIPSACEA*.*Heliothis dipsacea*, Linn. Syst. Nat. ii, p. 856 (1776).—Guén., Noct. ii, p. 181.—Eversm., Fauna Volgo-Ural, p. 327.—Erschoff, Lep. Turkestan, p. 48.*Hab.*—Posgám, near Yárkand, in lucerne-fields, May 28th. Yangihissár, April.

45. HELIOTHIS HYBLÆOIDES. Plate I, fig. 20.

Heliothis hyblæoides, Moore, Ann. and Mag. Nat. Hist. 1878, p. 234.

Upperside: fore wing grey, minutely brown-speckled; an indistinctly apparent brown curved streak at end of the cell, and a submarginal pale zigzag line: hind wing brownish-white, with a broad greyish-black medial transverse band (which is confluent with a curved discocellular black streak) and a large black oval spot on middle of outer margin; abdominal border tinged with brown; cilia white. Body grey, beneath whitish; legs greyish-white, brown-speckled.

Underside greyish-white: fore wing with a dusky-black transverse broad apical band and an outwardly-oblique medial band: hind wing with a dusky-black dentate streak at end of the cell, slight medial band, and oval marginal spot.

Expanse $1\frac{3}{8}$ inch.

Hab.—Chiklik, south of Yárkand, June 3rd, 1874.

Family—*ACONTIIDÆ*.

46. AGROPHILA SULPHURALIS.

Agrophila sulphuralis, Bergstr., Ins. Suec. i, p. 16.—Guén., Noct., ii, p. 206.—Eversm., Fauna Volgo-Ural., p. 461.

Ph. trabealis, Scop., Ent. Carn. p. 40.

Agrophila trabealis, Erschoff, Lep. Turkestan, p. 52.

Hab.—Yárkand.

47. ACONTIA LUCTUOSA.

Acontia luctuosa, Schiff., Wien. Verz. p. 90 (1776).—Guén., Noct. ii, p. 223.—Eversm., Fauna Volgo-Ural, p. 331.—Erschoff, Lep. Turkestan, p. 50.

Hab.—Yangihissár, April.

Family—*ERASTRIDÆ*.

48. BANKIA ARGENTULA.

Bankia argentula, Hübn., Beit., i, p. 9, t. 2, fig. F. (1786).

Hab.—Ak Masjid, south of Yárkand.

Family—*CATOCALIDÆ*.

49. CATOCALA PUDICA, n. sp.

Allied to *C. puerpera*. Differs from Southern European specimens in the fore wing being prolonged at the apex and having its exterior margin more oblique; this wing is also much paler in colour, and has the two bands of the underside visible from above; the ante-and

postmedial transverse sinuous lines and reniform mark are very indistinct, and the marginal row of black spots nearly obsolete; on the hind wing the inner black band is narrower and less irregularly angled in the middle.

Expanse $2\frac{3}{8}$ inches.

Hab.—Pashkyum, Ladák, 10,870 feet.

This species is described from a specimen taken by the late Mr. R. B. Shaw in 1870, and now in my own collection. A single wing only of a specimen of what appears to be this species, is preserved in the collection made by Dr. Stoliczka, having been taken at Sánju, 30th October.

Family—*TOXOCAMPIDÆ*.

50. *APOPESTES PHANTASMA*.

Noctua phantasma, Eversm., Bull. Mosc. 1843, p. 546.

Spintherops phantasma, Guén., Noct. ii, p. 422.—Erschoff, Lep. Turkestan, p. 58.

Hab.—Yárkand, 12th November.

Tribe—*PYRALES*.

Family—*BOTYDÆ*.

51. *BOTYS FLAVALIS*.

Pyralis flavalis, Schiff., W. V. p. 121 (1776).

Hab.—Ak Masjid, south of Yárkand, Sarikol, 2nd May. Yangihissár, April. Posgám, in lucerne-fields, 28th May.

Family—*ENNYCHIDÆ*.

52. *PYRAUSTA CUPREALIS*. Plate I, fig. 26.

Pyrausta cuprealis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 235.

Upperside dark cupreous-brown: hind wing with a broad medial discal yellow band. Underside paler, basal two-thirds of both wings yellow, with brown-speckled subbasal patch. Antennæ black. Body beneath cupreous-black speckled with yellow. Palpi yellow beneath. Legs yellow, with cupreous speckles.

Expanse $\frac{5}{8}$ inch.

Hab.—Gaganghir (near Sonamarg), Kashmir.

Family—*SCOPARIDÆ*.

53. *EUDOREA GRANITALIS*. Plate I, fig. 25.

Eudorea granitalis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 235.

Upperside: fore wing pale brown, crossed by several irregular wavy grey-bordered black lines; cilia grey, alternated with black: hind wing greyish-white, traversed by numerous

short brown striæ somewhat regularly disposed between the veins, the wing being suffused with brown along exterior margin. Cilia grey, with dusky line. Body grey, brown-speckled. Palpi brown at apex, greyish at base. Legs grey, speckled with black. Underside as above; markings paler.

Expanse $\frac{3}{10}$ inch.

Hab.—South-east of Chiklik, hills south of Yárkand, 5th June 1874.

54. EUDOREA TRANSVERSALIS.

Eudorea transversalis, Moore, Ann. and Mag. Nat. Hist. 1878, p. 235.

Male. Upperside: fore wing grey, speckled with brown, crossed by an oblique subbasal and a recurved discal black speckled band; exterior margin black-spotted; some black speckles at end of the cell: hind wing pale brown, with darker marginal border. Cilia grey, with brown border. Body grey, brown-and black-speckled. Palpi speckled with black and white above. Antennæ dark brown. Underside pale ochrey-grey. Legs speckled with grey and black, fore and middle legs with black bands. Female paler, the bands across the wings broader and more distinct.

Expanse $\frac{6}{10}$ inch.

Hab.—Ighizyar (5,600 feet), 18th May 1874, Yangihissár (4,320 feet), April 1874, both in Eastern Turkestan.

Tribe—GEOMETRES.

Family—BOARMIDÆ.

55. HYPOCHROMA PSEUDOTERPNAIA.

Hypochroma pseudoterpnaria, Guén., Phal. i, p. 276.

Hab.—Uri, Jhiam valley, 23rd July.

56. GNOPHOS OBTECTARIA.

Gnophos obtectaria, Walker, Catal. Lep. Het. B. M. 35, p. 1597.

Hab.—Sonamarg, Kashmir.

57. GNOPHOS STOLICZKARIA. Plate I, fig. 22.

Gnophos stoliczkaria, Moore, Ann. and Mag. Nat. Hist. 1878, p. 235.

Upperside pale ochreous-grey, minutely brown-speckled, the speckles forming more or less numerous short transverse striæ; both wings with an indistinct oval brown spot at end of the cell, and marginal lunular dotted line: fore wing with a subbasal and discal, and hind

wing with a discal, series of dentate brown points. Cilia white. Underside paler; speckles sparsely apparent; cell-spot less distinct.

Expanse $1\frac{3}{8}$ inch.

Hab.—Ak Masjid, south of Yárkand, 2nd June 1874.

Family—*GEOMETRIDÆ*.

58. *GEOMETRA DISPARTITA*.

Geometra dispartita, Walker, Catal. Lep. Het. Brit. Mus. xxii, p. 520.

Hab.—Beshterek, south of Yárkand, 31st May.

Family—*LARENTIDÆ*.

59. *EUPITHECIA SATURATA*.

Eupithecia saturata, Guén., Phal. ii, p. 269.

Hab.—Chiklik, hills south of Yárkand, 3rd June.

60. *THERA KASHGHARA*. Plate I, fig. 23.

Thera kashghara, Moore, Ann. and Mag. Nat. Hist. 1878, p. 236.

Upperside pale brownish-cinereous: fore wing crossed by three equidistant pale-bordered blackish lines, the basal line nearly straight, the second slightly waved, the outer irregularly undulated, each darkest at costal end, the interspace between the two outer ones darker cinereous-brown; a slight short sinuous spot at apex; indistinct paler transverse undulating lines on outer margin; a distinct darker marginal narrow line. Underside paler; transverse lines very indistinctly visible. Legs dusky-brown above. Antennæ brownish.

Expanse $1\frac{3}{8}$ in.

Hab.—Chiklik (3rd June 1874), 14,480 feet.

Tribe—*CRAMBICES*.

Family—*PHYCIDÆ*.

61. *HOMÆOSOMA VENOSELLA*. Plate I, fig. 24.

Homæosoma venosella, Moore, Ann. and Mag. Nat. Hist. 1878, p. 236.

Upperside: fore wing pale greyish-ochreous, minutely brown-speckled, the speckles sparsely disposed along the veins; having a transverse pale discal indented line and an indistinct space at end of the cell: hind wing cinereous-white with pale brown marginal line. Cilia white. Body and palpi above greyish-ochreous, paler beneath. Underside whitish-cinereous.

Expanse $\frac{7}{8}$ inch.

Hab.—Ak Masjid, south of Yárkand (8,870 feet), June 2nd, 1874.

62. MYELOIS UNDULOSELLA. Plate I, fig. 27.

Myelois undulosella, Moore, Ann. and Mag. Nat. Hist. 1878, p. 236.

Male and female. Upperside ochreous-grey: fore wing speckled with brown, crossed by two medial oblique undulating pale-bordered blackish lines, both of which are sinuous at the costal end; a dark pale-centred streak at end of the cell; middle of hinder margin and the outer border grey, the latter with an indistinct pale sinuous line slightly black-speckled; cilia whitish, alternated with two dark marginal lines: hind wing pale brownish-cinereous externally; cilia white alternated with one dark marginal line, and having a dark patch situated at the middle of the margin. Body ochreous-grey. Underside pale cinereous.

Expanse $1\frac{2}{3}$ inch.

Hab.—Ak Masjid, south of Yárkand (8,870 feet), June 2nd, 1874; Aktala, west of Yárkand (7,342 feet), May 17th, 1874.

63. MYELOIS GRISELLA. Plate I, fig. 15.

Myelois griseella, Moore, Ann. and Mag. Nat. Hist. 1878, p. 236.

Upperside cinereous-grey: fore wing densely irrorated with brown, crossed by two medial undulating very indistinct speckled lines; an indistinct streak at end of the cell; both wings with an outer marginal narrow brown lunular line: hind wing whitish, with a very pale cinereous-brown marginal and an indistinct narrow submarginal band. Cilia whitish, with a narrow marginal dark line. Underside paler cinereous. Head and thorax brownish. Abdomen cinereous-brown.

Expanse $1\frac{1}{2}$ inch.

Hab.—South-east of Chiklik, south of Yárkand (June 5th, 1874).

Tribe—TORTRICES.

64. CONCHYLIS STOLICZKANA. Plate I, fig. 14.

Conchylis stoliczkana, Moore, Ann. and Mag. Nat. Hist. 1878, p. 237.

Upperside: fore wing white, with three transverse outwardly oblique ochreous-brown bands, two inwardly oblique discal bands, and a spot at end of the cell; a brown-speckled marginal band: hind wing cinereous-white, with a narrow brown marginal band. Body white and black-speckled, with white segmental bands. Legs white. Palpi white, brown-speckled. Underside cinereous-white, outer bands on fore wing indistinctly visible.

Expanse $\frac{5}{8}$ inch.

Hab.—South-east of Chiklik, (June 5th, 1874).

Tribe—TINEINES.

Family—TINEIDÆ.

65. ADELA SULZELLA.

Tinea sulzella, Schiff., W. V. 143 (1776).

Hab.—Gaganghir, Kashmir.

Family—*GELECHIDÆ*.66. *DEPRESSARIA STIGMELLA*.*Depressaria stigmella*, Moore, Ann. and Mag. Nat. Hist. 1878, p. 237.

Fore wing pale brownish-ochreous, greyish along the apical portion of the costa, interspersed with a few dusky speckles; a dusky-grey short straight streak at end of the cell, and a few speckles on outer margin. Legs pale ochreous. Hind wing pale ochreous-white. Underside of both wings paler.

Expanse $\frac{9}{16}$ inch.*Hab.*—Yangihissár, Eastern Turkestan, (March 3rd, 1874).This species is nearest allied to the European *D. subpropinquella*.*Tabular List showing geographical Distribution.*

Kashmir.	Localities where captured.	Geographical Distribution.
<i>Epinephile chena</i>	Gaganghir	W. Himalayas (Pangi (Basahir); Kunawur).
<i>Aulocera swaha</i>	Gaganghir	Ditto (Simla).
<i>Synchlœ daplidice</i>	Gond, Sonamarg	W. Asia; Europe.
<i>Colias hyale</i>	Gaganghir	W. Himalayas (Masuri); W. Asia; S. and C. Europe.
<i>Colias feldii</i>	Sonamarg	Ditto (Masuri); Punjab.
<i>Polyommatus galathea</i>	Sonamarg.	
<i>Dipsas odata</i>	Gaganghir	Ditto (Upper Kunawur).
<i>Leucophlebia bicolor</i>	Hatti Uri	Ditto.
<i>Hypercompa principalis</i>	Gond, Gaganghir	Ditto.
<i>Arctia orientalis</i> , n. sp.	Sonamarg	Ditto N. W. Provinces of India (Allahabad).
<i>Mamestra brassicæ</i>	Srinagur	Ditto India; W. Asia; Europe.
<i>Heliothis scutosa</i>	Gaganghir	Ditto W. Asia; Europe.
<i>Pyrausta cuprealis</i> , n. sp.	Gaganghir.	
<i>Hypochroma pseudoterpnaria</i>	Uri	Ditto Punjab.
<i>Gnophos obtectaria</i>	Sonamarg	Ditto (Simla).
<i>Adela sulzella</i>	Gaganghir	W. Asia; Europe.
LADÁK.		
<i>Hipparchia lehana</i> , n. sp.	Leh; Kharbu.	
<i>Hipparchia cadesia</i>	Leh	Kashmir.
<i>Aulocera brahmina</i>	Dras Valley	Kashmir (Margan Pass).
<i>Argynnis jainadeva</i>	Leh	Kashmir; Upper Kunawur.
<i>Synchlœ brassicæ</i>	Leh	Kashmir; W. Himalayas; W. Asia; Europe.
<i>Parnassius charltonius</i>	Kharbu.	Runang Pass, 13,000 feet.
<i>Polyommatus lehanus</i> , n. sp.	Leh.	
<i>Polyommatus ariana</i>	Dras Valley	Sanga (Puspa Valley); Kashmir; W. Himalayas; Pangi (Basahir).
<i>Hydræcia tibetana</i> , n. sp.	Leh.	
<i>Agrotis aquilina</i>	Leh	W. Asia; S. and C. Europe.
<i>Agrotis tibetana</i> , n. sp.	Leh.	

Tabular List showing geographical Distribution—continued.

MOUNTAIN RANGE BETWEEN LADÁK (LEH) AND PLAINS OF YÁRKAND.

Kashmir.	Localities where captured.	Geographical Distribution.
<i>Vanessa ladakensis</i> , n. sp.	Gogra, Karatágh Lake.	
<i>Baltia shawii</i>	Aktágh	Chang Lung Pass.
<i>Colias stoliczkana</i> , n. sp.	N. of Changla.	
<i>Parnassius jacquemontii</i>	N. of Changla	Mountains of Ladák.
<i>Parnassius acco</i>	Lupsang or Lak Zung, 17,537	Ditto.
<i>Neoris shahidula</i>	Shahidúla.	
<i>Hadena stoliczkana</i> , n. sp.	Kufelang.	
<i>Agrotis segetum</i>	Tankse	N. W. India; W. Asia; Europe.
<i>Agrotis aquilina</i>	Tankse	W. Asia; Europe.

PLAINS OF YARKÁND.

<i>Pyrameis cardui</i>	Sánju; Kárghalik	Asia; Africa; Europe; N. America.
<i>Synchlœ rapæ</i>	Yangihissár	W. Asia; Europe.
<i>Colias hyale</i>	Sánju; Yangihissár	W. Asia; Europe.
<i>Polyommatus kasgharensis</i> , n. sp.	Yangihissár.	
<i>P. yarkandensis</i> , n. sp.	Yárkand.	
<i>Euproctis karghalika</i> , n. sp.	Kárghalik.	
<i>Euproctis lactea</i> , n. sp.	Kárghalik.	
<i>Ptilophora kashghara</i> , n. sp.	Yangihissár.	
<i>Acronycta karghalika</i> , n. sp.	Kárghalik.	
<i>Mamestra canescens</i> , n. sp.	Kárghalik.	
<i>Agrotis segetum</i>	Kárghalik	N. W. India; W. Asia; Europe.
<i>Heliothis dipsacea</i>	Posgám; Yangihissár	W. Asia; S. Europe.
<i>Agrophila sulphuralis</i>	Yárkand	W. Asia; S. and C. Europe.
<i>Acontia luctuosa</i>	Yangihissár	W. Asia; S. and C. Europe.
<i>Catocala pudica</i> , n. sp.	Sánju	Paskyum, Ladák, 10,870 feet (Shaw).
<i>Apopestes phantasma</i>	Yárkand; Bora (Shaw)	W. Asia.
<i>Botys flavalis</i>	Yangihissár; Posgám	W. Asia; S. and C. Europe.
<i>Endorea transversalis</i> , n. sp.	Yangihissár; Ighizyar.	
<i>Geometra dispartita</i>	Beshterek	N. W. India.
<i>Depressaria stigmella</i> , n. sp.	Yangihissár.	

HILLY COUNTRY WEST AND SOUTH-WEST OF THE PLAINS OF YARKÁND.

<i>Synchlœ chloridice</i>	Sarikol	W. Asia; S. Europe.
<i>Colias hyale</i>	Sarikol	W. Asia; Europe.
<i>Oxicesta marmorea</i> , n. sp.	Sasak Taka.	
<i>Spælotis undulans</i> , n. sp.	Ak Masjid; Chiklik.	
<i>Teniocampa chiklika</i> , n. sp.	Chiklik.	
<i>Heliothis hyblæoides</i> , n. sp.	Chiklik.	
<i>Bankia argentula</i>	Ak Masjid	W. Asia; Europe.
<i>Botys flavalis</i>	Ak Masjid; Sarikol	W. Asia; S. and C. Europe.
<i>Endorea granitalis</i> , n. sp.	Chiklik.	
<i>Gnophos stoliczkaria</i> , n. sp.	Ak Masjid.	
<i>Euxithecia satyrata</i>	Chiklik	W. Asia; S. and C. Europe.
<i>Thera khasgharia</i> , n. sp.	Chiklik.	
<i>Homæosoma venosella</i> , n. sp.	Ak Masjid.	
<i>Myelois undulosella</i> , n. sp.	Ak Masjid; Aktala.	
<i>Myelois griseella</i> , n. sp.	Chiklik.	
<i>Conchylis stoliczkana</i> , n. sp.	Chiklik.	

ERRATUM.

In the names at foot of plate for "*Myelois griseola*," read "*Myelois griseella*."

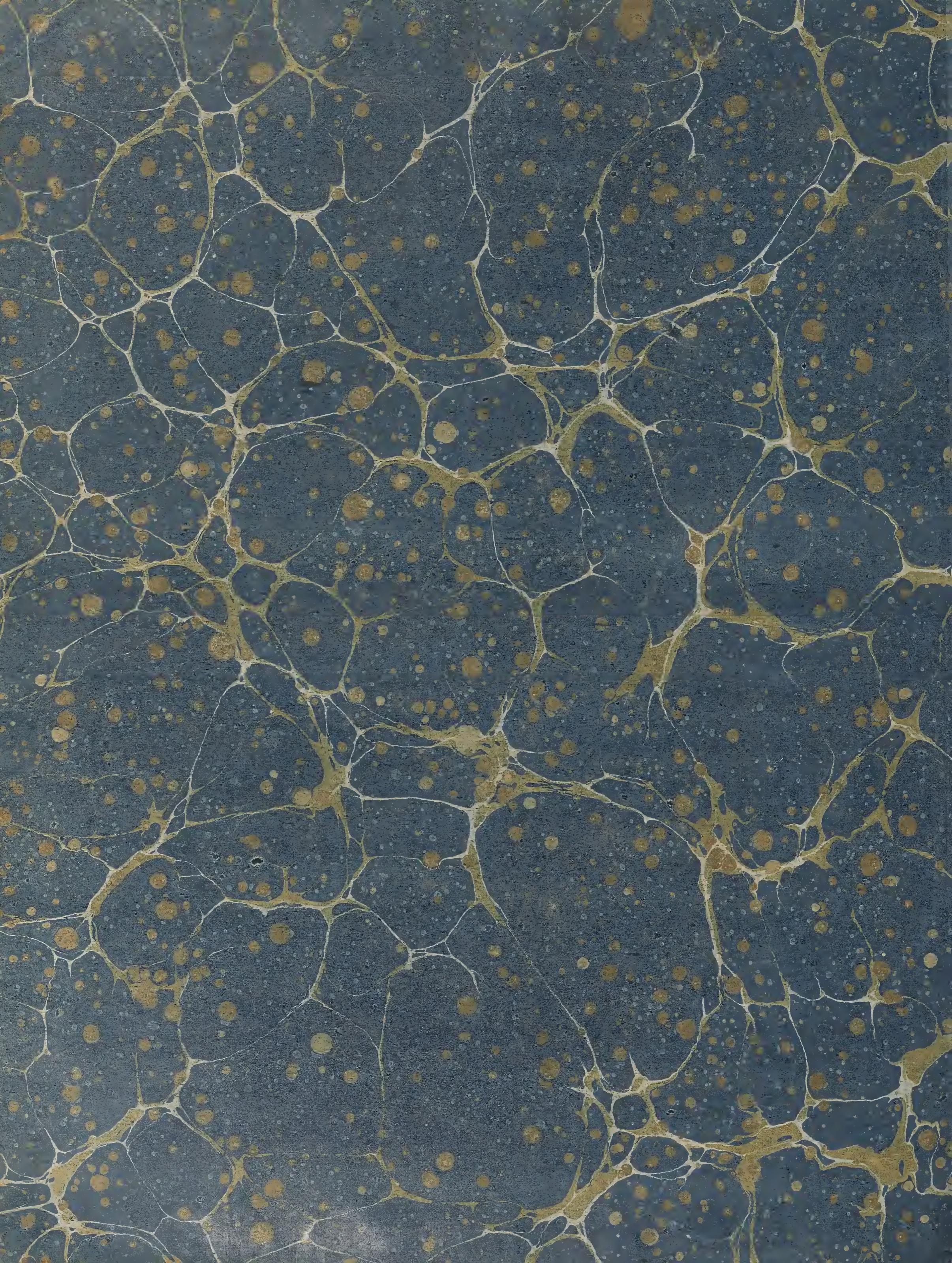


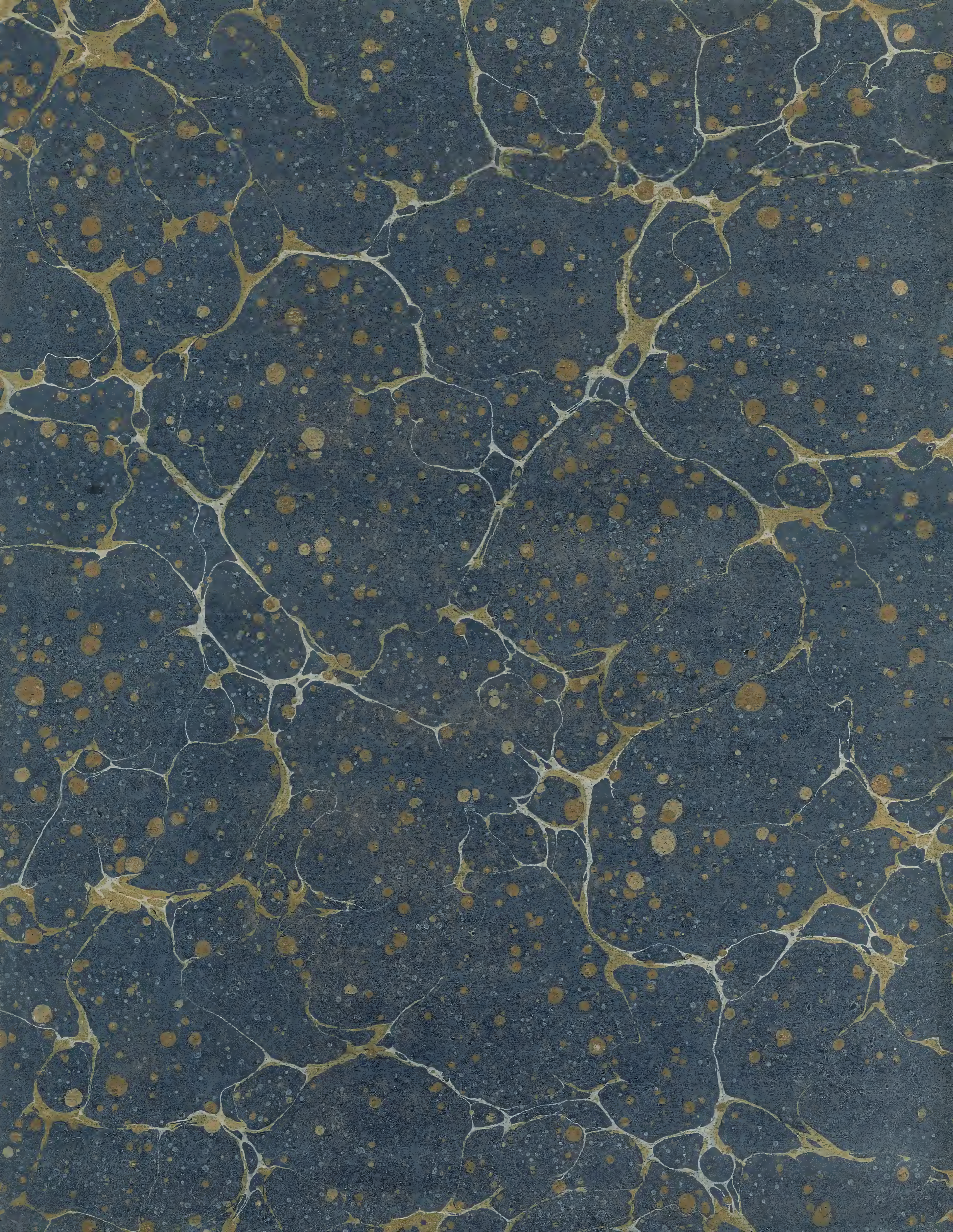
A. G. Butler del. et lith.

Mintern Bros. imp.

1, *Colias Stoliczkana*. 2, *Vanessa Ladakensis*. 3, *Parnassius Charltonius*. 4, *Hipparchia Lehana*. 5, *Baltia Shawii*.
 6, *Polyommatus Lehanus*. 7, *P. Kashgharensis*. 8, *P. Yarkundensis*. 9, *Acronycta Kargalika*. 10, *Spælotis undulans*.
 11, *Tæniocampa Chiklika*. 12, *Hadena Stoliczkana*. 13, *Mamestra canescens*. 14, *Conchylis Stoliczkana*. 15, *Myelois griseola*.
 16, *Agrotis Tibetana*. 17, *Oxycesta marmorea*. 18, *Euproctis Kargalika*. 19, *Ptilophora Kashghara*. 20, *Heliothis Hyblæoides*.
 21, *Hydræcia Tibetana*. 22, *Gnophos Stoliczkaria*. 23, *Thera Kashghara*. 24, *Homæosoma venosella*. 25, *Eudorea granitalis*.
 26, *Pyrausta cuprealis*. 27, *Myelois undulosella*.

10612





M9614157

