

A taxonomic account of four species of the genus *Palpita* Hübner, 1806 (Lepidoptera, Crambidae) from Jammu and Kashmir, India

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ABSTRACT: The genus *Palpita* Hübner, 1806 referable to subfamily Spilomelinae of family Crambidae is characterized by distinctive wing maculation and genitalic features. A detailed taxonomic account of four species of *Palpita* i.e., *P. kiminensis* Kirti & Rose, *P. warrenalis* (Swinhoe), *P. asiaticalis* Inoue and *P. pajnii* Kirti & Rose, from Jammu and Kashmir is presented. The descriptions of adult morphology, wing venation and genitalia are provided along with illustrations. A diagnostic key to the studied species is also presented to facilitate accurate identification. Notably, all four species are recorded for the first time from Jammu and Kashmir, representing significant range extensions within India. The present findings contribute to a better understanding of the taxonomy, distribution and species composition of the genus *Palpita* in the north-western Himalayan region. © 2026 Association for Advancement of Entomology

KEY WORDS: Spilomelinae, adult morphology, wing venation, genitalia, new records

INTRODUCTION

The genus *Palpita* Hübner, 1806 belongs to subfamily Spilomelinae of family Crambidae and is one of the most diverse and extensively distributed genera within this group. The moths of genus *Palpita* are medium-sized and typically characterized by white or pale wings with brown to black spots and a prominent submarginal fascia. The diagnostic features of the genus include obliquely upturned labial palpi, scaled maxillary palpi, filiform antennae, a closed discal cell in both wings with notable distinct features in male and female genitalic structures such as modified fibula and various cornuti in males and paired spinose signa in females. These genitalic features help in species-level identification within the morphologically comparable genus.

The taxonomic history of genus *Palpita* remained notably complex, characterized by repeated reclassifications and extensive synonymization. Several genera, including *Conchia* Hübner, 1821; *Margaronia* Hübner, 1825; *Paradosis* Zeller, 1852; *Margarodes* Guenée, 1854; *Tobata* Walker, 1859; *Sarothronota* Lederer, 1863; *Cryptographis* Lederer, 1863; *Sebunta* Walker, 1863; *Apyrausta* Amsel, 1951 and others, treated as distinct taxa at different times before ultimately being synonymized under genus *Palpita*. The taxonomic stability was achieved after the revisionary work of Munroe (1950), who revived *Palpita* with *Pyralis unionalis* Hübner as its type species. Subsequent regional revisions and systematic studies substantially advanced the understanding of species diversity, diagnostic characters, and interspecific relationships within the genus. The other notable

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contributions are those of Kirti and Rose (1992) and Kirti and Singh (1992) from India, as well as a series of comprehensive studies by Inoue (1996, 1997, 1999) focusing on Southeast Asia diversity. Zhang and Li (2005) discussed 18 species from China. Rathikannu and Chitra (2020) reported three species from Tamilnadu. More recently, Ko *et al.* (2021) further refined the taxonomy of *Palpita* by providing an identification key and documenting 15 species from Laos, thereby contributing valuable data on the regional diversity and distribution of this genus. *Palpita* has around 160 species worldwide (Nuss *et al.*, 2024). In India 25 species have been identified, with the majority coming from north-eastern and Himalayan regions (Inoue, 1999; Anonymous, 2026). However, the fauna of *Palpita* in the north-western Himalaya, particularly Jammu and Kashmir, has received little attention, with scattered data and minimal taxonomic study. The current study intends to address this gap by presenting a detailed taxonomic account of four species of genus *Palpita* collected for the first time from Jammu and Kashmir.

MATERIALS AND METHODS

A detailed taxonomic account of four species of *Palpita* i.e., *P. kiminensis* Kirti & Rose, *P. warrenalis* (Swinhoe), *P. asiaticalis* Inoue and *P. pajinii* Kirti & Rose, from Jammu and Kashmir is presented. The descriptions of male and female adult morphology, wing venation and genitalia are provided along with illustrations and identification key for the examined species. A diagnostic key to the studied species is also presented to facilitate accurate identification. The new distributional records presented herein considerably broaden the known range of these species within India and highlight the biogeographical importance of the north-western Himalayan region for Spilomelinae moth diversity.

The collected specimens have been deposited in the Lepidoptera Lab., Department of Zoology and Environmental Sciences, Punjabi University, Patiala.

Abbreviations

1A: First anal vein; 2A: Second anal vein; 3A: Third anal vein; AED: Aedeagus; ANT.APO: Anterior

apophyses; CRN: Cornuti; CRP.BU: Corpus bursae; CU₁: First cubital vein; CU₂: Second cubital vein; DU.BU: Ductus bursae; DU.EJ: Ductus ejaculatorius; FIB: Fibula; JX: Juxta; M₁: First median vein; M₂: Second median vein; M₃: Third median vein; PAP.A: Papilla analis; PO.APO: Posterior apophyses; R₁: First radial vein; R₂: Second radial vein; R₃: Third radial vein; R₄: Fourth radial vein; R₅: Fifth radial vein; SA: Saccus; Sc: Subcosta; Sc+R₁: Subcosta+ First radial vein; TU.A: Tuba analis; UN: Uncus; VIN: Vinculum VLV: Valva

RESULTS AND DISCUSSION

Genus *Palpita* Hübner, 1808

Palpita Hübner, [1808]: pl. 209 [in Hübner 1806-1832]. TS: *Pyrallis unionalis* Hübner, 1796 [in Hübner 1796-1833]; Kirti and Rose, 1992, *J. Ent. Res.*, 16(1): 62-77; Kirti and Singh, 1992, *Geob. New Rep.*, 11(2): 113-117; Kendrick, 2002, *Moths Hong Kong*, 2002: 123, 137-138, 437, 550, 654; pl. 16, figs. 1-5, pl. 17, fig. 33; Poltavsky, 2018, *Zootaxa*, 4457(1): 22-23; Rathikannu and Chitra, 2020, *Plant Archives* 20(2): 9007-9010; Ko *et al.* 2021a, *J. Asia-Pacific Biod.*, 14: 348-354; Ko *et al.*, 2021b, *J. Asia Pac. Biod.*, 14: 539-543.

Hapalia Hübner, 1818: 19, [35], pl. [17] figures 95-96 [in Hübner 1808-1818]. TS: *Hapalia illibalis* Hübner, 1818.

Conchia Hübner, 1821: 7. TS: *Pyrallis unionalis* Hübner, 1796.

Margaronia Hübner, [1825]: 358 [in Hübner 1816-1826]. TS: *Pyrallis unionalis* Hübner, 1796.

Paradosis Zeller, 1852: 58. TS: *Paradosis villosalis* Zeller, 1852.

Margarodes Guenée, 1854: 301. TS: *Pyrallis unionalis* Hübner, 1796.

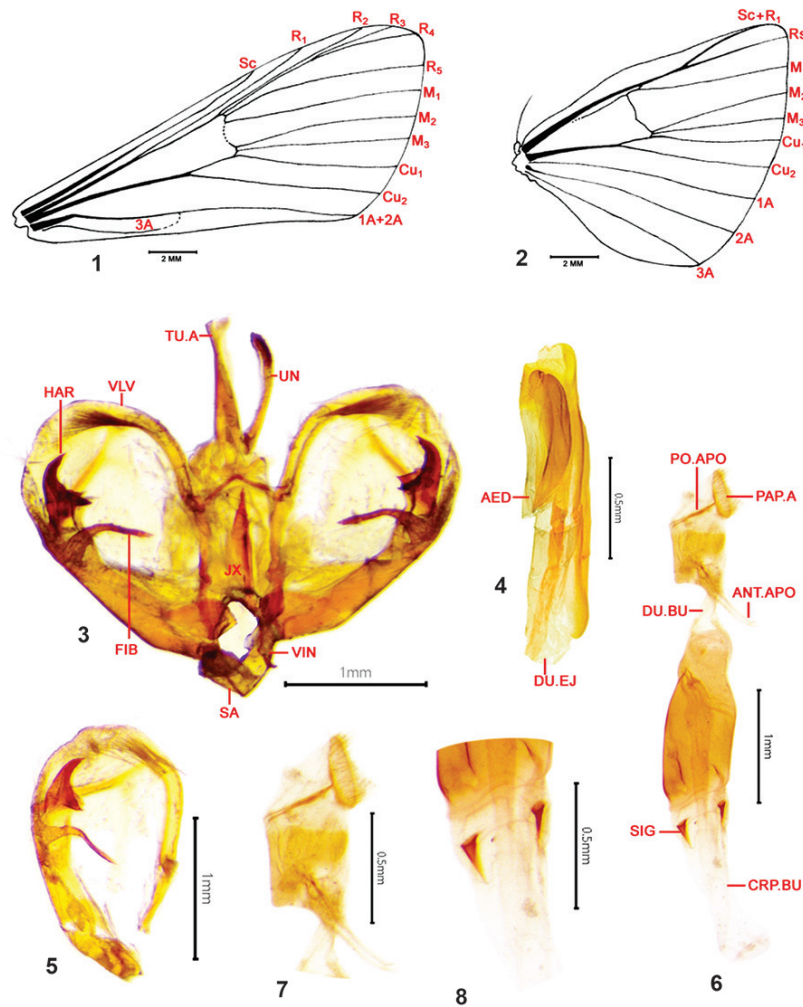
Tobata Walker, 1859: 516. TL: *Tobata elealis* Walker, 1859.

Sarothronota Lederer, 1863: 278 (key), 394, pl. 5 figure 7, pl. 13 figure 9. TS: *Phalaena flegia* Cramer, 1777.

PLATE-1



Palpita kiminensis Kirti and Rose

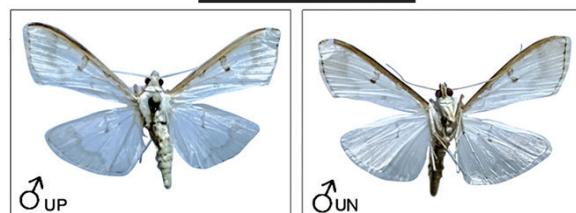


Palpita kiminensis Kirti and Rose

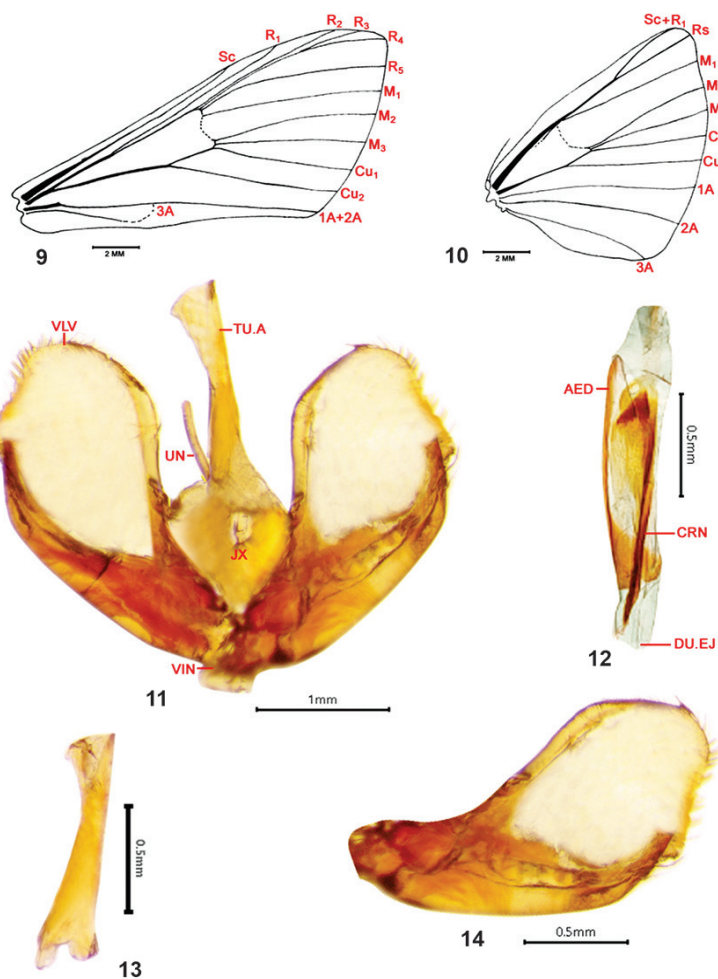
1. Forewing 2. Hindwing 3. Male genitalia 4. Aedeagus 5. Valva
6. Female genitalia 7. Papilla Analis (Enlarged) 8. Corpus Bursae (Enlarged).

Figs. 1-8 *Palpita kiminensis* Kirti and Rose, 1992

PLATE-2



Palpita warrenalis (Swinhoe)



Palpita warrenalis (Swinhoe)

9. Forewing 10. Hindwing 11. Male genitalia 12. Aedeagus 13. Tuba analis
14. Valva.

Figs. 9-14 *Palpita warrenalis* (Swinhoe, 1894)

Cryptographis Lederer, 1863: 399-400, pl. 5 figure 9. TL: *Cryptographis rogenhoferi* Lederer, 1863.

Sebunta Walker, 1863: 77. TS: *Sebunta guttulosa* Walker, 1863.

Ledereria Marschall, 1873: 299. Objective replacement name for *Margarodes* Guenée.

Hvidodes Swinhoe, 1900: 499. Objective replacement name for *Margarodes* Guenée.

Sylora Swinhoe, 1900: 472. TS: *Sisyrophora cirralis* Swinhoe, 1897.

Apyrausta Amsel, 1951: 552. TS: *Apyrausta persicalis* Amsel, 1951.

Type species: *Pyralis unionalis* Hübner, 1796

Distribution: Cosmopolitan

Diagnosis: Medium sized moths; head with frons rounded, white; labial palpi obliquely upturned, third segment usually concealed in long vestiture; maxillary palpi scaled, brush-like; proboscis well-developed; antennae filiform; Wings with submarginal fascia strongly curved medially or parallel with termen; forewing mostly with basal, antemedial, discal and intracellular spots edged with black; hindwing with discoidal dot on lower angle of cell. Forewing triangular; discal cell closed, less than half the length of wing; discocellulars curved; veins Cu_1 , M_3 and M_2 from lower angle of cell; R_5 curved, approximated at base to R_{4+3} ; latter two veins well stalked; Sc from base of wing. Hindwing globular; discal cell closed, less than half the length of wing; discocellulars curved; Cu_1 , M_3 and M_2 from lower angle of cell; M_3 and M_2 approximated at base; M_1 from upper angle of cell; Sc+ R_1 anastomosed with Rs after its origin from upper angle of cell. Male genitalia with uncus usually slender, long, rod-like or clubbed; sacculus having variably modified fibula; aedeagus with various shape and length cornuti (modified fibula and various cornuti very important characters for identification); Female genitalia with corpus bursae having a pair of spinose signa; ostium sclerotized in both sides; ductus bursae very short.

Key to the species groups of genus *Palpita* Hübner:

1. Wings with submarginal fascia strongly curved outward between M_1 and M_3 , and inward between M_3 and Cu_1 ; large conspicuous spots on both wings. Male genitalia with uncus long, slender, rod-shaped and weakly expanded at apex.....
Species-group A (*P. kiminensis* Kirti and Rose)
- Wings with submarginal fascia parallel with termen, weakly curved or indistinct; conspicuous spots absent on both wings. Male genitalia with uncus usually clubbed.....
.....Species-group B

Key to the species of species-group B of genus *Palpita* Hübner:

1. Wings with submarginal fascia slightly excurved medially. Forewing with diffused bean-shaped marking from costa to vein Cu_2 covering discocellulars and distinct lunule at lower angle. Male genitalia with sacculus having straight and broad saccular process
.....*P. warrenalis* (Swinhoe)
- Wings with submarginal fascia parallel to termen or indistinct. Forewing without bean-shaped marking and distinct lunule at lower angle. Male genitalia with sacculus having projected saccular process.....2
2. Wings with black specks at terminal ends of the veins. Male genitalia with short rod-like uncus; saccular projection with two processes; fibula absent. Female genitalia with a pair of short thorn like signa
.....*P. asiaticalis* Inoue
- Wings without black specks at terminal ends of the veins. Male genitalia with drooping long uncus; saccular projection with single process; fibula present. Female genitalia with a pair of long spine like signa
.....*P. pajnii* Kirti and Rose

Species group - annulifer group***Palpita kiminensis* Kirti and Rose, 1992 (Plate 1, Figs. 1-8)**

Palpita kiminensis Kirti and Rose, 1992, *J. Ent. Res.*, 64(1): 70-72; Ko *et al.*, 2021a, *J. Asia Pacific Biod.*, 14(2021): 349-352.

Type locality: **Kimin, Arunachal Pradesh**

Diagnosis: Head with frons rounded; vertex and frons dressed with white scales; labial palpi covered with fulvous-brown scales, underside with white scales, third segment short; proboscis well developed, basally clothed with white scales; antennae white. Collar with a very narrow band of ochreous scales followed by a larger band of white scales behind eyes; tegula and thorax densely covered with long, shiny white scales. Legs long, white; foreleg with femur and tibia suffused with fuscous, distally tinged with golden; tarsi banded with white and fuscous; midleg having a pair of tibial spurs with inner one three the length of outer one; hindleg having two pairs of tibial spurs with upper pair having inner one quite longer, almost four times longer than outer one and second pair with inner one more than double the length of outer one. Abdomen white.

Wing maculation: Forewing pure white; costal margin golden-brown upto apex; sub basal spot conjoined with costal margin, followed by another oblong spot representing antemedial line; large bean-shaped marking from costa to vein Cu_2 covering discocellulars; submarginal fascia strongly curved outward between M_1 and M_3 , and inward between M_3 and Cu_1 ; marginal black specks on each vein; fringe white; underside similar. Hindwing pure white; costal margin straight, delicately curved near apex; a pale-brown antemedial spot in cell; an irregular, oblong spot at discocellulars ending into dark marking at lower angle; submarginal fascia medially excurved, extending upto anal vein 1A; marginal black specks on each vein; fringe white; underside almost similar; hindwing less patterned than forewing.

Wing venation: Forewing triangular; discal cell closed, more than half the length of wing; vein 3A curved forward forming a loop and joining with 2A+1A; latter two veins fused from base of wing, reaching margin; Cu_2 from just beyond three-fourth of cell; Cu_1 well before lower angle of cell; M_3 from lower angle of cell; M_2 from above lower angle of cell; M_1 from upper angle of cell; R_5 free, curved toward R_{4+3} near base; latter two veins well stalked; R_2 from before common stalk of R_{4+3} ; R_1 well beyond half of cell; Sc from base of wing, not reaching apex. Hindwing globular; discal cell closed, less than half the length of wing; veins 3A and 2A from base of wing, reaching tornus; 1A from base, reaching margin; Cu_2 from just beyond two-third of cell; Cu_1 well before lower angle of cell; M_3 from lower angle of cell; M_2 from well above lower angle of cell; M_1 and Rs stalked from upper angle of cell; Sc+ R_1 anastomosing with Rs just after its bifurcation from M_1 and ends at costa near apex.

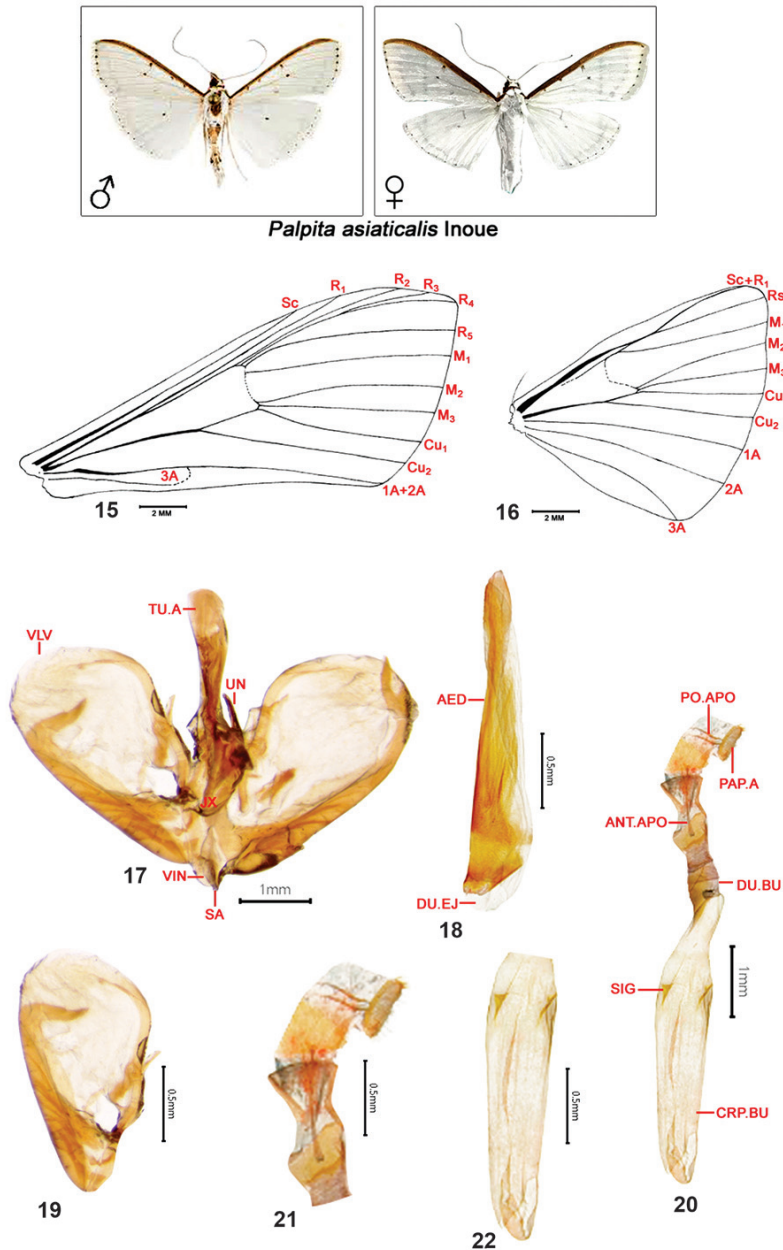
Wing expanse: **Male: 25-28mm; Female: 26-29mm**

Body length: **Male: 15mm; Female: 14mm**

Male genitalia: Uncus long, narrow with spatulate distal end, dorsally setosed with backwardly directed short hair; tuba analis straight, well sclerotized, slightly broader and longer than uncus; tegumen dome shaped; juxta long, triangular, spine-like, well sclerotized; vinculum narrow, ending into broad saccus. Valva ovoid distally, extending beyond half the level of uncus; costa well differentiated; sacculus broad, well sclerotized, saccular process broad, lunate; harpe long and narrow, with pointed tip. Aedeagus cylindrical, of moderate size, well sclerotized; vesica armed with a long and broad cornutus.

Female genitalia: Corpus bursae narrow, membranous; a pair of triangular signa on lateral sides of corpus bursae; ductus bursae almost of same size, decorated with numerous minute denticles; anterior apophyses longer than posterior ones with dilated apices; posterior ones narrower with narrow apices; papilla analis obliquely oblong, decorated with long setae.

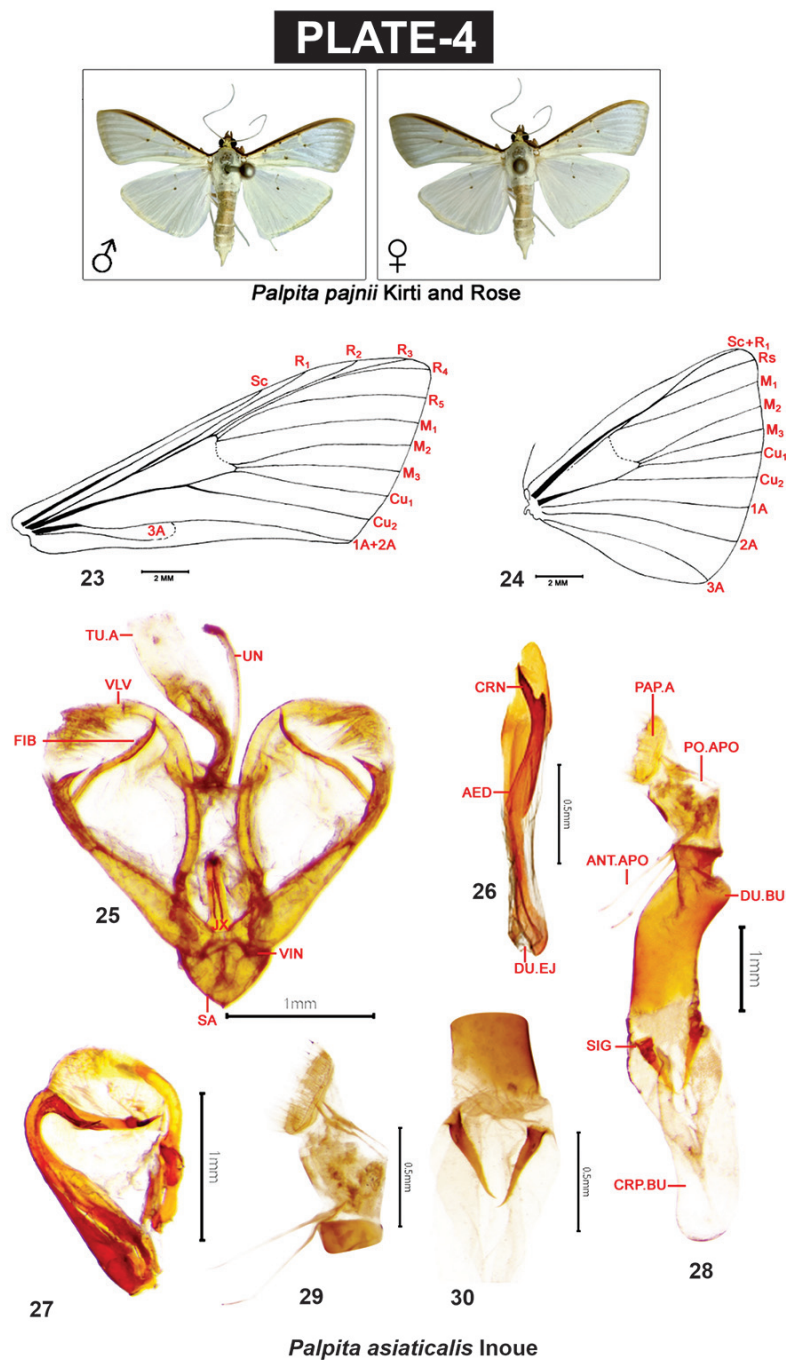
PLATE-3



Palpita asiaticalis Inoue

15. Forewing 16. Hindwing 17. Male genitalia 18. Aedeagus 19. Valva
20. Female genitalia 21. Papilla Analis (Enlarged) 22. Corpus Bursae (Enlarged).

Figs. 15-22 *Palpita asiaticalis* Inoue, 1994



23. Forewing 24. Hindwing 25. Male genitalia 26. Aedeagus 27. Valva
28. Female genitalia 29. Papilla Analis (Enlarged) 30. Corpus Bursae (Enlarged).

Figs. 23-30 *Palpita pajnii* Kirti and Rose, 1992

Material examined: Jammu and Kashmir: Aru, 06.vi.2018, 5♂, 3♀; Pahalgam, 13.vi.2018, 7♂, 5♀; Phraslun, 19.vi.2018, 6♂, 5♀.

Distribution: India: Arunachal Pradesh (Kimin); Australia; Borneo; China; Indonesia; Laos; Malaysia; Nepal; Thailand.

Remarks: Kirti and Rose (1992) reported this species as a new species from Arunachal Pradesh and named it after the name of its type locality i.e., Kimin. Ko *et al.* (2021a) described this species for the first time from Laos. The collection of this species from Aru, Pahalgam and Phraslun is its first record from North India particularly Jammu and Kashmir. The forewing wing expanse is 13 to 14 mm in both sexes. This species is quite similar to *P. annulifer* Inoue, but can be distinguished by on the basis of wing maculation and genitalic characters. The infracellular spots on forewings are ovoid and brighter than *P. annulifer* Inoue and submarginal fascia of fore and hindwing brighter than *P. annulifer* Inoue. In male genitalia, sacculus is broader than *P. annulifer* Inoue, with lunate process at tip and fibula spine-shaped and waved.

Species group-*unionalis* group

Palpita warrenalis (Swinhoe, 1894) (Plate 2, Figs. 9-14)

Margaronia warrenalis Swinhoe, 1894b, *Ann. Mag. Nat. Hist.*, 14(6): 148.

Palpita warrenalis Swinhoe: Kirti and Singh, 1992, *Geob. New. Rep.*, 11: 114; Kirti and Rose, 1992, *J. Ent. Res.*, 16(1): 65; Kendrick, 2002, *Moths Hong Kong*, 2002: 138; Irungbam *et al.*, 2016, *J. Asia-Pacific Biod.*, 9: 374.

Type locality: **Meghalaya, India**

Diagnosis: Head with vertex and frons clothed with white scales; labial palpi porrect, basal segment clothed with white, second segment broad, covered with dark-brown scales, third segment blunt; proboscis well developed; antennae white. Collar, tegula and thorax densely covered with shiny-white scales; collar and tegula having a golden-brown

band showing continuity with costal margin of forewing. Legs long, narrow; pure white; foreleg tinged with fuscous; midleg having a pair of tibial spurs with inner one four times the length of outer one; hindleg with two pairs of tibial spurs with upper pair having inner one more than twice the length of outer one and lower ones with inner one approximately twice the length of outer one. Abdomen white.

Wing maculation: Forewing pure white; costal margin golden brown; a antemedial narrow patch along costal margin and one below vein Cu_2 ; brown lunule on discocellulars with specks at both angles; submarginal fascia medially excurved; margins specked with fuscous; fringe white. Hindwing pure white, weakly marked at discocellulars; submarginal fascia medially excurved, extending upto anal vein 2A; margins weakly specked with fuscous; fringe white; dorsum ciliated with white scales; underside similar.

Wing venation: Forewing triangular; discal cell closed, equal to half the length of wing; vein 3A curved forward forming a loop and with joining 2A+1A, latter two veins fused from base of wing, reaching margin; Cu_2 from three-fourth of cell; Cu_1 well before lower angle of cell; M_3 from lower angle of cell; M_2 from well above lower angle of cell; M_1 from upper angle of cell; R_5 free, curved toward R_{4+3} near base; latter two veins well stalked; R_2 from well before common stalk of R_{4+3} , running in its close proximity; R_1 from half of cell; Sc from base of wing, not reaching apex. Hindwing globular; discal cell closed, less than half the length of wing; veins 3A and 2A from base of the wing reaching tornus; 1A from base reaching margin; Cu_2 from beyond two-third of the cell; Cu_1 just before lower angle of cell; M_3 from lower angle of cell; M_2 from well above lower angle of cell; M_1 and R_s stalked from upper angle of cell; Sc+ R_1 anastomosing with R_s just after its bifurcation from M_1 and ends at costa near apex.

Wing expanse: Male: 28mm; Female: Not examined

Body length: Male: 14mm; Female: Not examined

Male genitalia: Uncus narrow, slender, slightly curved in middle, reaching half the level of tuba analis; tuba analis straight, well sclerotized, broader and longer than uncus; tegumen dome shaped; juxta short, well sclerotized; vinculum “V” shaped, ending into a hood-like saccus. Valva simple, extending well above the level of uncus; costa well differentiated; sacculus broad, well sclerotized, saccular process simple, narrowing distally; fibula absent. Aedeagus cylindrical, of moderate size; vesica armed with a long narrow and well sclerotized cornutus reaching almost four-fifth of its length.

Female genitalia: Not examined

Material examined: Jammu and Kashmir: Aru, 06.vi.2018, 9♂; Pahalgam, 13.vi.2018, 7♂; Phraslun, 19.vi.2018, 6♂.

Distribution: India: Arunachal Pradesh, Kerala, Meghalaya; Nagaland; Bhutan; Borneo; China; Hong Kong; Indonesia; Nepal; Papua New Guinea; Philippines; Sikkim; Sumatra; Vietnam.

Remarks: Swinhoe (1894) originally described this species under genus *Margaronia* Hübner. Kirti and Singh (1992) placed it under genus *Palpita* Hübner and provided notes and illustrations of its male and female genitalia. Kirti and Rose (1992) studied this species from Meghalaya. Irungbam *et al.* (2016) followed its placement in the present genus. The collection of this species from Aru, Pahalgam and Phraslun is its first record from North India.

***Palpita asiaticalis* Inoue, 1994 (Plate 3, Figs. 15-22)**

Palpita asiaticalis Inoue, 1994, Tyo to Ga, 45(2): 98; Kendrick, 2002, *Moths Hong Kong*, 2002: 137; Irungbam *et al.*, 2016, *J. Asia. Pacific Biod.*, 9: 374; Sanyal *et al.*, 2018, *Faunal Diversity of Indian Himalaya*, Zoological Survey of India, Kolkata, 682 pp.

Type locality: Wushe, Taiwan

Diagnosis: Head with frons rounded, vertex and frons dressed with white scales; labial palpi basal

segment clothed with white scales, second segment with fuscous-brown scales, third segment short and pointed; proboscis well developed; antennae pale-white. Collar dressed with white scales behind eyes; tegula and thorax clothed with long, shiny-white scales. Legs long, pure white; foreleg basally, tibia and tarsi edged with ochreous scales; midleg having a pair of tibial spurs with inner one almost double the length of outer one; hindleg having two pairs of tibial spurs with upper pair having inner one almost three times the length of outer one and lower pair with inner one more than twice the length of outer one.

Wing maculation: Forewing pure white; costal band dark-brown; basal spot, followed by antemedial spot in the cell, second spot below Cu_2 , dark-brown discoidal spots on upper and lower angle of cell; submarginal fascia parallel with termen, not excurved medially; specks on terminal end of veins; fringe white; underside similar. Hindwing pure white; indistinct speck at lower angle of cell; submarginal fascia parallel with termen, not excurved medially; specks on terminal end of veins; fringe white; dorsum ciliated; underside similar.

Wing venation: Forewing with costal margin almost straight, delicately curved near apex; discal cell closed, more than half the length of wing; vein 3A curved forward forming a loop and joining with 2A+1A; latter two veins fused from base of wing, reaching margin; Cu_2 from well before three-fourth of cell; Cu_1 well before lower angle of cell; M_3 from lower angle of cell; M_2 from well above lower angle of cell; M_1 from upper angle of cell; R_5 free, curved toward R_{4+3} near base; latter two veins well stalked; R_2 from well before common stalk of R_{4+3} ; R_1 from just beyond middle of cell; Sc from base of wing, not reaching apex. Hindwing with termen straight; discal cell closed, less than half the length of wing; veins 3A and 2A from base of wing, reaching tornus; 1A from base, reaching margin; Cu_2 from well beyond two-third of cell; Cu_1 well before lower angle of cell; M_3 from lower angle of cell; M_2 from well above lower angle of cell; M_1 and Rs stalked from upper angle of cell; Sc+ R_1 anastomosing with Rs after its bifurcation from M_1 and ends at costa near apex.

Wing expanse: Male: 30mm; Female: 30-33mm

Body length: Male: 16mm; Female: 15mm

Male genitalia: Uncus short, narrow, rod-like, well sclerotized; tuba analis well sclerotized, longer and broader than uncus; tegumen arched; juxta finger-like, moderately sclerotized; vinculum narrow ending into “V” shaped saccus. Valva lingulate, extending well above the level of uncus; costa weakly differentiated; sacculus broad, well sclerotized; saccular projection with two sclerotized processes, one shorter and other one longer. Aedeagus cylindrical, of moderate size, well sclerotized; vesica armed with minute denticles.

Female genitalia: Corpus bursae narrow, long, membranous; a pair of short thorn-like signa on lateral sides of corpus bursae; ductus bursae well sclerotized, half the length of corpus bursae; anterior apophyses broader, twice the length of posterior ones; posterior apophyses narrow; both pairs with rounded apices; papilla analis rounded, setosed with short setae.

Material examined: Jammu and Kashmir: Aru, 06.vi.2018, 7♂, 4♀; Ashmuqam, 25.vi.2018, 8♂, 6♀.

Distribution: India: Himalaya; Bhutan; China; Hong Kong; Nepal; Taiwan; Thailand; Vietnam.

Remarks: Inoue (1994) described this species under genus *Palpita* Hübner from Taiwan and provided detailed notes on its male and female genitalic features. Kendrick (2002) and Irungbam *et al.* (2016) reported this species from Hong Kong and Bhutan respectively. Its collection from Aru and Ashmuqam is its first record from Jammu and Kashmir. This species belongs to *nigropunctalis* subgroup of species-group B.

***Palpita pajinii* Kirti and Rose, 1992 (Plate 4, Figs. 23-30)**

Palpita pajinii Kirti and Rose, 1992, *J. Ent. Res.*, 64(1): 72-73; Ko *et al.*, 2021b, *J. Asia Pacific Biod.*, 14: 541-542. Inoue, 1997, *Tinea*, (2): 149.

Type locality: Arunachal Pradesh

Diagnosis: Head with frons obliquely rounded; frons dressed with ochreous scales; vertex covered with pale-yellowish scales, white posteriorly; labial palpi with basal and second segments covered with ochreous scales, underside fringed with white, third segment blunt; proboscis well developed, basally scaled with white; antennae pale-white. Collar dilated with a narrow band of ochreous scales, followed by a comparatively larger band of shiny-white scales behind eyes; tegula and thorax densely covered with shiny-white scales. Legs long, pure white; foreleg basally, tibia and tarsi edged with ochreous scales; midleg having a pair of tibial spurs with inner one twice the length of outer one; hindleg having two pairs of tibial spurs with upper pair having inner one almost five times the length of outer one and lower ones with inner one more than double the length of outer one.

Wing maculation: Forewing pure white; costal band dark-brown; two notable specks below costal band in antemedial area; two dark-brown specks on upper and lower angles of cell; fringe white; underside similar. Hindwing pure white; specks at both angles of cell, upper one indistinct; fringe white; underside similar.

Wing venation: Forewing with costal margin straight, delicately curved near apex; discal cell closed, half the length of wing; vein 3A curved forward forming a loop and joining with 2A+1A; latter two veins fused from base of wing, reaching margin; Cu₂ from beyond three-fourth of cell; Cu₁ well before lower angle of cell; M₃ from lower angle of cell; M₂ from well above lower angle of cell; M₁ from upper angle of cell; R₅ free, curved toward R₄₊₃ near base; latter two veins well stalked; R₂ from before common stalk of R₄₊₃; R₁ from well before two-third of cell; Sc from base of wing, not reaching apex. Hindwing with costal margin delicately curved; discal cell closed, less than half the length of wing; veins 3A and 2A from base of wing, reaching tornus; 1A from base, reaching margin; Cu₂ from well beyond two-third of cell; Cu₁ well before lower angle of cell; M₃ from lower angle

of cell; M_2 from well above lower angle of cell; M_1 and R_s stalked from upper angle of cell; $Sc+R_1$ anastomosing with R_s after its bifurcation from M_1 and ends at costa near apex.

Wing expanse: Male: 32mm; Female: 33-35mm

Body length: Male: 14-15mm; Female: 16-18mm

Male genitalia: Uncus long, narrow with drooping distal end, dorsally setose with backwardly directed setae; tuba analis longer and broader with basal half well sclerotized and distal half membranous; tegumen straight; juxta rod-shaped, well sclerotized; vinculum "V" shaped, well sclerotized, ending into broad triangular well sclerotized saccus. Valva simple, nearly rhomboidal; costa well sclerotized, distally setose with short and long setae; sacculus broad, well sclerotized; saccular process projected, angled with point apex; fibula long, spine-like, reaching inner margin of costa, curved near middle. Aedeagus of moderate size, well sclerotized; vesica armed with a long well sclerotized cornutus, distally terminating into a spine.

Female genitalia: Corpus bursae membranous; a pair of long spine-like signa with pointed apices; ductus bursae of same size, with well sclerotized walls; anterior apophyses twice the length of posterior ones with rounded apices; posterior apophyses narrower than anterior ones; papilla analis oblong with rounded ends, decorated with long and short setae.

Material examined: Jammu and Kashmir: Aru, 06.vi.2018, 5♀; Phraslun, 19.vi.2018, 8♂, 5♀; Ashmuqam, 25.vi.2018, 6♂, 3♀.

Distribution: India: Arunachal Pradesh, Assam; Australia; China; Indonesia; Laos; Myanmar; Nepal; Papua New Guinea; Philippines; Taiwan; Thailand; Vietnam.

Remarks: While sorting out *Palpita* species-complex, Kirti and Rose (1992) described this species for the first time from North-East India. Ko *et al.* (2021b) reported this species for the first time from Laos. The collection of this species from Aru, Ashmuqam and Phraslun is its first record from

North India and particularly from Jammu & Kashmir. This species belongs to the *unionalis* subgroup of Species-group B.

The genus *Palpita* was proposed by Hübner (1806) as a monotypic genus for *Pyrallis unionalis* Hübner. In 1821, he placed it under another new genus *Conchia* (Hübner, 1821). Later, he established another new genus *Margaronia* and considered both genera i.e., *Palpita* and *Conchia* under it (Hübner, 1825). Zeller (1852) placed *Margaronia* Hübner under his new genus *Paradosis*. Eventually, Guenée (1854) placed all these genera under genus *Margarodes* Hübner. Hampson (1896) synonymized all these genera under genus *Glyphodes* Guenée. Klima (1939) synonymized *Glyphodes* Guenée under genus *Diaphania* Hübner. Munroe (1950) revived genus *Palpita* Hübner with *unionalis* Hübner as its type species. Kirti and Rose (1992) followed its revival and described four new species under it from North-East India. Kirti and Singh (1992) transferred three more species under it from genus *Diaphania* Hübner from North-East India. Inoue (1996, 1997, 1999) described old world relatives of this genus in a revisionary series and discussed genus *Palpita* Hübner in two groups i.e., *annulifer* and *unionalis* group. He assigned the species with large conspicuous spots on both fore and hind wings to *annulifer* group and those without such spots to *unionalis* group. While dealing with *Palpita* species from Laos, Ko *et al.* (2021a, 2021b) recorded a total of fifteen species and also provided key to the species of this genus along with taxonomic notes and illustrations of adults and male and female genitalia. The genus *Palpita* Hübner is a species rich genus and represented globally by 160 species (Nuss *et al.*, 2024) with 13 species from India (Inoue, 1999). During present studies, one species namely *P. kiminensis* Kirti and Rose referable to *annulifer* species-group having distinct conspicuous spots on wings and strongly outwardly curved submarginal fascia and three species namely *P. warrenalis* (Swinhoe), *P. pajnii* Kirti and Rose and *P. asiaticalis* Inoue without such spots and parallel submarginal fascia with termen pertaining to *unionalis* group respectively have been studied and illustrated.

The present investigation provides a detailed taxonomic account of four species namely *P. kiminensis* Kirti & Rose, *P. warrenalis* (Swinhoe), *P. asiaticalis* Inoue, and *P. pajnii* Kirti & Rose from Jammu and Kashmir, India. All these four species are recorded for the first time from Jammu and Kashmir, representing significant extensions of their known geographical distributions within India. The presence of species belonging to both the *annulifer* and *unionalis* species groups reflects the biogeographical complexity of the north-western Himalayan region. The documentation of these new records contributes valuable baseline data to the systematics, distribution, and biodiversity assessment of the genus *Palpita* in India.

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