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New Species and Subspecies of the genus *Ypthima* HÜBNER from Southeast Asia (Lepidoptera, Satyridae)

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Synopsis Two new species of the genus *Ypthima*, *Y. confusa* sp. n. from Nepal and *Y. inouei* sp. n. from Vietnam, and a new subspecies of *Ypthima posticalis*, *Y. p. aei* subsp. n. from Luzon Island, are described and illustrated.

During the course of our recent study we could find 2 new species and a subspecies of the genus *Ypthima* HÜBNER, 1818. In the following lines we describe and illustrate these 2 species and a subspecies, which were obtained in Nepal, Vietnam and Luzon Island, respectively.

We wish to express our hearty thanks to Prof. S. AE of Nanzan University and Mr. S. INOUÉ of Kishiwada City, who gave us the good opportunities to examine the interesting materials. We are also much indebted to Assoc. Prof. T. SAIGUSA of Kyushu University for his kindness in preparing this paper.

Ypthima posticalis aei SHIRÔZU et SHIMA, subsp. nov.

(Fig. 1. A, B; Fig. 2)

Male. Upperside of forewing: Brown in ground color; male brand absent; discal fascia absent; submarginal fascia weakly developed from cells 6 to 2; basal portion from base to the level of apex of discoidal cell weakly darkened; subapical portion around subapical ocellus slightly paler; subapical ocellus bipupilled, narrowly yellow-ringed and black; fringe pale brown.

Upperside of hindwing: Brown in ground color; basal portion from base to the level of apex of discoidal cell weakly darkened; discal and submarginal fasciae absent; marginal portion slightly paler; cell 2 with a small, narrowly yellow-ringed, single pupilled, black subtornal ocellus; cell 1b without ocellus; fringe pale brownish.

Underside of forewing: Dull yellowish white in ground color, rather finely striated with brown; the striation slightly coarser on apical portion outside of subapical ocellus; submarginal fascia narrowly developed from cells 5 to 2, lower portion weakly making a loop with outer discal fascia below subapical ocellus, which is weakly developed from cells 4 to 2; inner discal fascia indistinct; subapical ocellus as in forewing upperside, but yellowish ring broader; fringe pale brown.

Underside of hindwing: Dull yellowish white in ground color, evenly, finely and closely striated with brown; discal and submarginal fasciae absent; small, single pupilled, yellow-ringed, black ocelli present in cells 1b, 2 and 6, the ocellus in

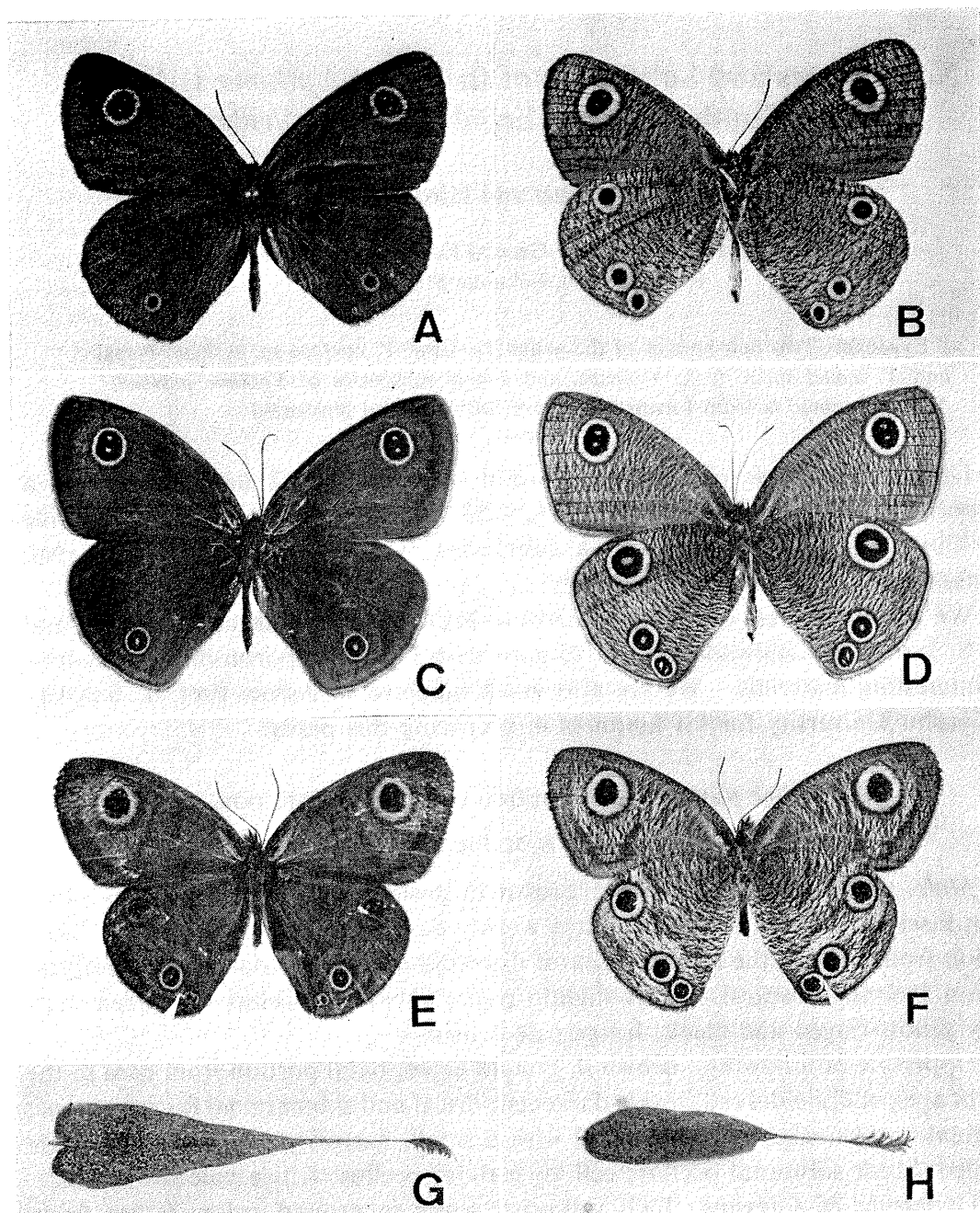


Fig. 1. A, B: *Ypthima posticalis aei* subsp. nov., male (holotype), C, D, G: *Ypthima confusa* sp. nov., male (holotype), E, F, H: *Ypthima inouei* sp. nov., male (holotype). A, C, E: Upperside, B, D, F: Underside, G, H: Androconia.

cell 2 smaller than that in cell 6; fringe pale brown.

Androconia absent.

Head with pale brownish hairs, mixed with whitish ones; vertex about $1/3 \times$ as wide as head when seen from above. Antenna brown, apical $1/4$ reddish brown,

about $1/2\times$ as long as forewing length, slightly bulged and flattened on its apical $1/4$. Labial palpus with 3rd segment $4/7\times$ as long as 2nd.

Forewing vein R_1 arising well before r-m crossvein.

Male genitalia: Same as the nominate subspecies; dorsum in dorsal view long triangular-form; tegumen in lateral view subequal in height to vinculum, with very small membranous incision on posteroventral margin above appendix angularis; appendix angularis small, long triangular in form. Uncus in lateral view narrow and weakly curved ventrally, $3/4\times$ as long as tegumen, very narrow membranous slit present at base, in dorsal view rather broad at base and narrowed to pointed apex. Fenestrula rather small. Saccus in lateral view curved dorsally at apical portion, about $2/5\times$ as long as ring. Aedeagus in dorsal view nearly straight, broadly membranous from apex to apical $1/3$ of right side obliquely, without flexed sclerite on its apex, in lateral view nearly straight; subzonal sheath about $2/5$ of length of aedeagus, anterior apex weakly widened in dorsal view. Valva elongate, broad at base and strongly narrowed beyond basal $3/5$; anellifer broadly membranous on ventral portion; costa narrow and long, continuous to ampulla + harpe; apex narrowly and finely serrate on dorsal portion. Subanal area of diaphragma weakly sclerotized. Juxta rather broadly sclerotized, U-shaped.

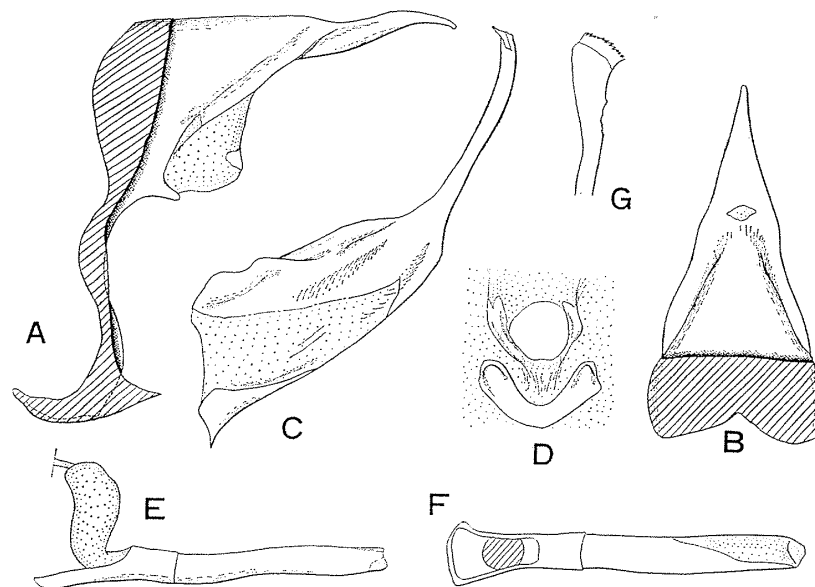


Fig. 2. Male genitalia of *Ypthima posticalis aei* subsp. nov. A: Ring in lateral view, B: Dorsum in dorsal view, C: Inside of right valva, D: Juxta and manica in posterior view, E: Aedeagus in lateral view, F: Ditto in dorsal view, G: Apex of valva.

Female. Unknown.

Forewing length: 15.3 mm.

Distribution: Luzon (Philippines).

Holotype: Male, Baguio City, Luzon Is., Philippines, 1. ix. 1967, S. AE leg.

Holotype is deposited in the collection of Biological Laboratory, College of General Education, Kyushu University, Fukuoka.

Remarks: This new subspecies is easily distinguishable from the nominate subspecies occurring in Taiwan by the distinct ocellus in cell 2 on upperside hindwing. This subspecies is also different from the nominate subspecies in the following points: larger in size; basal portion of upperside both wings slightly darkened; submarginal and outer discal fasciae on underside forewing more weakly developed; submarginal and discal fasciae undeveloped on underside hindwing; on underside hindwing ocellus in cell 2 smaller than subapical ocellus. This subspecies also resembles *Y. pusilla* FRUHSTORFER in appearance, but is different from the latter in its distinct ocellus in cell 2 on upperside hindwing, more or less developed submarginal and outer discal fasciae on underside forewing and the ocellus in cell 2 on underside hindwing set outward.

Ypthima confusa SHIRÔZU et SHIMA, sp. nov.

(Fig. 1, C, D, G; Fig. 3; Fig. 5, A, B, C, D, E)

Ypthima newara: SHIRÔZU, 1955 (nec MOORE, 1874), in Fauna and Flora of Nepal Himalaya 1, Fauna & Flora Res. Soc. Kyoto Univ.: 342.

Male & Female. Upperside of forewing: Brown in ground color, subapical portion outside of subapical ocellus paler; male brand weakly developed; discal fascia absent; submarginal fascia rather weakly and narrowly developed from cells 6 to 3; rather large, narrowly yellow-ringed, bipupilled, black subapical ocellus present; fringe pale whitish brown.

Upperside of hindwing: Brown in ground color, basally darkened, outer marginal area between submarginal fascia and outer margin paler; discal fascia absent; submarginal fascia narrowly developed; small, narrowly yellow-ringed, single pupilled, black ocellus present in cell 2; very small geminate ocellus rarely present in cell 1b; fringe pale brownish.

Underside of forewing: Yellowish brown in ground color, closely and finely striated with brown; striation coarse on the apical portion outside of subapical ocellus; discal fascia absent; submarginal fascia weakly and rather broadly developed from cells 3 to 1b; fringe pale brown; subapical ocellus as in forewing upperside.

Underside of hindwing: Yellowish brown in ground color, closely and very finely striated with brown; striation being rather coarser outwards; discal fascia absent; submarginal fascia indistinct; rather large, yellow-ringed, single pupilled, black ocellus in cell 6, which is subequal in size to subapical ocellus of forewing; small, single pupilled ocellus in cell 2; bipupilled ocellus in cell 1b, which is slightly smaller than that in cell 2; fringe pale brown.

Head with pale brownish hairs, mixed with whitish ones; vertex slightly narrower than 1/3 of head width. Antenna brownish, about 2/5× as long as

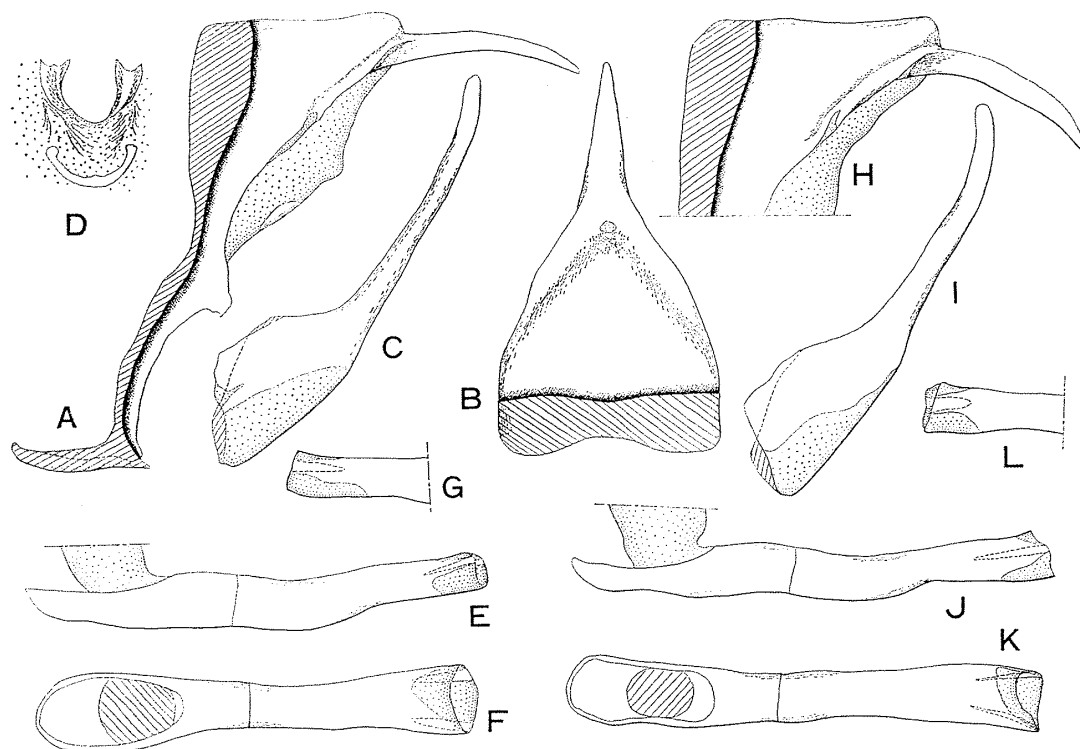


Fig. 3. Male genitalia of *Ypthima confusa* sp. nov. A: Ring in lateral view, B: Dorsum in dorsal view, C, I: Inside of right valva, D: Juxta and manica in posterior view, E, J: Aedeagus in lateral view, F, K: Ditto in dorsal view, G, L: Right side apex of aedeagus in lateral view, H: Tegumen and uncus in lateral view.

forewing length, very slightly bulged and flattened on its apical 1/4. Labial palpus with 3rd segment about $1/2 \times$ as long as 2nd.

Forewing vein R_1 arising well before r-m crossvein.

Male fore leg: Trochanter about $2/3 \times$ as long as tibia; femur about $2 \times$ as long as tibia and slightly shorter than $1/5$ of coxal length; tarsus absent.

Male genitalia: Tegumen in dorsal view broad at base and narrowed posteriorly, posterior portion well bulged; in lateral view distinctly higher than vinculum, posteroventral margin with small membranous incision; appendix angularis rather broad, not curved inwards. Uncus shorter than tegumen, gradually narrowed posteriorly, weakly pointed at apex; in lateral view very weakly curved ventrally, with very narrow membranous slit at the base. Fenestrula rather narrow. Saccus about $1/3 \times$ as long as ring. Aedeagus nearly straight; perivesical area narrow and occupying dorsal and ventral sides of apex; apical wall inflexed into vesica from both sides for short distance. Valva nearly as long as ring, broad at base and strongly narrowed beyond basal $1/3$; apex rounded or weakly pointed; costa rather broad, continuous to narrow rod-like ampulla+harpe; anellifer of ventral $1/2-1/3$ of basal portion; sacculus indistinct.

Female genitalia: Anterior portion of copulatory cavity narrowly sclerotized,

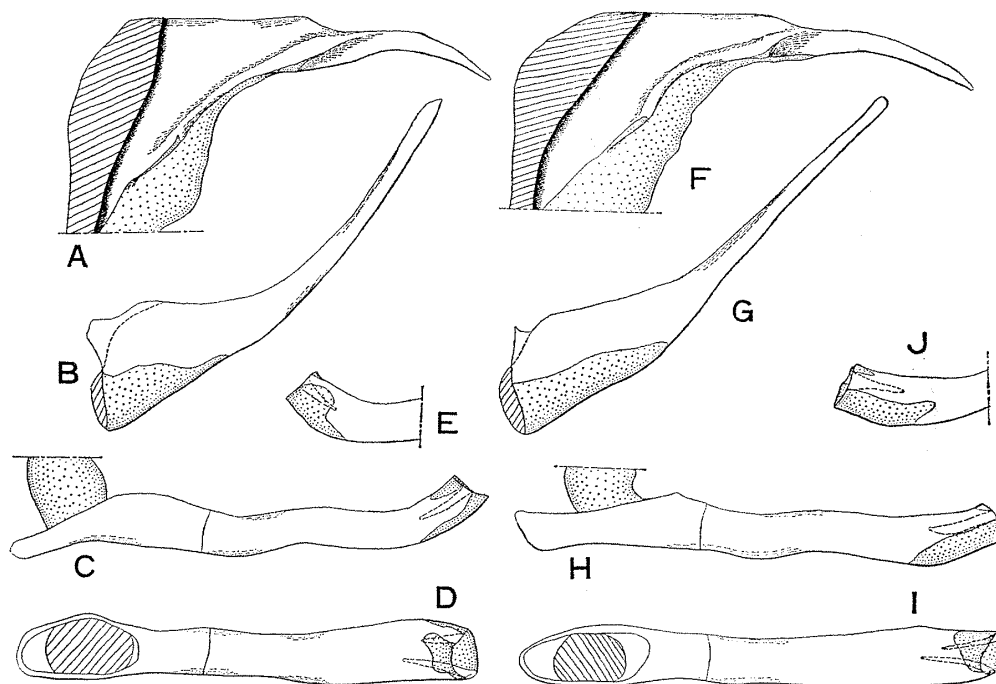


Fig. 4. Male genitalia of *Ypthima newara* MOORE. A, F: Tegumen and uncus in lateral view, B, G: Inside of right valva, C, H: Aedeagus in lateral view, D, I: Ditto in dorsal view, E, J: Right side apex of aedeagus in lateral view.

rather broad at base of lamella antevaginalis and narrowed to 7th sternum. Central process of lamella antevaginalis rather broad, with minute setulae, curved posteriorly at middle and nearly rounded marginally; lateral lobe of lamella antevaginalis rather small, nearly rounded marginally, with very minute hairs. Lamella postvaginalis rounded in posterior view, strongly curved posteriorly at middle, weakly excavated and having a short projection at middle. Ductus seminalis attaching ductus bursae near ostium bursae. Ductus bursae narrowly sclerotized near ostium bursae. Bursa copulatrix with 2 elongate signa. Membranous pouch below papillae anales short.

Forewing length: 18–21 mm.

Distribution: Nepal.

Holotype: Male, Kabre — Kalapani, Nepal, 17. vii. 1955, SONE leg.

Paratypes: 3 males, Deolani — Parety, Nepal, 15. vii. 1955, SONE leg.; 1 female near Tsumje (3130 m), Nepal, 24. vii. 1953, J. KAWAKITA leg.; 1 male, Sarti-Age (2050–2400 m), Nepal, 27. vii. 1953, J. KAWAKITA leg.; 1 males 1 female, Rungje — Kasigaon (1730–2310 m), Nepal, 1. viii. 1953, J. KAWAKITA leg. Holotype and paratypes are deposited in the collection of Biological Laboratory, College of General Education, Kyushu University, Fukuoka.

Remarks: This species seems to be closely related to *Y. newara* MOORE, but is distinguishable by the wing markings and the male and female genitalia. The

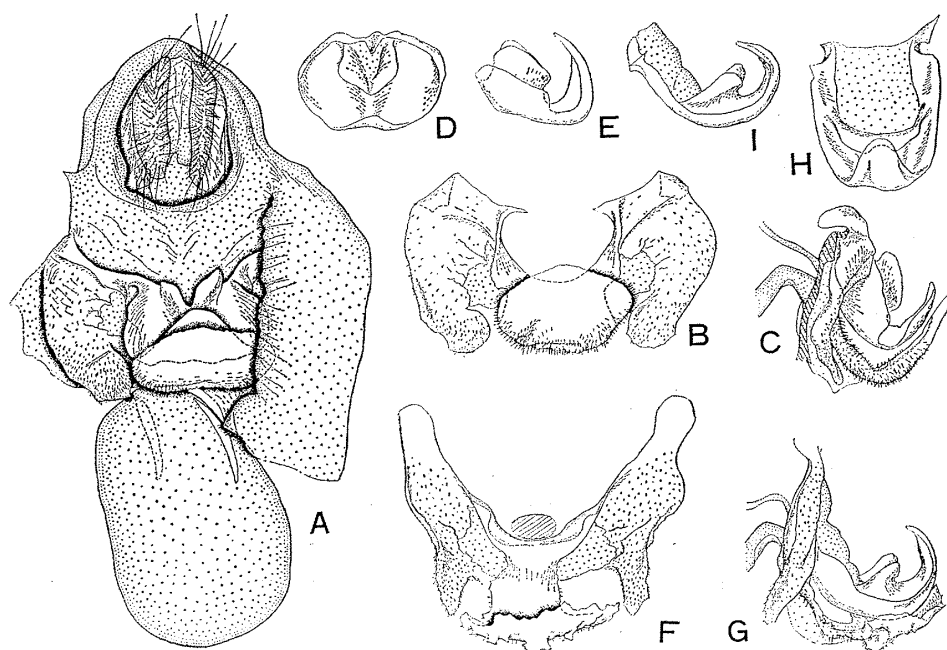


Fig. 5. Female genitalia. A, B, C, D, E: *Ypthima confusa* sp. nov., F, G, H, I: *Ypthima newara* MOORE. A: Ventral view, right side of copulatory cavity exposed, B, F: Central process and lateral lobes of lamella antevaginalis in ventral view, C, G: Ditto in lateral view, D, H: Lamella postvaginalis in posterior view, E, I: Ditto in lateral view.

hindwing underside of this species is more yellowish in ground color than in *Y. newara*. In this species the ocellus in cell 6 on the hindwing underside is not much larger than the subapical ocellus on the forewing underside, whereas the ocellus on the hindwing underside is sometimes larger than that on the forewing underside in *Y. newara*. In the male genitalia of this species the posterior portion of tegumen is well bulged, but the posterior portion is not bulged and rather smooth in *Y. newara*. The male aedeagus is nearly straight in this species, but that of *Y. newara* is more or less curved dorsally at apex. In the female genitalia the central process of the lamella antevaginalis is rounded marginally in this species, but it is much serrate in *Y. newara*.

Ypthima inouei SHIRÔZU et SHIMA, sp. nov.

(Fig. 1. E, F, H; Fig. 6)

Male. Upperside of forewing: Brown in ground color; male brand obscure; inner discal fascia indistinct; outer discal fascia distinct, which becomes obscure posteriorly; submarginal fascia distinct, weakly broadened posteriorly; space between submarginal and outer discal fasciae paler; large, bipupilled, yellow-ringed subapical ocellus present; fringe pale brownish.

Upperside of hindwing: Brown in ground color; inner discal fascia indistinct; outer discal fascia weakly developed; submarginal fascia distinct; space between

submarginal and outer discal fasciae slightly paler; small, single pupilled, narrowly yellow-ringed ocellus present in cell 2; very small geminate ocellus present in cell 1b; fringe pale brownish.

Underside of forewing: Whitish gray in ground color, rather coarsely striated with brown; a large, bipupilled, broadly yellow-ringed subapical ocellus present; inner discal fascia slightly developed at apical 4/5 of discoidal cell; outer discal fascia distinct, broadened posteriorly; submarginal fascia distinct, which is fused with outer discal fascia in cell 2; the striation being closer on anterior margin, on apical portion in cells 6 and 7 and on basal portion; striation coarser on space between outer discal and submarginal fasciae below ocellus; fringe pale brownish gray.

Underside of hindwing: Whitish gray, finely and rather coarsely striated with brown; striation finer than on forewing underside and being closer basally; rather small, single pupilled, yellow-ringed ocellus present in cell 6; smaller ocellus in cell 2; still smaller and bipupilled ocellus in cell 1b; postdiscal area from ocellus in cell 6 to that in cell 2 more coarsely striated and appearing whitish; inner discal fascia weakly developed; outer discal fascia distinct; submarginal fascia present; fringe pale brownish gray.

Head with pale brownish hairs mixed with rather few whitish ones. Vertex

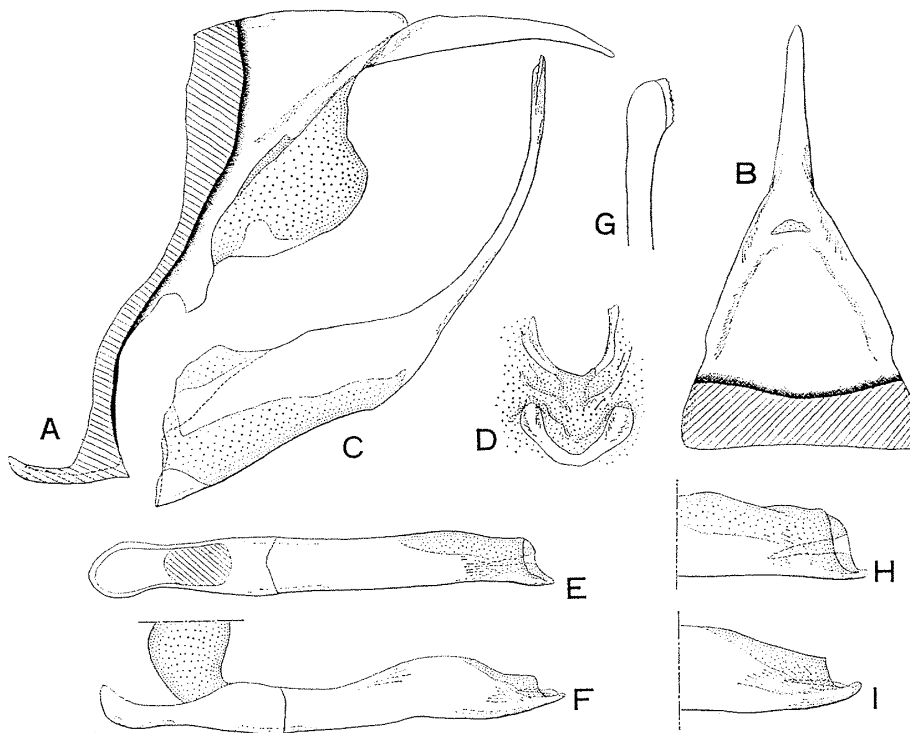


Fig. 6. Male genitalia of *Ypthima inouei* sp. nov. A: Ring in lateral view, B: Dorsum in dorsal view, C: Inside of right valva, D: Juxta and manica in posterior view, E: Aedeagus in ventral view, F: ditto in lateral view, G: Apex of valva, H: Apex of aedeagus in dorsal view, I: Ditto in lateral view.

about 1/3 of head width. Antenna brown, being paler on its apical 1/3; nearly $4/9 \times$ as long as forewing length; very weakly bulged and flattened on its apical 1/4. Labial palpus with 3rd segment nearly $1/2 \times$ as long as 2nd (5:11).

Forewing vein R_1 arising well before r-m crossvein.

Male genitalia: Tegumen in dorsal view broad at base and strongly narrowed posteriorly; posterior portion well bulged; in lateral view nearly $1.5 \times$ as long as vinculum, with small membranous incision on its posteroventral margin; appendix angularis rather broad, weakly hooked at apex, not curved inwards. Uncus subequal in length to tegumen, gradually narrowed posteriorly, weakly pointed at apex; in lateral view slightly bent ventrally, with very narrow membranous slit at base. Saccus nearly $1/4 \times$ as long as ring. Fenestrula rather wide and short. Subanal area of diaphragma rather broadly sclerotized. Aedeagus in dorsal view left side weakly pointed, membranous from apex to apical 1/3 of right side obliquely; a small and long-triangular sclerite arising from ventral side and flexed into vesica for a short distance; in lateral view rather weakly curved ventrally at apical 1/3. Valva longer than ring, broad at base and strongly narrowed beyond the middle; apex serrate anterodistally for a short distance; costa long and narrow, continuous to narrow rod-like ampulla+harpe; anellifer 1/2 of basal portion; sacculus very small but distinct at base.

Female. Unknown.

Forewing length: 18.4 mm.

Distribution: Vietnam.

Holotype: Male, Trang Bom, Vietnam, 2. ix. 1962, S. INOUÉ leg. Holotype is deposited in the collection of Biological Laboratory, College of General Education, Kyushu University, Fukuoka.

Remarks: This species seems to be related to *Y. sordida* ELWES et EDWARDS from China, but is different in the present of distinct outer discal fascia on the underside of the wings and in the structure of the male genitalia. In the male genitalia of this species the ring is inclined posteriorly, the saccus is rather long, the posterior portion of the tegumen is well bulged and the aedeagus is rather weakly curved at apical 1/3, whereas in *Y. sordida* the ring is nearly straight, the saccus is shorter, the posterior portion of the tegumen is rather smooth and the aedeagus is much curved.