

## New Species of Microlepidoptera from Japan

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Through the kindness of Dr. S. Issiki, Entomological Laboratory, University of Osaka Prefecture, Sakai, Osaka, Honsyû, Japan, I have been privileged to study a small collection of reared Japanese microlepidoptera. Included in this interesting lot of specimens were the species described below as new to science.

The drawings for this paper (except figure 8) were made by Mrs. Caroline B. Lutz, illustrator on the staff of the Department of Zoology, U. S. National Museum, Smithsonian Institution. Plant names were checked by Dr. John J. Wurdack, Department of Botany, Smithsonian Institution.

### OECOPHORIDAE

#### *Psorosticha melanocrepida*, new species

Alar expanse 16–18 mm.

Labial palpus light buff irrorate with fuscous; a fuscous spot laterally, at apex of second segment; third segment with ill-defined basal and median fuscous bands. Antenna light clay color annulated and suffused with grayish-fuscous; scape with a fuscous spot at base and another at apex. Head mixed clay color and fuscous; face pale buff. Thorax blackish-fuscous with a few clay color scales mixed; base of tegula with brownish colored scales. Forewing clay color; base of forewing, a spot at mid-costa and an oblique bar from costa slightly before apex, directed toward base, blackish-fuscous; in cell, at about middle of wing, an ill-defined oblique, blackish-fuscous streak with spot of raised scales at outer end; at basal third a series of minute blackish-fuscous spots arranged in an outwardly curved arc; around termen, at base of cilia, a series of 4 or 5 small blackish-fuscous spots; remainder of forewing marked with scattered blackish-fuscous scales; cilia clay color shading to grayish-fuscous, the scales narrowly tipped with buff. Hind wing grayish



basally shading to fuscous at margins; veins indicated by fuscous; cilia grayish-fuscous with darker subbasal band. Legs buff, variously suffused and irrorate with fuscous; foreleg heavily overlaid with fuscous on outside and foretarsi exhibiting some red-brown scaling. Abdomen fuscous above, pale clay color beneath; laterally a longitudinal row of black spots; ventrally a pair of longitudinal rows of ill-defined blackish spots.

*Male genitalia*: See figures (Slide No. 10729, Type). Harpe rather narrow, as long as vinculum, tegumen and uncus combined; cucullus bluntly pointed; clasper slender, straight, heavily sclerotized and reaching at least to costa of harpe. Anellus subquadrate with median posterior indentation. Aedeagus slightly bent, moderately slender and of nearly equal thickness throughout; vesica unarmed but folded and somewhat thickened for part of its length. Gnathos a spined knob. Socii small, flattened, fleshy lobes clothed with fine setae. Uncus a small blunt process.

*Female genitalia*: See figures (Slide No. 10738, paratype). Ostium a transverse slit. Ductus bursae membranous; inception of ductus seminalis a short distance before ostium. Signum a small, elongate, dentate plate.

*Type*: U. S. N. M. No. 65828.

*Type locality*: Kyûsyû, Ôita.

*Food plant*: *Citrus unshiu* Marcovitch. ("Larva in folded leaf.")

*Remarks*: Described from the type male and one female paratype with identical data. (3. VI. 1957 Em. K. Yasumatsu). Paratype ♀ in USNM.

In general aspect *melanocrepida* is similar to the Indian *P. zizyphi* (Stainton) but is a much larger insect. The blackish preapical oblique bar of the forewing of *melanocrepida* is absent in *zizyphi* and the latter species is more roughly scaled than the former. The male genitalia of all species of the genus possess a very heavily sclerotized clasper, appearing almost black in slide mounted examples, and there is little to distinguish between them; the slight differences are qualitative rather than



quantitative. The females, however, show substantial points of distinction, and all that is needed to distinguish these two species is to compare the signa of *zizyphi*, which consists of a long line of small more or less joined dentate plates in the anterior two-thirds of the bursa with that of *melanocrepida*, which has only a small dentate plate in the anterior third of bursa.

***Agonopterix chaetosoma*, new species**

Alar expanse, 25–26 mm.

Labial palpus pale brownish-buff; second segment irregularly sprinkled with fuscous, particularly on outer side; third segment with a fuscous spot at base on inner side and a broad, subapical fuscous annulus, less distinct on outer than on inner side. Antenna grayish-fuscous except basally where there is considerable brownish-buff scaling. Head and face pale brownish-buff with some admixture of fuscous above. Thorax fuscous, roughened with numerous hair-like scales anteriorly; tegula and paired posterior thoracic crest brownish-buff suffused with light brown. Forewing ground color pale brownish-buff irregularly and lightly blotched with brownish suffusion; extreme base of costa and a series of 15 or 16 spots on costa and around termen, fuscous; slightly beyond base a transverse blackish bar; in cell, from basal third to about middle of wing, a blackish crescentic dash; nearly entire surface of wing roughened by hairlike scales; cilia brownish-buff suffused grayish. Hind wing shining light grayish-fuscous; cilia brownish-buff with grayish subbasal band. Legs pale brownish-buff irregularly irrorate and banded with fuscous. Abdomen pale brownish-buff strongly infuscated above; ventrally with four longitudinal rows of black spots; five posterior segments edged laterally with long hairlike scales.

*Male genitalia*: See figures (Slide No. 10724, Type). Harpe ample, weakly sclerotized; cucullus bluntly pointed; clasper somewhat curved, reaching four-fifths across harpe, roughened and slightly twisted apically. Vinculum evenly rounded. Anellus slightly broader than long, with small cleft on posterior edge; anellar lobes small, moderately sclerotized. Aedeagus



slender, slightly curved, unarmed, pointed. Transtilla a narrow band; lobes of transtilla small, fleshy. Gnathos an elongate-oval spined knob. Socii large, fleshy flaps, clothed with hairlike setae. Uncus small, pointed.

*Female genitalia*: See figures (Slide No. 10740, Paratype). Genital plate wide with slight indentation on anterior edge. Ostium small, round, opening on posterior edge of genital plate. Inception of ductus seminalis slightly anterior to ostium. Ductus bursae long, membranous. Bursa copulatrix small, oval; signum an oval, spined plate situated at anterior end of bursa copulatrix.

*Type*: U.S.N.M. No. 65829.

*Type locality*: Honsyû, Kii, Nati.

*Food plant*: *Fagara schinifolia* (Sieb. & Zucc.) Engler. ("Larva in cylinder of tied leaves. . .")

*Remarks*: Described from the type male and one female paratype with identical data (Em. 21.VI.1957. T. Kodama).

This species is similar to *A. l-nigrum* (Matsumura) but is a much larger insect. In *l-nigrum* the crescentic mark of the forewing is nearer the center than in *chaetosoma* and the latter species lacks the strongly marked costa and contrasting light colored base of the former. Also in *l-nigrum* the long hairlike scales and dark subapical patch of forewing are absent.

The raised scales of *chaetosoma* remind one of the *latipalpella-scabella* species group of *Agonopterix* found in North America.

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#### EXPLANATIONS OF FIGURES

FIGS. 1-1a, 5-5a. *Psorosticha melanocrepida*, new species. 1. Ventral view of male genitalia with left harpe and aedeagus removed. 1a, Aedeagus. 5. Ventral view of female genitalia. 5a, Signum, enlarged.

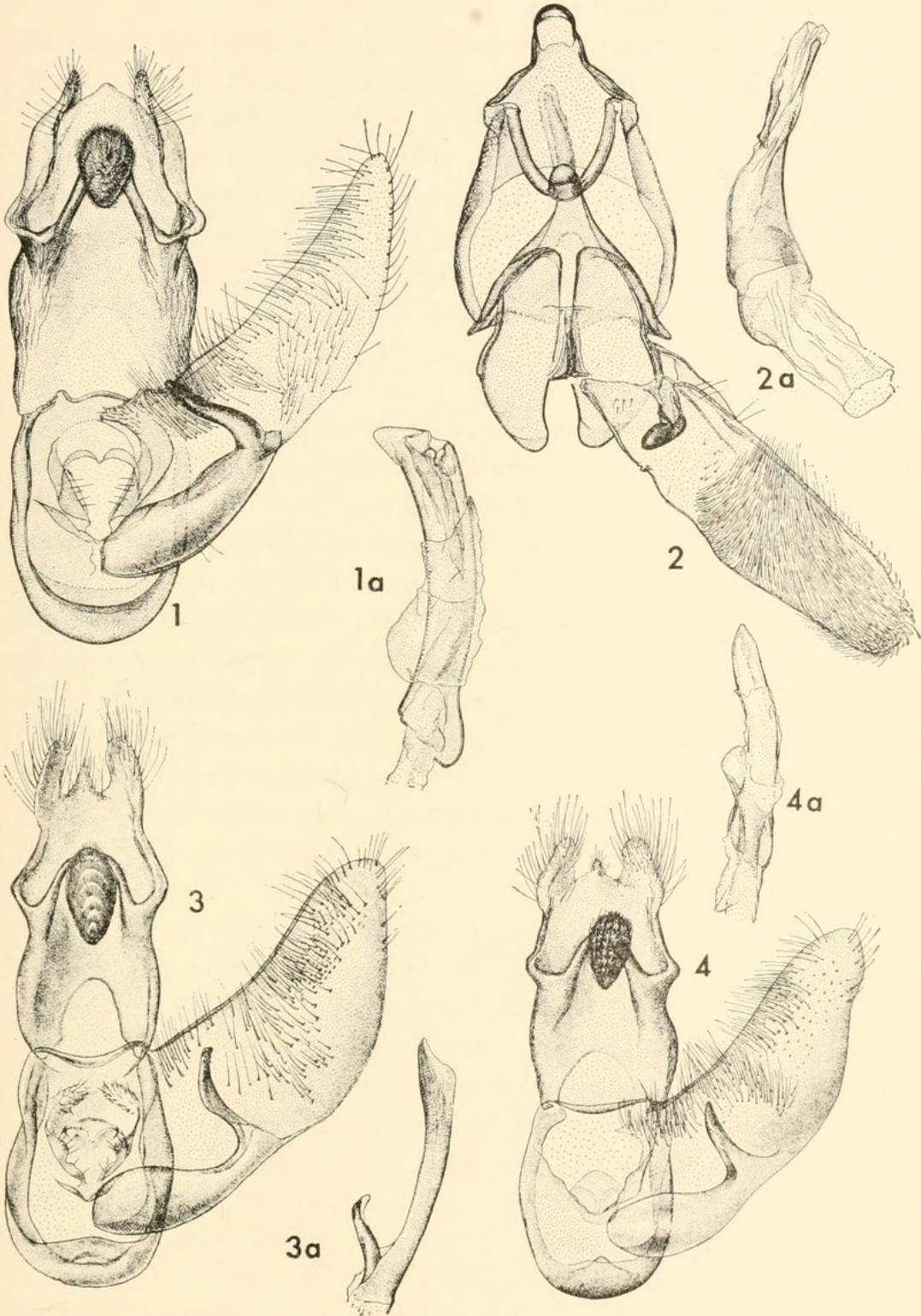
FIGS. 2-2a, 6-6a. *Brachmia deodora*, new species. 2. Ventral view of male genitalia with left harpe and aedeagus removed. 2a, Aedeagus. 6. Ventral view of female genitalia. 6a, Signum, enlarged.

FIGS. 3-3a, 10-10a. *Agonopterix chaetosoma*, new species. 3. Ventral view of male genitalia with left harpe and aedeagus removed. 3a, Aedeagus. 10. Ventral view of female genitalia. 10a, Ventral view of signum, enlarged.

FIGS. 4-4a, 9-9a. *Agonopterix issikii*, new species. 4. Ventral view of male genitalia with left harpe and aedeagus removed. 4a, Aedeagus. 9. Ventral view of female genitalia. 9a, Signum, enlarged.

FIGS. 7-7a, 8. *Gnorimoschema pervada*, new species. 7. Lateral aspect of male genitalia with aedeagus removed. 7a, Lateral aspect of aedeagus. 8. Signum.







**Agonopterix issikii**, new species

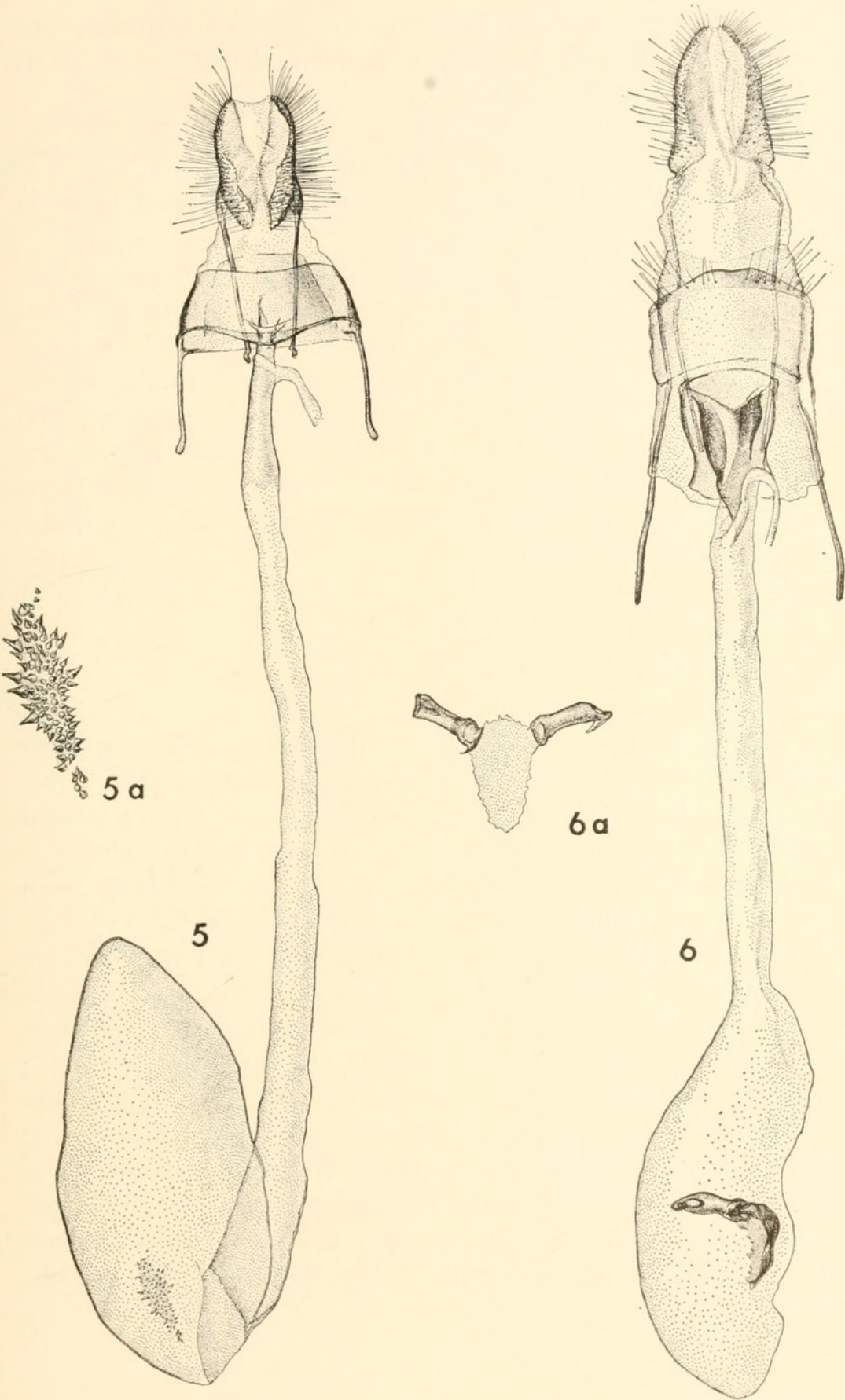
Alar expanse 18–19 mm.

Labial palpus buff; outer surface of second segment irrorate with fuscous and with a fuscous blotch at base; third segment almost wholly overlaid with fuscous in male but in female showing a narrow basal and broad, subapical fuscous annuli. Antennal scape fuscous with buff apical spot ventrally; remainder of antenna grayish-fuscous. Head buff, strongly suffused brownish, especially laterally; face buff. Thorax and ground color of forewing brown, suffused with fuscous; apex of tegula and thoracic tufts paler than ground color; extreme base of forewing pale brownish-buff, this pale area containing a short, black, transverse bar and, costad, bordered by a black spot; outside the pale basal area a fuscous suffusion; in cell, three black spots, the outer two of which form the basal corners of a rectangular fuscous blotch extending to costa; between this blotch and apex three short, transverse, fuscous spots; around termen a narrow, broken fuscous line; cilia slightly lighter than ground color and suffused with gray. Hindwing bronzy-gray darkening to fuscous apically; cilia grayish with darker subbasal band. Legs light brownish-buff overlaid and suffused grayish-fuscous; spurs of hind tibia grayish-fuscous. Abdomen fuscous above, light brownish-buff beneath; on each side, ventrally, a fuscous longitudinal line; between these two lines two longitudinal rows of fuscous spots.

*Male genitalia*: See figures (Slide No. 10725, Type). Harpe about three times as long as broad; cucullus narrowly rounded; clasper rather stout, slightly curved, gently tapered to a point. Vinculum evenly rounded. Anellus a broadly oval plate; anellar lobes small, weak. Aedeagus a little less than two-thirds the length of harpe, simple, unarmed, slightly curved. Transstilla a narrow band; transtillar lobes weak, small, fleshy. Gnathos a spined, egg-shaped knob. Socii large, fleshy flaps, clothed with hairlike setae. Uncus very much reduced, pointed.

*Female genitalia*: See figures (Slide No. 10741, Paratype). Genital plate about twice as broad as long. Ostium opening about middle of genital plate. Inception of ductus seminalis





well before ostium. Ductus bursae membranous. Bursa copulatrix oval; signum a small, sclerotized, dentate plate about middle of bursa copulatrix.

*Type*: U.S.N.M. No. 65830.

*Type locality*: Honsyû, Sinano Tabirá.

*Food plant*: *Orixa japonica* Thunb. ("Bred from larva in spun leaves. . . .")

*Remarks*: Described from the type male, one male and one female paratypes. All specimens bear identical data (Em. 21. VI.54. T. Kodama). Paratypes in U.S.N.M.

Apparently there is no described species of *Agonopterix* with which *issikii* can be readily compared but this species reminds one somewhat of the North American *A. pteleae* Barnes and Busck. The dark costal spot of the forewing of *issikii*, however, is smaller and less conspicuous than that of *pteleae*, and *issikii* is a smaller insect.

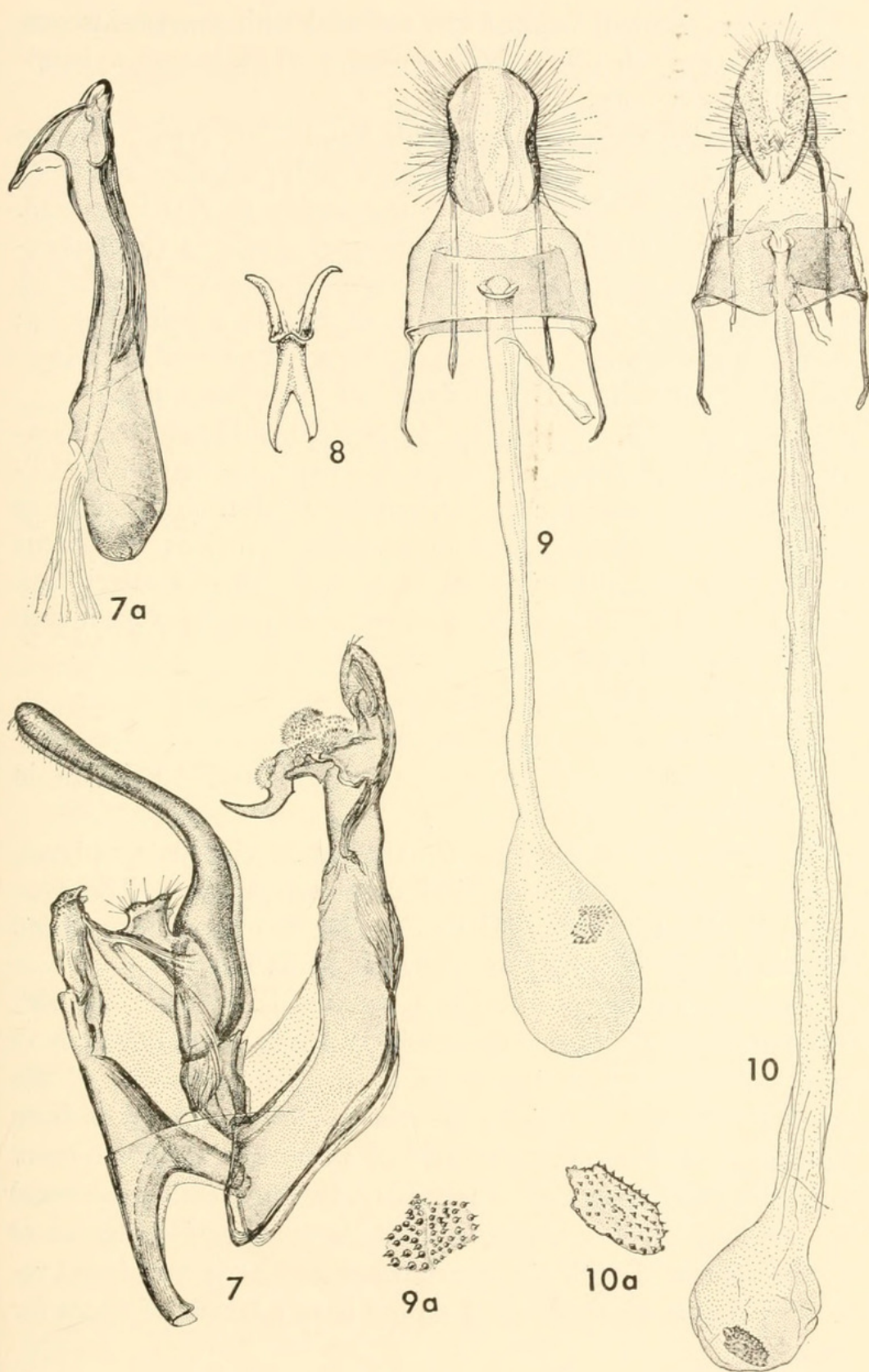
#### GELECHIIDAE

##### *Brachmia deodora*, new species

Alar expanse, 17–19 mm.

Labial palpus ochereous-white; second segment heavily irrorate with grayish-fuscous on outer surface; third segment with fuscous basal band and conspicuous single, fuscous scales scattered over outer and inner surfaces. Antenna, scape fuscous with sparse paler scaling ventrally; remainder of antenna grayish-buff with narrow darker annulations. Head clothed with buff-tipped grayish-fuscous scales; face grayish-buff with a dark spot on each side ventrad. Thorax and ground color of forewing grayish-buff, the scales tipped grayish-fuscous; extreme base of costa fuscous; discal stigmata three, fuscous, one at two-fifths on fold; one costad of this and another at end of cell (all discal spots obsolete in some specimens); on tornus a diffused fuscous spot; around termen an ill-defined series of 4 to 5 fuscous dots; cilia alternating bands of grayish-buff and grayish-fuscous. Hindwing light shining grayish-fuscous; cilia with extreme base buff, then alternating bands of grayish-buff and grayish-fuscous.







Legs grayish-buff banded and suffused with grayish-fuscous. Abdomen grayish above, buff beneath; on each side a longitudinal, fuscous line.

*Male genitalia*: See figures (Slide No. 10726, Type). Harpe slender, about four times as long as wide; cucullus rounded; clasper arising near base of costa, stout, recurved ventrad. Vinculum broad, triangular; saccus long, produced (in illustration vinculum and saccus bent behind tegumen). Anellus an "I"-shaped plate. Aedeagus stout, tapered to a point distally; cornutus a sclerotized bar. Gnathos curved ventrad, terminating in a blunt point. Uncus short and moderately broad.

*Female genitalia*: See figures (Slides No. 10727, 10742, Paratypes). Genital plate rather broad, short. Ostium with "V"-shaped posteroventral edge. Inception of ductus seminalis at junction of sclerotized and membranous portions of ductus bursae. Bursa copulatrix elongate-oval. Signum a subtriangular plate with strongly sclerotized, recurved processes from each of the two basal angles.

*Type*: U.S.N.M. No. 65831.

*Type locality*: Honsyû, Kinki, Sakai.

*Food plant*: *Cedrus deodora* (Roxb.) Loud. ("Larva in spun dead leaves on bark. . . .")

*Remarks*: Described from the type male, one male and two female paratypes with identical data except date. The type male is dated "Em 6.VII.1957"; the remainder are dated "Em 2.VII.1957." All were collected by T. Kodama.

Probably the nearest species to *deodora* is *B. opaca* Meyrick from China. The two are strikingly similar but *opaca* lacks the conspicuous dark irroration of the third segment of the labial pulpus and exhibits a distinct line of fuscous spots from apical fourth of costa around termen to tornus, which is absent in *deodora*. The males can perhaps be most easily separated by the long, slender aedeagus and short, triangular clasper of *opaca* compared with the short, stout aedeagus and long, recurved clasper of *deodora*. I do not have a female of *opaca* for comparison.



**Gnorimoschema pervada**, new species

Alar expanse, 10–14 mm.

Labial palpus very pale buff; outer surface of second segment overlaid with buff-tipped dark gray scales; third segment with broad, dark gray, basal and subapical annuli. Antenna gray with narrow dark annulations. Head and thorax light grayish-fuscos, the scales tipped narrowly with pale buff; face pale buff; thorax lightly streaked with ochraceous-tawny. Forewing grayish-fuscos, the scales narrowly tipped with pale buff, and strongly streaked longitudinally with ochraceous-tawny; in fold two very small black spots and in center of wing, arranged obliquely from near basal two fifths of costa to end of cell, four very small black spots edged with ochraceous-tawny; at apex a small black spot; cilia gray, paler at tornus, with a few scattered buff and dark gray specks. Hind wing grayish-fuscos; cilia gray with pale brownish suffusion; base of cilia somewhat paler than remainder. Legs pale buff irrorate and banded with grayish-fuscos; foreleg almost wholly grayish-fuscos. Abdomen grayish-fuscos above; ventrally pale buff and some specimens with a broad, longitudinal, grayish-fuscos band laterad.

*Male genitalia*: See figures (Slide No. 10616, Type). Dorsal arm of harpe bent about middle, terminal half nearly straight; ventral arm short, truncate. Vinculum slightly curved, produced. Gnathos a small hook. Uncus narrow, about one-third the length of tegumen. Aedeagus stout, with prominent barb distally.

*Female genitalia*: See figures (Slide No. 10743, Paratype). Ostium very small, opening at about center of genital plate. Ductus bursae sclerotized for very short distance before ostium; inception of ductus seminalis at junction of sclerotized and membranous portions of ductus bursae. Signum divided into two anterior and two posterior arms.

*Type*: U.S.N.M. No. 65832.

*Type locality*: Kyûsyû, Usuki, Ôita (Br. by Someya, Em. 28. VIII.56).



*Food plant: Solanum lyratum* Thunb. ("Leaf miner on *Solanum lyratum*")

*Remarks:* Described from the type male, three male and two female paratypes as follows: 2 ♂♂ and 2 ♀♀, Honsyû, Bingo, Kônosima. 24.XI and 6.XII.1957. A. Mutuura; one ♂, Kyûsyû, Nagasaki; from plant inspector, Em. 5.XII.56. Paratypes in U.S.N.M. There are two other specimens before me, not included in the type series but which I believe are this species, from "Okayama, Okayama, 26.IX.56" and "2.X.56, Kenji Kiozumi," reared from *Solanum lyratum*.

There are several species of gelechiids which feed on solanaceous plants, all are similar in appearance and can easily be confused. These are *G. absoluta* (Meyrick), *G. gudmannella* (Wlshm.), *Keiferia glochinella* (Zeller) and *K. lycopersicella* (Busck). In addition, *G. chenopodiella* Busck must be considered here because of its striking similarity in color and pattern. Actually, because of individual variation in each species, there is no absolute criterion of color by which one can be distinguished from the other. The genitalia, however, offer many points of distinction. In the females *pervada* can be distinguished from all the described species in this group by the divided signum. Both the males of *pervada* and *absoluta* have similar aedeagi, with a long terminal barb, but the vinculum of *absoluta* is twice the length of that of *pervada* and is not truncated as in the latter species. Although the aedeagus of *gudmannella* possesses a terminal barb it is much less pronounced than in *pervada*. Moreover, the distal end of the dorsal arm of the harpe of *gudmannella* is broadly expanded but that of *pervada* is bluntly pointed. Despite the similarity of appearance of *glochinella* and *lycopersicella* they are easily separated from *pervada* by the undivided signum, absence of the gnathos and the unique, slender uncus.





1962. "Gates. New species of Microlepidoptera from Japan." *Entomological news* 73, 91–102.

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