

him personally. To give an adequate account of him would fill a volume. Here shall merely be recorded our appreciation of his value to American Science. Our Society is honored to have had him as a member. We shall see no more like him.

A NEW GENUS AND SPECIES OF OECOPHORID MOTHS FROM JAPAN.

BY CARL HEINRICH, *U. S. Bureau of Entomology.*

During his recent visit to Washington, Prof. S. J. Kuwana, the Imperial Plant Quarantine Inspector of Yokohama, Japan, left with us for determination several insects reared from stored grain at the stations under his control. Among them were five specimens of an Oecophorid of exceptional interest. It is apparently undescribed and represents a more primitive and closely related eastern form of the North American genus *Martyringa* Busck.¹ Mr. Busck has verified my determination and at his suggestion I am describing it as new.

Since Prof. Kuwana kindly furnished us with larvae and pupae as well as reared adults, I am able to give generic and specific characters in full.

Santuzza, new genus.

Type.—*S. kuwanii*, n. sp.

Moth.—(Plate 3, Figs. 1-3.) Head with appressed scales slightly roughened over the eyes; ocelli absent; tongue developed. Antennae $\frac{2}{3}$; in male moderately ciliate beneath; basal joint moderate, without pecten. Maxillary palpi short, filliform, appressed to tongue. Labial palpi long, recurved; second joint slightly roughened beneath, reaching as high as base of antennae; third joint as long or nearly as long as second, slender, tapering, smooth scaled. Forewings elongate, rather narrow, apex rounded, termen slanting, not concaved; 11 veins; 1b furcate, 2 and 3 stalked from near angle of cell, 5 absent, 7 and 8 stalked, 7 to costa close to apex, 9 out of stalk of 7 and 8, 11 from middle of cell; on underside of wing a bladder-like membranous tympanum in cell before middle. Hindwings nearly as long as forewings, elongate ovate; 8 veins; 3 and 4 stalked, 5 not closely approximate to 4 at base, 5, 6 and 7 nearly parallel. Metathoracic legs very long; hind tibiae clothed all around with roughened, long, hair-like scales. Male genitalia with uncus developed, strong, simple; tegumen broadly chitinized; vinculum terminating in a short rounded projection; harpes simple with basal articulation closely approximate, sacculus terminating in a free hook,

¹ Busck speaks of "allied forms (to *Martyringa*) occurring in China and Japan" (Proc. U. S. N. M., Vol. 35, p. 190. 1908).

no clasper; aedeagus moderately long, slender; anellus present, semi-cylindrical, without armature and directly attached to aedeagus.

Pupa.—(Plate 3, Figs. 4–6.) Without defined fronto-clypeal suture. Vertex well defined, broad. Maxillary palpi large, reaching proximo-lateral angles of maxillae. Maxillae extending slightly more than three-fourths of wing length. Antennae extending to tips of wings. Labial palpi long, slender, one-third the length of maxillae. Prothoracic femora exposed. Wings pointed; extending beyond cephalic margin of 5th but not to 6th abdominal segment. Abdomen without spines or pubescence; 8th, 9th and 10th segments fused. Genital and anal openings slit-like in both sexes. Cremaster present, strong, thorn-like, somewhat hooked.

Larva.—(Plate 4, Figs. 7–14.) Cylindrical; moderately slender; caudal end bluntly rounded, not appreciably tapering. Anal fork absent. Legs and prolegs normal. No secondary hair. Crochets triordinal, in a complete elyipse. Prothoracic shield broad, divided. Spiracles oval, small; that on 8th abdominal segment not appreciably higher than those on abdominal segments 1 to 7. Skin smooth. Body setae IV and V approximate on abdominal segments 1 to 8, under the spiracle; perspiracular shield of prothorax prominent, elongate oval, bearing three setae well separated and lying in a very obtuse angle with IV equidistant from III and V; group VI bisetose on prothorax, unisetose on meso- and metathorax; VII trisetose on proleg-bearing abdominal segments, bisetose on abdominal 7, unisetose on abdominal 8 and 9; III above the spiracle on all abdominal segments; on 9th abdominal both III and VI rather well separated from group IV-V; II well separated from I and directly caudad of it on abdominal segments 2 to 7, slightly laterad on abdominal I and 8; I latero-cephalad of II on abdominal 9, nearer to II than to III; prothorax with IIa slightly higher than Ia, IIb nearly on the level of puncture z, Ib and Ic forming a rhombus with IIb and IIc.

Head capsule spherical, nearly square in outline (very slightly trapezoid) viewed from above; greatest width slightly forward of middle of head; incision of dorsal hind margin very slight. Frons pentagonal, small, not reaching middle of head. Adfrontal sutures meeting longitudinal ridge just beyond middle of head. Longitudinal ridge (LR) longer than frons.

Ocelli six; lenses well defined, small, II and III rather well separated.

Epistoma normal.

Frontal punctures (Fa) close together; well forward of frontal setae (F1); first adfrontal seta (Adf1) approximate to F1; Adf2 back of end of frons; puncture Adfa approximate to beginning of longitudinal ridge.

Epicranium with the normal number of primary setae and punctures and two distinguishable ultra-posterior tubercles. Anterior setae (A1, A2 and A3) forming an obtuse angle; anterior puncture (Aa) postero-dorsad of A2. Posterior setae (P1 and P2) and puncture Pb lying just back of middle of head and nearly parallel with longitudinal ridge; P1 about middle of head; P-2 slightly nearer longitudinal ridge (LR) than is P1; Pb lying between the

setae, approximate to P1; puncture Pa remote from other setae and puncture of posterior group, about equidistant from A3 and L1. Lateral seta (L1) approximate to A3; on the level of P1; lateral puncture (La) postero-laterad of the seta, remote. Ocellar setae (O1, O2, O3) well separated; O1 dorsad of and closely approximate to ocellus III; O2 closely approximate to ocellus I, in a line with ocelli I and II; O3 ventrad of C2, remote; puncture (Oa) closely approximate to O3, between O3 and ocellus VI. Sub-ocellar setae (SO1, SO2, SO3) triangularly placed; puncture SOa lying between SO1 and SO3, nearest to SO1. Genal seta (G1) anterior to the puncture Ga, approximate to O3.

Labrum with median incision broadly triangular, shallow. Median setae (M1, M2, M3) triangularly placed¹; M2 postero-laterad of M1 and closer to M1 than to M3; lateral setae (La1, La2, La3) nearly in a line; M1 and La2 on a level; La1 slightly below the level of M2; M3 well back from anterior margin, behind the level of La3; puncture not distinguishable.

Epipharyngeal shield narrow, very weakly chitinized, scarcely distinguishable. Epipharyngeal setae triangularly placed near anterior margin of epipharynx; well separated; narrow; moderately long. Epipharyngeal rods indicated only by their prominent posterior projections.

Labium and maxillae normal except for a large, pit-like, oval chitinization (Smp) on posterior part of submentum.

Maxillulae normal.

Mandible with a single strong tooth and what appears to be the rudiment of another closely oppressed against its inner ridge; the lower teeth normally occurring in other forms here replaced by a straight, slanting, distal cutting edge.

This genus differs from the closely allied *Martyringa* Busck in having veins 3 and 4 of the hindwing stalked, 5 separate from 4 and nearly parallel with 6, and with 4 of forewing well separated from 3. In *Martyringa* 3 and 4 are united and connate with 5 in the hindwing, and 3 and 4 of forewing are closely approximate or connate. Otherwise the two genera agree in adult characters. The immature stages of *Martyringa* are unknown, so comparison cannot be carried further.

Santuzza kuwanii, n. sp.

Moth.—Antennae blackish fuscous with outer margin of basal joint narrowly bordered with dull dark greyish yellow. Basal joint of labial palpus blackish fuscous; second joint dull yellowish with patch of blackish fuscous scales on outside at base; third joint blackish, apical fourth yellow. Head and face dull yellow with a few scattered fuscous scales in front of the eyes. Thorax blackish fuscous faintly suffused with yellowish scales. Forewing blackish fuscous marked with dull yellow; a slight and indefinite suffusion

¹ In drawing (Fig. 9, Plate 4) the median setae are incorrectly labeled. M² should be M³ and M³ should be M².

of yellow at base near costa; two short parallel yellow dashes on upper and lower veins of cell near middle, somewhat obscure in any but perfect specimens; in cell beyond middle a rather distinct black spot; an irregular yellow fascia from apical fifth of costa to tornus, inwardly angulated just below costa and again just above tornus; termen faintly yellowish with yellow suffusion broadening at apex; cilia greyish fuscous. Hindwing pale smoky grey; cilia somewhat paler with a faint yellowish line along their base. Legs black fuscous; inner sides yellow or yellowish grey; ends of tarsal joints ringed with yellow; on mid tibiae a tufting of greyish yellow scales covering first half of the joint; hind tibiae banded at middle and end with greyish yellow. Abdomen of male with yellowish anal tuft. Male genitalia of type as figured (Plate 3, Figs. 1-2).

Alar expanse, 22-25 mm.

Habitat.—Japan (J. S. Kuwana).

Foodplant.—Stored grain.

Type.—Cat. No. 22633 U. S. N. M.

Described from five specimens (3 males and 2 females) reared from stored grain at Yokahoma, Japan, and named in honor of Prof. Kuwana, from whom the specimens were received. In superficial characters it resembles very closely *Martyringa latipennis* Walsingham, but is easily distinguished by the structural characters. A specific description of the pupa and larva follows:

Pupa.—10-11 mm. long; abdomen pale yellow, darker on dorsum; wing cases and dorsum of thorax yellowish brown; head yellow; cremaster black; spiracles small, rounded-oval, edges strongly pigmented, brown; proleg scars conspicuous, not pigmented.

Larva.—Full grown 22-23 mm. long by 2-2.5 mm. broad. Body sordid white, irregularly spotted with white at places of muscle attachment. Prothoracic shield, prespiracular shield of prothorax and prothoracic chitinization about seta group VI evenly dark brown; a small brown anterior, dorso-lateral, chitinized spot in intersegmental area on each side of mesothorax, bearing a minute seta; chitinized area about tubercle Ib of mesothorax slightly brownish; chitinized areas about tubercles otherwise unpigmented, small; tubercles pale; setae very long, slender, whitish yellow; anal shield yellowish brown; chitinized areas of thoracic legs brownish yellow shading to darker brown, blackish on front margin of coxae, claws pale brown. Spiracles rimmed with black, very small, but conspicuous; spiracle of 8th abdominal segment approximately same size as that on prothorax, twice as large as other abdominal spiracles. Crochets of abdominal prolegs unevenly

and irregularly triordinal; 45 to 50; moderately stout; light brown. Head blackish brown, paler brown in ocellar, and sub-ocellar, frontal and adfrontal areas; mandibles brown, paler, except at tip and along ridges, than dark portions of head; mentum blackish brown; other chitinized areas of labial and maxillary parts yellow-brown; ocelli unpigmented.

EXPLANATION OF SYMBOLS.

For Male Genitalia.—

Ae Aedoeagus.
 An Anellus.
 Gn Gnathos.
 Hp Harpe.
 Sc Sacculus of harpe.
 Ts Transtilla.
 U Uncus.
 Vm Vinculum.

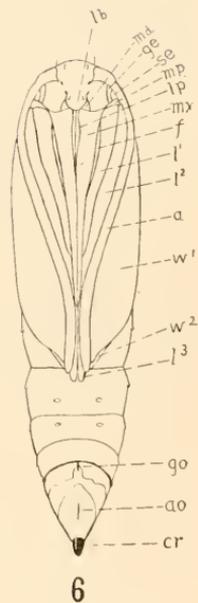
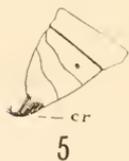
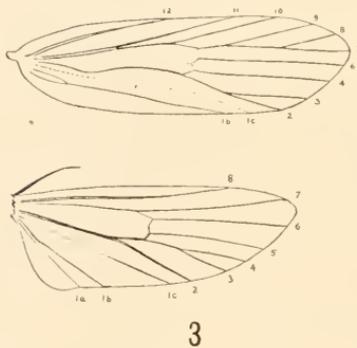
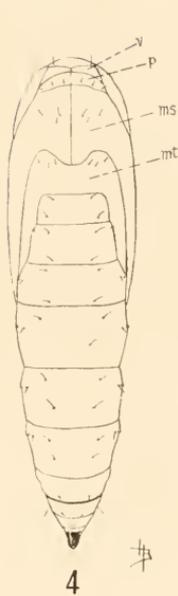
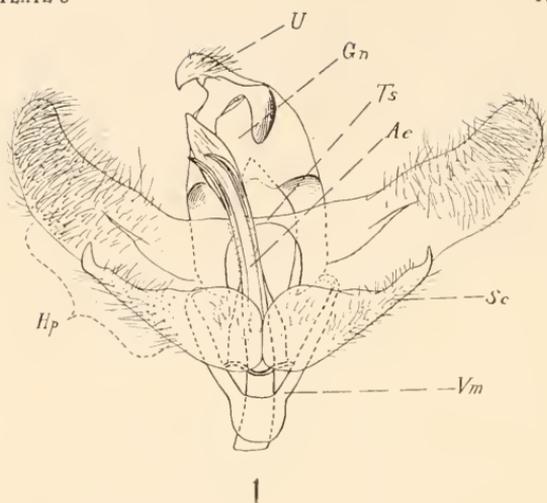
For Pupa.—

a Antenna.
 ao Anal opening.
 cr Cremaster.
 f Femora of prothoracic leg.
 ge Glazed eye.
 go Genital opening.
 l-1 Prothoracic leg.
 l-2 Mesothoracic leg.
 l-3 Metathoracic leg.
 lb Labrum.
 lp Labial palpi.
 md Mandible.
 mp Maxillary palpus.
 ms Mesothorax.
 mt Metathorax.
 mx Maxillae.
 p Prothorax.
 se Sculptured eye.
 v Vertex.
 w-1 Mesothoracic wing.
 w-2 Metathoracic wing.

For Larva.—

A1, A2, A3, Aa—Setae and puncture of anterior group of epicranium.

ADFR—Adfrontal ridge of frons.
 ADFS—Adfrontal suture.
 Adf1, Adf2, Adfa—Adfrontal setae and puncture.
 C—Cardo.
 E¹, E²—Epistomal setae.
 ES—Epipharyngial shield.
 ET—Epipharyngial setae.
 Fl, Fa—Frontal seta and puncture.
 G1, Ga—Genal seta and puncture of epicranium.
 L1, La—Lateral seta and puncture of epicranium.
 La1, La2, La3—Lateral setae of labrum.
 M—Mentum.
 M1, M2, M3—Median setae of labrum.
 Mp1, Mp2, Mp3—Joints 1, 2, 3 of maxillary palpus.
 O1, O2, O3, Oa—Setae and puncture of ocellar group of epicranium.
 P1, P2, Pa, Pb—Setae and punctures of posterior group of epicranium.
 Prg—Palpiger maxillaris.
 SM—Submentum.
 Smp—Submental plate.
 SO1, SO2, SO3, SOa—Setae and puncture of sub-ocellar group of epicranium.
 St—Stipes maxillaris.
 X—Ultra posterior tubercles of epicranium.



HEINRICH-SANTUZZA KUWANII

EXPLANATION OF PLATES.

(Drawings made under writer's supervision by Mr. Harry Bradford, of the U. S. Bureau of Entomology.)

Plate 3.

Adult and pupal structures of *Santuzza kuwanii* Heinrich.

- Fig. 1. Male genitalia of moth.
- Fig. 2. Male genitalia of moth; detail (Aedoeagus with anellus attached).
- Fig. 3. Venation of moth.
- Fig. 4. Pupa (dorsal view).
- Fig. 5. Caudal end of pupa (lateral view).
- Fig. 6. Pupa (ventral view).

Plate 4.

Larval structures of *Santuzza kuwanii* Heinrich.

- Fig. 7. Head capsule—dorsal view.
- Fig. 8. Head capsule—lateral view.
- Fig. 9. Labrum.
- Fig. 10. Epipharynx.
- Fig. 11. Crochets arrangement of abdominal proleg.
- Fig. 12. Mandible.
- Fig. 13. Labium and maxillae.
- Fig. 14. Setal map of pro- and mesothorax and abdominal segments 3, 8 and 9.

NEW AMERICAN CLERIDAE, WITH NOTE ON THE SYNONYMY OF
MICROPTERUS CHEVR (COLEOPT.).

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The material upon which the following new species of Cleridae are based has been derived mainly from the United States National Museum, for the use of which thanks are due Messrs. E. A. Schwarz and H. S. Barber. For the use of the material of *Isolemidia substriata*, n. sp., I thank Dr. F. E. Lutz and Mr. A. J. Mutchler, of the American Museum of Natural History.

In an article entitled, "Descriptions de quelques Térédiles de l'Afrique australe, du voyage de M. Drege" (Rev. Mag. Zool. (1), V, 277, 1842), M. Chevrolat described a new species of clerid as *Micropterus* N. G. *brevipennis*. The genus is characterized by the specific description and therefore must be considered valid until proven otherwise. Inasmuch as this name is preoccupied by *Micropterus* Lacépède (Hist. Nat. Poiss. IV, 325, 1802), I would