

# NEW EPERMENIIDAE FROM TAIWAN (LEPIDOPTERA: COPROMORPHOIDEA)

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ABSTRACT.— *Sinicaepermenia taiwanella*, new genus and new species, is described from Kenting Park, southern Taiwan, as the first species of Epermeniidae known from Taiwan.

KEY WORDS: *Epermenia*, Epermeniinae, Japan, Ochromolopinae, Oriental, *Phaulernis*, *Sinicaepermenia taiwanella* n. gen. and n. sp., Thailand.

The Epermeniidae are a small family of primarily Holarctic species. Gaedike (1979) cataloged 71 species and since then another 10 species have been described from various regions, for a total of 81 species. Among the recent new species is a species from Thailand (Gaedike, 1987), which is the only recently described species for the Oriental region. Most Oriental species are in the genus *Epermenia* (Gaedike, 1975). Japan has only two species recorded, one in *Phaulernis* and one in *Epermenia*. The new species from Taiwan is unrelated to those from Japan or Thailand but appears to be a member of the subfamily Epermeniinae. It represents the first species of the family recorded from Taiwan and certainly is a very tropical member of the family, being known only from the lowlands of the southernmost end of the island. It would seem to be probable that a member of the family with Holarctic affinities could still be found in the high mountains of Taiwan, where so many of the species are related to Japanese or Himalayan species.

## SINICAEPERMENIA Heppner, new genus

Type-species: *Sinicaepermenia taiwanella* Heppner, n. sp., by present designation.

**Diagnosis.**— *Size:* 9.2-10.8mm. The wing venation (Fig. 2) and genitalia easily distinguish this genus from other Epermeniidae, particularly the stalked forewing  $R_5+M_1$  and the broad uncus of the male genitalia. The male wings are even more extremely long and narrow than the female (about 1:6 width to length ratio), with some reduction in venation.

**Description.**— *Forewing length:* 4.4-4.9mm. *Head:* moderate size; eyes moderate; ocellus absent; labial palpus moderate length, upturned slightly, with ultimate segment about 2/3 length of middle segment and blunt-tipped; maxillary palpus small, 3 segmented; antenna filiform, setose, of average length, with basal scape; haustellum well-developed, naked. *Thorax:* average size, with petagia well developed; legs of normal length, with hind tibia having a double row of dorsal spines. *Forewing:* very elongate (almost 1:5 ratio), with a moderately pointed apex; all veins present except  $M_3$ ; Sc to midwing margin;  $R_1-R_4$  almost equidistant and long, to costal margin;  $R_5$  long stalked with  $M_1$ , to

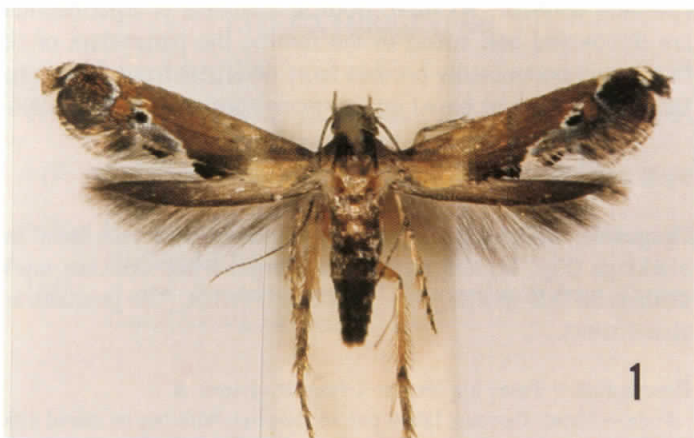


Fig. 1. *Sinicaepermenia taiwanella* Heppner, n. sp., holotype ♀.

termin and nearly convergent with base of  $R_4$ ;  $M_2$  long and equidistant from  $R_5+M_1$  and  $CuA_1$ , with faint extension forming an indistinct chorda; cell to 2/3 of wing;  $M_3$  absent;  $CuA_2$  short;  $CuP$  prominent;  $A_{1,2}$  long and curved;  $A_3$  curved and merging into an sclerotized field along anal margin. *Hindwing:* very elongate (nearly 1:5 ratio), with extremely pointed apex; Sc very long and to 2/3 at costal margin; R to apex;  $M_1$  convergent with  $M_2$  at base of median, with a faint medial extension into the cell; cell slightly longer than midwing;  $M_3$  absent;  $CuA_1$  and  $CuA_2$  short;  $CuP$  indistinct;  $A_1$  long and separate from  $A_2$ ;  $A_3$  minute; anal corner extremely quadrate; frenulum with 2 spines in female. *Male genitalia:* uncus broad and merging with tegumen; vinculum short, saccus undeveloped; valva elongate, with typical separated sacculus and apical lobe, with spines of costal margin; transtilla prominent, with valval extension; aedeagus long, with cornutus. *Female genitalia:* ovipositor setaceous, relatively short; apophyses thin, with anterior pair somewhat shorter than posterior pair and with long basal stalk; ostium a simple funnel; ductus bursae very long and somewhat twisted, with a sclerotized neck near ostium and just posterior to juncture with ductus seminalis; corpus bursae ovate, with a prominent but small signum having an interior flat blade. *Abdomen:* moderate length, with a hair pencil on each side of the 2nd segment.

**Remarks.**— This new genus appears to be a primitive member of the subfamily Epermeniinae by virtue of the abdominal hair pencils and the broad uncus. The broad uncus has not been seen

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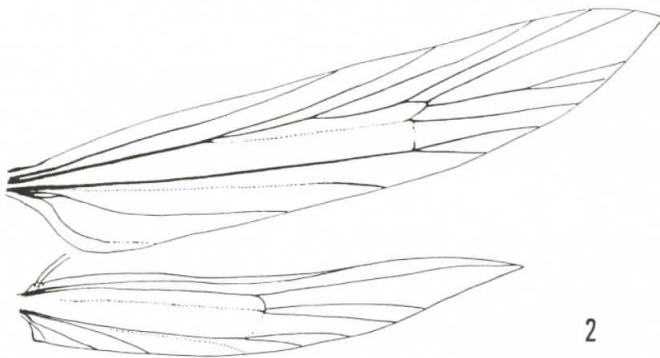


Fig. 2. Wing venation of *Sinicaepermenia* (♀).

in other Epermeniidae thus far. The missing forewing median vein demonstrates affinities to Ochromolopinae genera as currently defined. As more tropical members of Epermeniidae are discovered and added to the family, the parameters of the family will undoubtedly become more divergent from the original family definition as based on European species (Gaedike, 1966).

***Sinicaepermenia taiwanella* Heppner, new sp.**

**Diagnosis.**— *Size:* 9.2-10.8mm. The brown color with basal tan markings (Fig. 1), and mid-dorsal margin white crescent mark, distinguish this species from other epermeniids. The genitalia are also distinct.

**Description.**— Forewing length: 4.9mm ♂, 4.4mm ♀.

**Male.**— *Head:* fuscous; labial palpus fuscous, with tan on mesal side; maxillary palpus tan; antenna fuscous. *Thorax:* fuscous; legs fuscous, mottled with tan. *Forewing:* chocolate brown ground color with fuscous over basal half of wing and tan patch basally to anal margin; black dot in wing center at 1/3 from base; apex with black spot surrounded by

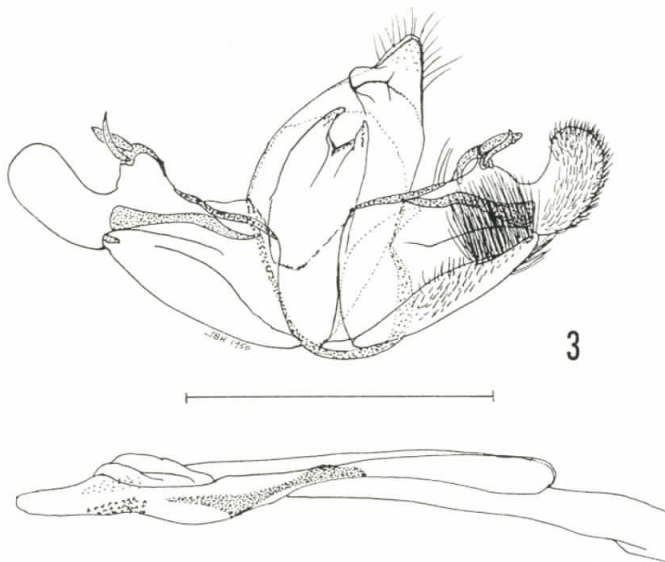


Fig. 3. Male genitalia of *Sinicaepermenia taiwanella* Heppner, n. sp. (line = 0.5mm).

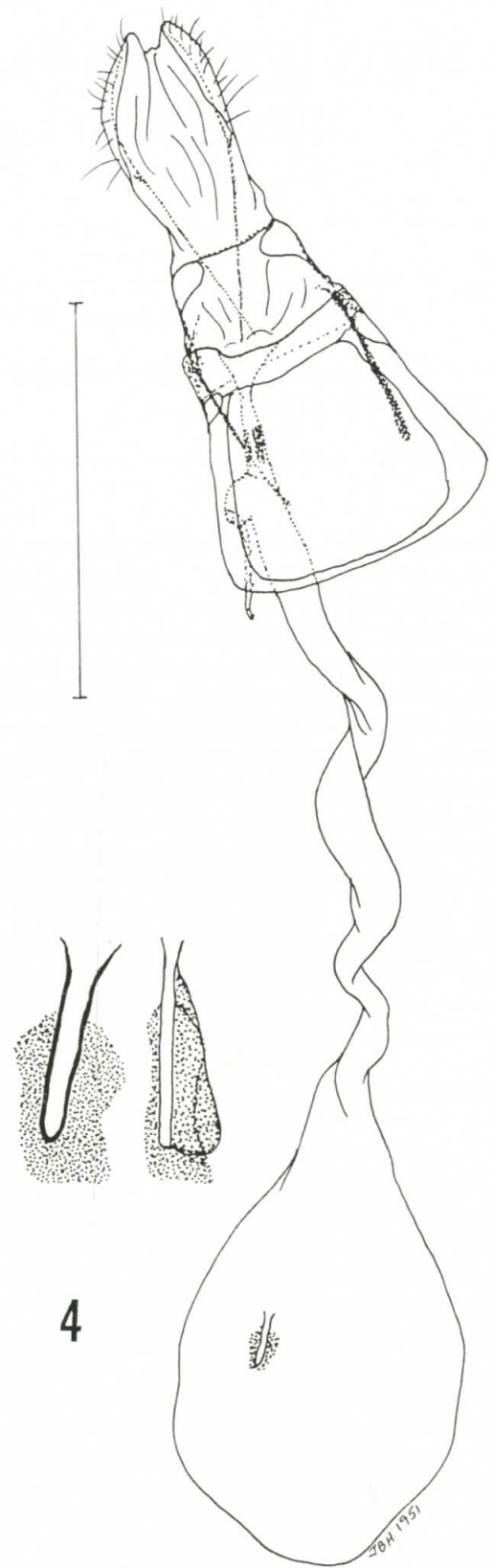


Fig. 4. Female genitalia of *Sinicaepermenia taiwanella* Heppner, n. sp. (line = 0.5mm); details of signum (ventral and oblique views).



cream-white; tornus spot like apex, with 2 white marks arched toward base and apex; subternal tan crescent arched toward apex and indistinct between the two costal margin fringe tufts; fringe fuscous, with black fringe tufts at 2/5 and 2/3 from base along dorsal margin; venter fuscous without markings. *Hindwing*: fuscous; fringe fuscous; venter gray fuscous becoming tan near base. *Abdomen*: fuscous, with tan on posterior tip; venter tan. *Male genitalia* (Fig. 3): as described for genus.

Female.— Same as male except forewing broader and markings differing in having a more solid tan basal patch and less fuscous suffusion from base; apical quarter black instead of chocolate brown as rest of wing; central black dot minute; tornal spot prominent and moved more to wing center distad of cell; apical black spot merged with black area of apical quarter; subternal crescent very prominent and nearly white. *Female genitalia* (Fig. 4): as described for the genus.

**Immature stages.**— Unknown.

**Hosts.**— Unknown.

**Distribution.**— Taiwan.

**Types.**— *Holotype* ♀: TAIWAN.— Pingtung Co.: Kenting Park, 255m, 23-28 Apr 1989, J. Heppner & H. Wang (TM [on indefinite loan to FSCA]). *Paratype* ♂: (same locality), 1-5 Sep 1983, J. Heppner (FSCA).

**Remarks.**— Thus far this is the only species known for the genus *Sinicaepermenia*, and the only Epermeniidae from Taiwan. The biotope of Kenting Park has its greatest affinities to tropical China and the Philippines, thus this species clearly is a tropical member of the Epermeniidae. Extensive collecting throughout Taiwan during 9 annual survey trips has only located this species at the very southern extremity of Taiwan. Collections of *S. taiwanella* were all made with blacklight traps.

## ACKNOWLEDGMENTS

This paper is part of a project on the Lepidoptera fauna of Taiwan, supported in part by the National Science Council, Taipei, Republic of China, and in part by the National Science Foundation, Washington, DC (grants INT-8119539 and INT-8721716). Generous aid on the project was kindly provided by the Taiwan Museum (TM), Taipei, and the Taiwan Forestry Research Institute, Taipei. The National Park Service, Taipei, and in particular Kenting National Park and its Kenting Botanical Garden, also kindly permitted access for survey collecting and research. Mr. H. Y. Wang, Taiwan Museum, has helped with field work in Taiwan throughout the project. The Florida State Collection of Arthropods (FSCA), Florida State Department of Agriculture and Consumer Services, provided some supplies for the project and housing of collections.

R. Gaedike kindly offered comments on the manuscript.

## LITERATURE CITED

### Gaedike, R.

- 1966. Die Genitalien der europäischen Epermeniidae (Lepidoptera: Epermeniidae). *Beitr. Ent.* (Berlin), 16:633-692.
- 1975. Die Genitalien der Epermeniidae der orientalischen Region (Lepidoptera). *Beitr. Ent.* (Berlin), 25:33-38.
- 1979. Katalog der Epermeniidae der Welt (Lepidoptera). *Beitr. Ent.* (Berlin), 29:271-288.
- 1987. A new *Epermenia* species (Epermeniidae) from Thailand. *Tinea* (Tokyo), 12(suppl.):155-157.



