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Two New Species of the Genus *Semioscopis* (Lepidoptera, Oecophoridae) from Japan

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Abstract Two new species of *Semioscopis* HÜBNER are described from Japan. The genus is recorded from Japan for the first time.

The oecophorid genus *Semioscopis* is composed of 12 known species, i.e., six occurring in Europe and six in North America. In this paper two Japanese species of *Semioscopis* are described as being new to science. This is the first record of the genus from Japan. Although *Semioscopis maculella* was described by MATSUMURA (1931) from Japan, it is conspecific with *Euplocamus hierophantha* MEYRICK, 1916, belonging to the Tineidae (MORIUTI, 1982).

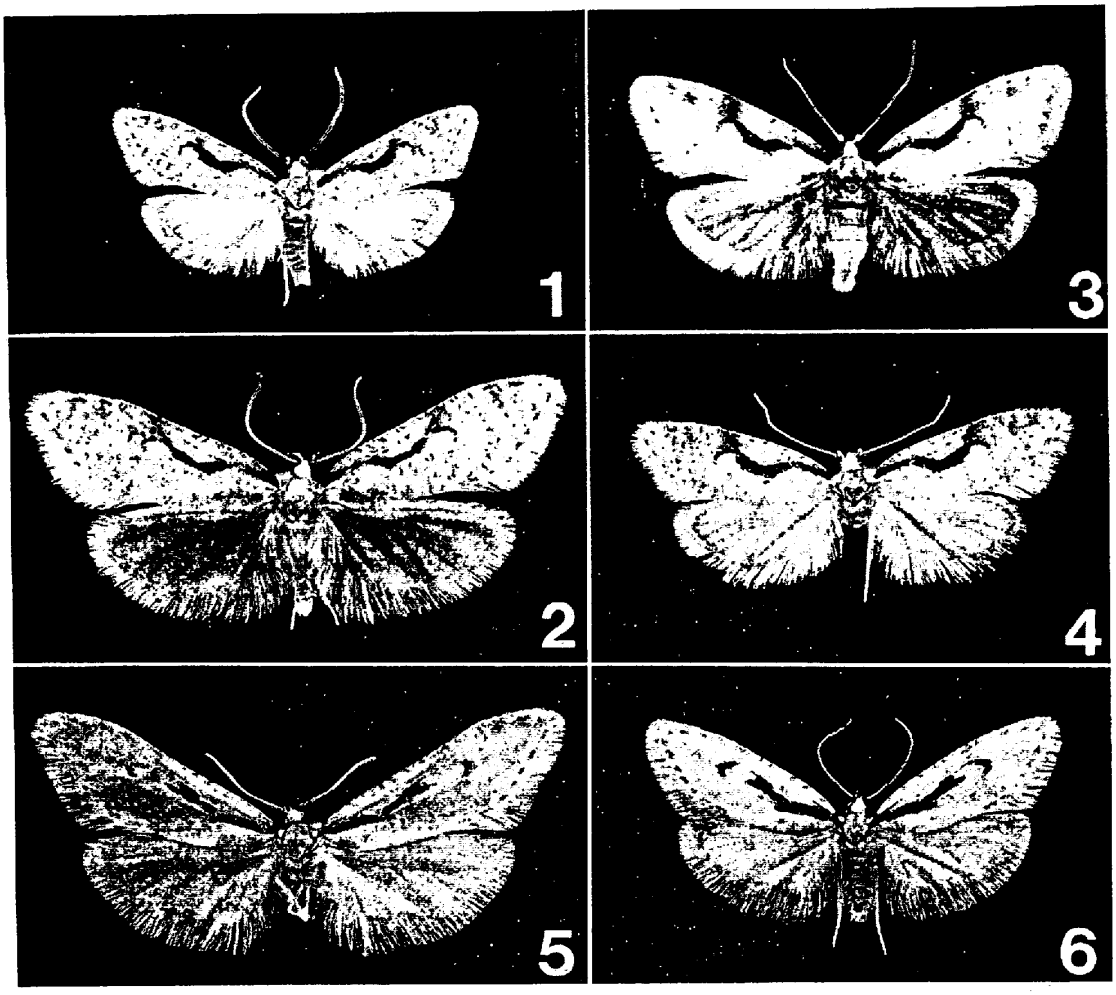
Genus *Semioscopis* HÜBNER

Semioscopis HÜBNER, 1826, Verz. bek. Schmett., 402. —— STEPHENS, 1834, Ill. Brit. Ent., Háust., **4**: 238. —— SPULER, 1910, Schmett. Eur., **2**: 331. —— MEYRICK, 1922, Gen. Ins., **180**: 186. —— PIERCE & METCALFE, 1935, Genit. Brit. Tineina, 38. —— CLARKE, 1941, Proc. U. S. natn. Mus., **90**: 149. —— TOLL, 1964, Kluc. Oznac. Owadow Polski, **27** (35): 96. —— HODGES, 1974, Moths Amer. North Mexico, **6** (2): 51. Type species: *Tortrix steinkellneriana* [DENIS et SCHIFFERMÜLLER], 1775.

Epigraphia STEPHENS, 1829, Cat. Brit. Ins., 304. —— SPULER, 1910, Schmett. Eur., **2**: 332. —— MEYRICK, 1922, Gen. Ins., **180**: 185. —— PIERCE & METCALFE, 1935, Genit. Brit. Tineina, 38. —— TOLL, 1964, Kluc. Oznac. Owadow Polski, **27** (35): 101. Type species: *Tortrix steinkellneriana* [DENIS et SCHIFFERMÜLLER], 1775.

Head somewhat spreading. Antenna slightly ciliate in ♂, and simple in ♀; scape without pecten. Ocellus present. Maxillary palpus four-segmented. Labial palpus usually long; second segment longer and slenderer than third one. Thorax with a paired crests posteriorly. Forewing rather broad, with termen very oblique; 12-veined, R_1 from well before middle, R_4 and R_5 stalked, Cu_{1a} approximate to or connate with Cu_{1b}, Cu_{1b} strongly curved inwards. Hindwing nearly oval; eight-veined, M_3 close or connate to Cu_{1a}. Abdominal tergite not spined.

Male genitalia. Uncus absent. Gnathos a spined knob. Transtilla membranous, with hairy lateral lobes. Valva elongate; sacculus produced into variously shaped processes. Juxta with lateral lobes. Aedeagus stout, sometimes curved and twisted. Cornutus present.



Figs. 1–6. *Semioscopis* spp. —— 1, *S. japonicella* sp. nov., ♂, paratype (brownish type), Rokushosan, Aichi Pref.; 2, do., ♂, paratype (whitish type), Hikagedaira, Gifu Pref.; 3, do., ♀, paratype, Rokushosan, Aichi Pref.; 4. do., ♀, paratype, Uradani, Aichi Pref.; 5, *S. similis* sp. nov., ♂, holotype; 6, do., ♀, paratype, Hikagedaira, Gifu Pref.

Female genitalia. Papilla analis moderately developed. Apophysis posterioris fairly longer than apophysis anterioris. Ductus bursae short to long, membranous, often with heavily sclerotized part. Inception of ductus seminalis usually just before ostium. Corpus bursae nearly oval. Signum a dentate plate.

Remarks. Superficially this genus may be distinguished from the related genera (*Agonopterix* HÜBNER, [1825], *Depressaria* HAWORTH, 1811, *Depressariodes* TURATI, 1924, etc.) by the combination of the following characters: antennal scape without pecten, second segment of labial palpus without projecting scales, forewing with Cu_{1b} strongly curved inwards, and hindwing with anal area not so swollen.

HODGES (1974) subdivided *Semioscopis* into four groups on the basis of the wing maculation and the male and female genitalia. According to his division, *S. japonicella* sp. nov. belongs to the Palearctic *strigulana* group, and *S. similis* sp.

nov. to the Palearctic *avellanella* group.

Semioscopis japonicella sp. nov.

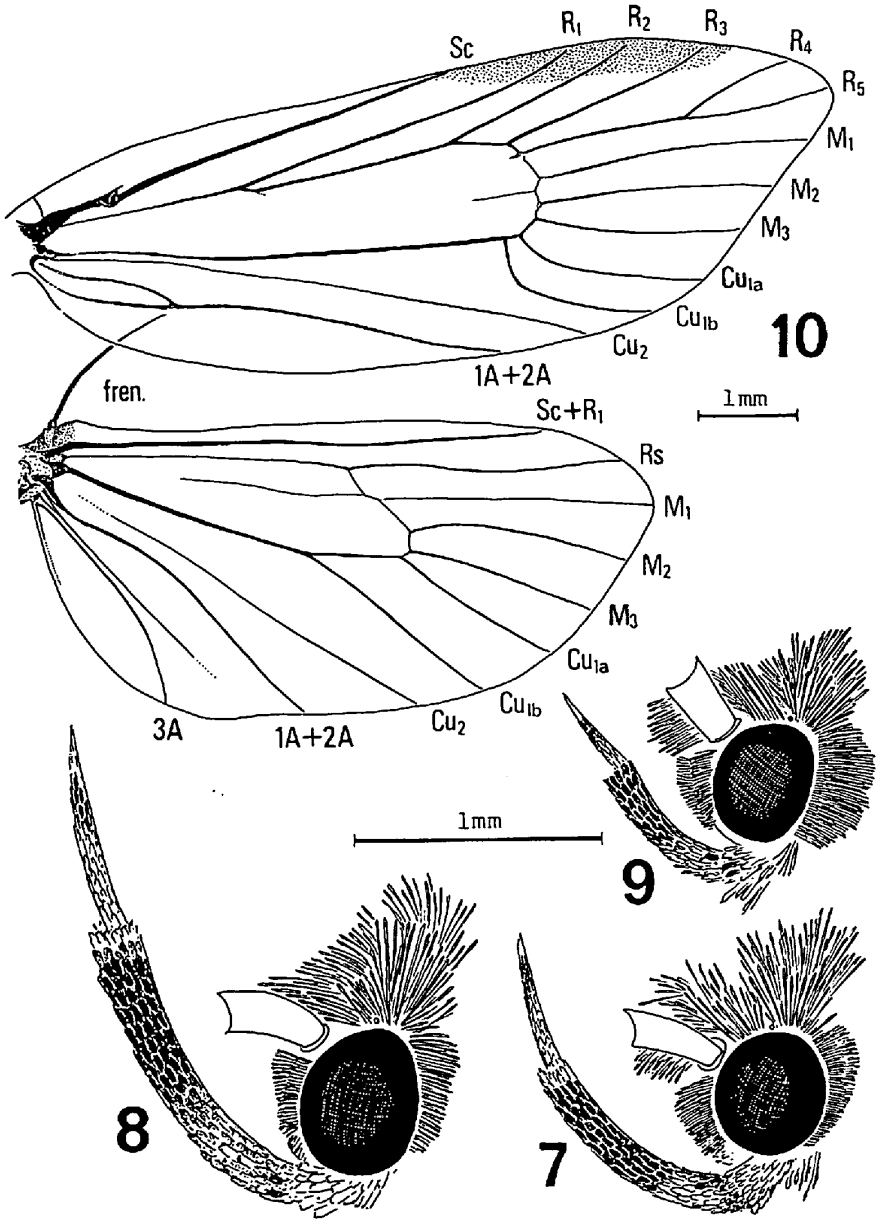
(Figs. 1, 2, 4, 5, 7, 8, 10–12, 14, 14 a–e)

Fundamentally the species has two forms in size and coloration in the male. One is smaller and brownish, and the other is larger and whitish. All the females are similar to the latter type of the male.

♂. *Brownish-type.* Expanse 15–23 mm. Head grey, the individual scales with tips whitish; face fuscous. Antenna fuscous. Labial palpus rather long, whitish grey, occasionally tinged with pink; second segment suffused with fuscous scales, except for base of inner side and apex; third segment with a broad fuscous subapical ring. Thorax brownish grey, sides pale grey; crests fuscous; tegula brownish grey, outer sides pale grey. Abdomen dark brownish grey above, and paler beneath. Forewing pale brownish grey, marked with many inconspicuous dark brown strigulae; costal area more or less tinged with pink and dotted with fuscous and brownish scales; a very distinct, almost black, longitudinal sinuate streak from base of costa to end of cell; a fuscous blotch above end of cell and followed by brownish shade; one or two small irregularly shaped brownish dots below costa before apex; a series of small blackish terminal spots along termen; cilia pale grey, with dark subbasal and subapical shades. Hindwing pale brownish grey, paler towards base; cilia grey, with a darker basal shade, the individual hairs with whitish tips.

♂. *Whitish-type.* Expanse 25–26 mm. Head whitish grey; face fuscous. Antenna fuscous, alternated dorsally with dark grey, sometimes tinged with pink; ventral side ochreous, occasionally mottled with pink basally. Labial palpus whitish grey, occasionally tinged with pink; second segment fuscous externally, except for extreme apex; third segment with a broad blackish fuscous subapical band. Thorax and tegula whitish grey, mixed with dark greyish scales; posterior portion of the former containing crests pale fuscous, and just preceded by transverse whitish area; posterior portion of the latter edged with whitish scales. Abdomen ochreous grey dorsally and pale ochreous ventrally. Forewing whitish grey to pale ochreous grey, marked with many short pale fuscous strigulae; a very conspicuous blackish streak as in the brownish-type; area between this streak and costa suffused with brown in some specimens; costa dotted with pale dark fuscous and brown scales, and edged with pink from near base to before apex; a blackish blotch above end of cell and followed by brown shade; one or two small irregular brown dots beneath costa before apex; terminal margin with a series of several fuscous spots, or without the dots in some specimens; cilia whitish grey, with pale brownish basal and slightly darker subapical bands. Hindwing darker than forewing, grey, paler towards base; cilia whitish grey, with a somewhat darker subbasal and subapical shades.

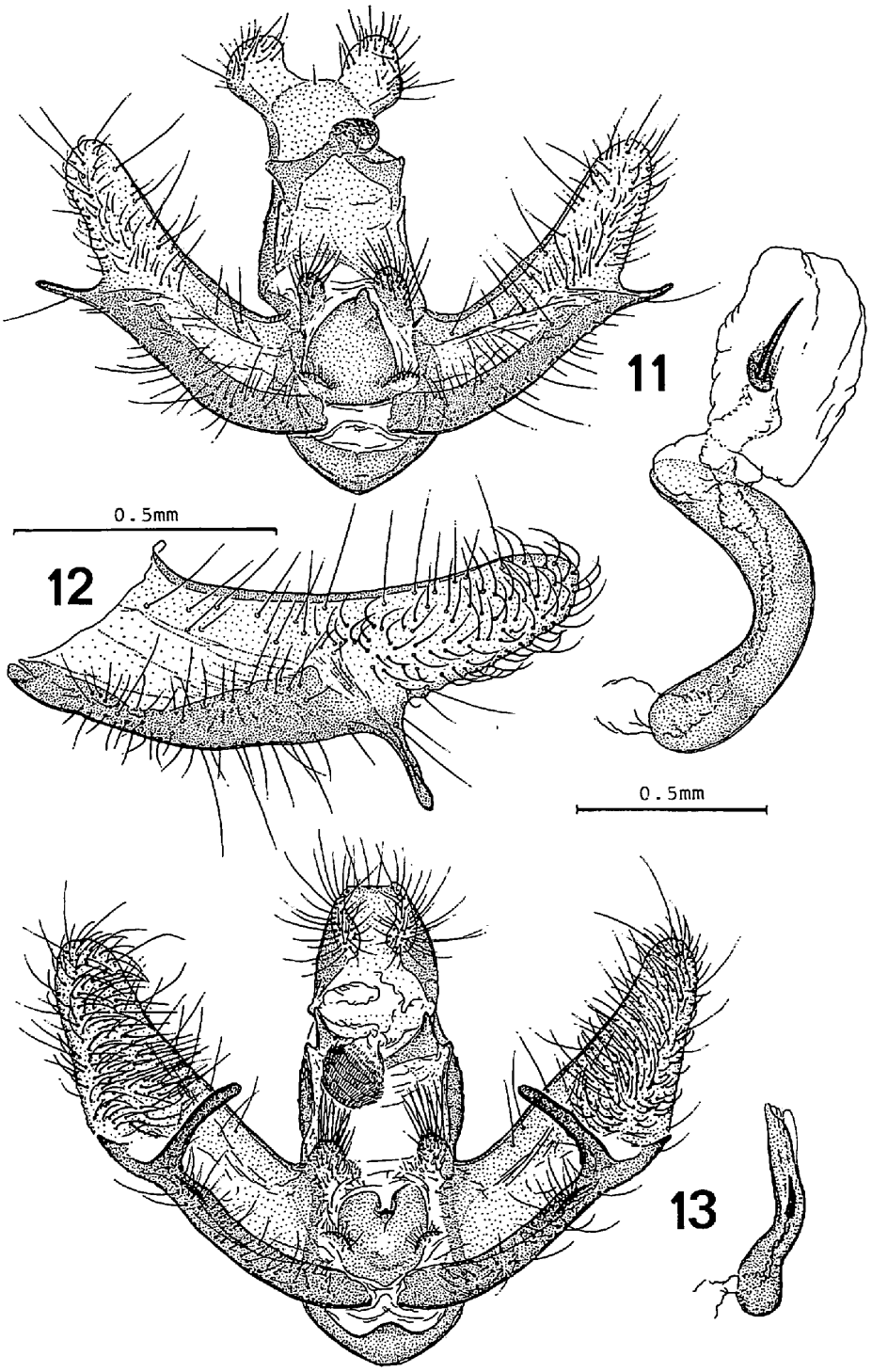
♀. Expanse 23–27 mm. As in the whitish-type of the male.



Figs. 7–10. Heads (7–9) and wing venation (10). —— 7, *Semioscopis japonicella* sp. nov., ♂, paratype (brownish type), Inunakisan, Osaka Pref.; 8, do., ♀, paratype, Nakao, Gifu Pref.; 9, *S. similis* sp. nov., ♀, paratype, Hikagedaira, Gifu Pref.; 10, *S. japonicella* sp. nov., ♂, paratype (brownish type), Inunakisan, Osaka Pref.

Male genitalia. As shown in Figs. 11 and 12. Socius a rather large hairy lobe. Valva with a single process forming a right angle at 2/3 of ventral margin. Aedeagus stout, heavily curved and twisted. Cornutus a strong thorn-like spine.

Female genitalia. As shown in Figs. 14 and 14 a–e. Ductus bursae long, membranous, and granulated at both ends, much distincter posteriorly. Corpus



Figs. 11–13. Male genitalia, —— 11. *Semioscopis japonicella* sp. nov., holotype (brownish type); 12, do., right valva, paratype (whitish type), Shigakôgen, Nagano Pref.; 13, *S. similis* sp. nov., holotype.

bursae rounded, with a denticulated signum which varies greatly in shape as illustrated.

Specimens examined. 45 ♂♂, 33 ♀♀.

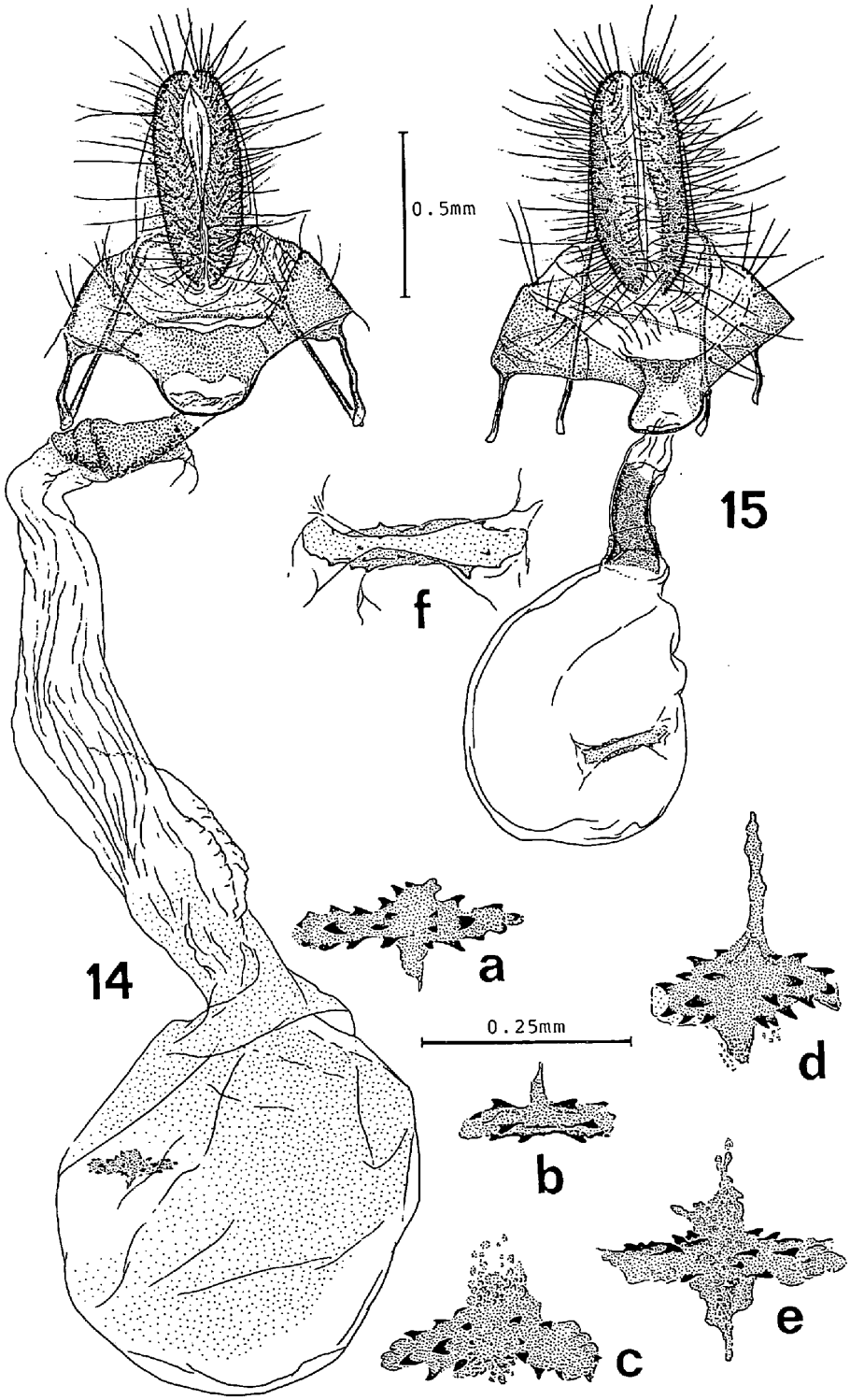
Holotype: ♂, Rokushosan (Toyota), Aichi Pref., Honshu, 15. IV. 1978 (T. SAITO). Paratypes: [Honshu]—1 ♂, 15 ♀♀, Takizawa, Iwate Pref., 10. V. 1979 (T. OKU); 1 ♂, Shigakôgen, Nagano Pref., 3. V. 1959 (T. KODAMA); 1 ♀, Mt. Kanô, Chiba Pref., 1. IV. 1968 (R. SATO); 1 ♀, Nakao (Kamitakara), Gifu Pref., 3. V. 1978 (S. HASHIMOTO); 1 ♂, Hikagedaira (Takayama), Gifu Pref., 2. V. 1979 (T. SAITO); 1 ♀, same locality, 18. V. 1979 (S. HASHIMOTO); 2 ♂♂, same locality, 10. V. 1980 (T. SAITO); 1 ♂, 1 ♀, same locality, 12. V. 1980 (T. SAITO); 1 ♂, same locality, 6. V. 1981 (S. HASHIMOTO); 1 ♀, same locality, 8. V. 1981 (S. HASHIMOTO); 1 ♂, Kawaure (Tsugumura), Aichi Pref., 24. IV. 1976 (Y. ARITA); 1 ♀, Uradani (Kitashidara), Aichi Pref., 4. V. 1977 (Y. ARITA); 1 ♀, same locality, 14. V. 1977 (Y. ARITA); 1 ♂, 1 ♀, same locality as holotype, 17. IV. 1976 (S. TERAMURA); 1 ♂, same locality, 21. IV. 1976 (Y. ARITA); 1 ♀, same locality, 29. IV. 1976 (Y. ARITA); 1 ♂, same locality, 16. IV. 1978 (T. SAITO); 16 ♂♂, 1 ♀, same locality, 7. IV. 1979 (T. SAITO); 11 ♂, same locality, 7. IV. 1979 (Y. ARITA); 1 ♂, 2 ♀♀, same locality, 15. IV. 1979 (Y. ARITA); 2 ♀♀, Yomogyu (Okazaki), Aichi Pref., 7. IV. 1980 (S. MIURA); 1 ♀, same locality, 1. V. 1978 (S. MIURA); 1 ♂, Taguchi (Okazaki), Aichi Pref., 6. IV. 1979 (S. MIURA); 1 ♂, Inunakisan, Osaka Pref., 6. IV. 1955 (A. MUTUURA); 1 ♂, same locality, 17. IV. 1962 (T. SAITO); [Shikoku] — 1 ♀, Mt. Ôtaki, Kagawa Pref., 28. IV. 1967 (H. TOSHIMA); 1 ♀; Okushioiri (Chûnan), Kagawa Pref., 3. V. 1973 (H. TOSHIMA); 1 ♀, Omogokei, Ehime Pref., 2. V. 1954 (T. EDASHIGE); 1 ♂, Kokusen, Ehime Pref., 4. V. 1951 (A. MUTUURA); [Kyushu] — 1 ♂, Hikosan, Fukuoka Pref., 9. IV. 1955 (H. KUROKO). The holotype and paratypes are deposited in the Entomological Laboratory, University of Osaka Prefecture, except for some paratypes in the Zoological Laboratory, Meijo University, Nagoya.

Distribution. Japan (Honshu, Shikoku and Kyushu).

Host-plant. Unknown.

Remarks. In the superficial appearance, this species is closely similar to European *S. steinkellneriana* ([DENIS et SCHIFFERMÜLLER]), the type species of the genus, and also to North American *S. packardella* (CLEMENS, 1863), but is evidently separated from them by the male genital characters. From *steinkellneriana* it differs in the shorter aedeagus, and from *packardella* it differs in the single process of valva. Moreover, this species seems to be close to European *S. strigulana* (FABRICIUS, 1787) in the male genitalia, but is sharply distinguished from it by the distinct blackish streak in the forewing.

Ecological notes. The host-plant still remains unknown, but the adult moths fly about, and rest on the tree trunks of *Prunus donarium* SIEB. var. *spontanea* MAKINO (Rosaceae).



Figs. 14–15. Female genitalia; a–f, signa. —— 14, *Semioscopis japonicella* sp. nov., paratype, Rokushosan, Aichi Pref.; a, do.; b, do., Takizawa, Iwate Pref.; c, do., Hikagedaira, Gifu Pref.; d, do., Mt. Kanô, Chiba Pref.; e, do., Okushioiri, Kagawa Pref.; 15, *S. similis* sp. nov., paratype, Hikagedaira, Gifu Pref.; f, do.

Semioscopis similis sp. nov.

(Figs. 3, 6, 9, 13, 15, 15 f)

♂. Expanse 24–26 mm, ♀. Expanse 18–22 mm. Head grey to dark grey, the individual scales with whitish tips; face fuscous. Antenna pale fuscous, dotted with grey, tinged with pink basally in many specimens; scape fuscous above, and pale ochreous tinged with pink beneath. Labial palpus rather short, pale brownish grey, sometimes tinged with pink, second segment suffused with fuscous scales outwardly; third segment speckled with fuscous scales. Thorax and tegula grey to dark grey, the former overcast with fuscous scales posteriorly and the latter irrorated with whitish grey posteriorly. Abdomen light to dark brownish grey. Forewing grey, more or less irrorated with whitish scales and dotted with blackish scales, especially on costal area; extreme costal margin edged with pink; a conspicuous, rather broad, longitudinal blackish streak in cell, from base of costa to fairly before end of cell, and bent upwards at obtuse angle in middle; a crescent blackish bar at end of cell; terminal margin with a series of some blackish dots which are obsolate in some specimens; cilia grey, with somewhat darker basal and subapical shades. Hindwing pale grey, with a darker basal shade.

Male genitalia. As shown in Fig. 13. Socius rather small. Valva with two processes, *viz.* one long, inwardly right angle with valva, and slightly curved inwards, and the other very short, parallel with valva. Aedeagus short, slender. Cornutus a strong spine.

Female genitalia. As shown in Figs. 15 and 15 f. Ductus bursae shorter than corpus bursae and heavily sclerotized in anterior 2/3. Corpus bursae nearly oval. Signum a weakly dentate plate.

Specimens examined. 2 ♂♂, 14 ♀♀.

Holotype: ♂, Hikagedaira (Takayama), Gifu Pref., Honshu, 6. V. 1981 (S. HASHIMOTO). Paratypes: [Honshu]–2 ♀♀, Shigakôgen, Nagano Pref., 13. V. 1953 A. MUTUURA); 1 ♀, Kaidakôgen, Nagano Pref., 2. V. 1977 (Y. ARITA); 2 ♀♀, same locality as holotype, 4–6. V. 1978 (S. HASHIMOTO); 1 ♀, same locality, 9. V. 1980 (T. SAITO); 2 ♀♀, same locality, 10. V. 1980 (T. SAITO); 1 ♀, same data as holotype; 1 ♂, same locality, 7. V. 1981 (S. HASHIMOTO); 5 ♀♀, same locality, 8. V. 1981 (S. HASHIMOTO). The holo- and paratypes are in Ent. Lab., Univ. Osaka Pref., except for a paratype in Zool. Lab., Meijo Univ.

Distribution. Japan (Honshu).

Host-plant. Unknown.

Remarks. Although closely allied to *S. avellanella* (HÜBNER, 1793), occurring in Europe, this species can be distinguished from it by the forewing with very distinct markings in the female, by the valva with a somewhat inwardly curved clasper in the male genitalia and by the strongly sclerotized portion of ductus bursae in the female genitalia.

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