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A Revision of the Genus *Autosticha* MEYRICK from Japan (Lepidoptera, Oecophoridae)

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Abstract The genus *Autosticha* is recorded from Japan for the first time and its Japanese species are revised. Two new species, *Autosticha imitativa* and *A. truncicola*, are described. Four already described species, *Brachmia modicella* (CHRISTOPH), *B. tetragonopa* MEYRICK, *B. kyotensis* (MATSUMURA) and *Semnolocha pachysticta* MEYRICK, are newly transferred to *Autosticha* with their redescriptions. *Brachmia opaca* MEYRICK, occurring in China, is transferred to *Autosticha*. *Semnolocha* MEYRICK is treated as a synonym of *Autosticha*.

Key words: Lepidoptera; Oecophoridae; *Autosticha*; taxonomy; new species; Japan.

Introduction

The oecophorid genus *Autosticha* MEYRICK, 1886, is superficially characterized, in the forewing, by the inconspicuous coloration, the presence of 3 stigmata and the series of blackish dots on the costa and termen. *Autosticha* is monotypical (the type species, *Automola pelodes* MEYRICK, 1883), and was proposed by MEYRICK (1886) as an objective replacement name for *Automola* MEYRICK, 1883. MEYRICK (1925) assigned *Autosticha* to the 9th group (*Autosticha* type) of his 9 divisions of the family Gelechiidae. SATTLER (1973) recognized 9 subfamilies within the Gelechiidae and treated MEYRICK's 9th group (*Autosticha* type) as the subfamily Autostichinae LE MARCHAND, 1947. HODGES (1978) transferred the Autostichinae to the family Oecophoridae and transferred some genera from MEYRICK's 8th group (*Lecithocera* type) to the subfamily, in his tentative classification of the superfamily Gelechioidea. MINET (1986) synonymized the Autostichinae with the Xyloryctinae based on the presence of the transverse, posterior rows of the spines on the abdominal terga, but COMMON (1990, 1994) and NIELSEN & COMMON (1991) treated the Autostichinae and the Xyloryctinae as distinct subfamilies.

In this paper, I describe 2 new species of *Autosticha* from Japan and redescribe 4 already known species which are now referable to *Autosticha*. *Semnolocha* MEYRICK is treated as synonyms of *Autosticha* MEYRICK. The genus *Autosticha* is recorded from Japan for the first time.

The terminology of the male and female genitalia was referred to KLOTS

(1970).

Holotypes are preserved in the collection of Entomological Laboratory, Osaka Prefecture University. The following abbreviations are used for collections:

BMNH: The Natural History Museum, London, UK.

NIAES: Laboratory of Insect Systematics, National Institute of Agro-Environmental Science, Tsukuba, Japan.

OMNH: Osaka Museum of Natural History, Osaka, Japan.

OPU: Entomological Laboratory, Osaka Prefecture University, Sakai, Japan.

Genus *Autosticha* MEYRICK, 1886

Autosticha MEYRICK, 1886, Trans. ent. Soc. Lond. 1886: 281 (objective replacement name for *Automola* MEYRICK, 1883, nom. praeocc.).

Type species: *Automola pelodes* MEYRICK, 1883, by monotypy.

Epicharma WALSINGHAM, 1897, Trans. ent. Soc. Lond. 1897: 38.

Type species: *Epicharma nothriforme* WALSINGHAM, 1897, by original designation.

Epicoenia MEYRICK, 1906, J. Bombay nat. Hist. Soc. 17: 140.

Type species: *Epicoenia chernetis* MEYRICK, 1906, by original designation.

Prosomura TURNER, 1919, Proc. R. Soc. Qd 31: 147.

Type species: *Prosomura symmetra* TURNER, 1919, by monotypy.

Semnolocha MEYRICK, 1936, Exot. Microlepidopt. 5: 49. Syn. n.

Type species: *Semnolocha pachysticta* MEYRICK, 1936, by monotypy.

Head with appressed scales. Ocellus absent. Proboscis well developed. Labial palpus recurved; 1st segment short; 2nd slightly longer than 3rd, without brush or raised scales below. Antenna without pecten. Coloration of forewing inconspicuous, with 3 stigmata; tornus with a diffused pale fuscous to black spot; a series of pale fuscous to black dots round posterior part of costa and termen. Forewing venation: R4 and R5 stalked or coincident, R5 or R4+5 to costa, apex or termen, CuA1 and CuA2 separate or stalked. Hindwing venation: Rs and M1 connate or stalked, M3 and CuA1 connate or stalked.

Male genitalia. Uncus simple, not bifid. Tegumen trapezoidal. Gnathos broad with a pointed or a dull-pointed apex. Valva variable in shape, with or without strongly sclerotized process on inner surface. Juxta variable in shape. Saccus present.

Female genitalia. Papilla analis weakly sclerotized. Apophysis posterioris nearly equal to, or much longer than, apophysis anterioris. Eighth sternite variably sclerotized. Antrum defined or not. Corpus bursae usually clearly defined. Signum present, long or plate-like sclerite with a pair of thorn-like processes.

Remarks. HODGES (1978) defined the Autostichinae by the venation and genitalia (e.g., 1A present in the forewing; Rs and M1 stalked or approximate in the hindwing; gnathos slender band and slightly expanded medially in the male genitalia). However, these characters seem to be plesiomorphic. The characteristic signum of *Autosticha* is considered as one of possible synapomorphies of the Autostichinae. MEYRICK (1925) defined *Autosticha* and the related genera by the absence of the vein R5. However, as pointed out by Bradley (1962), the MEYRICK's definition based on the venation is not acceptable, because condition of the veins R4 and R5 varies between closely related species. The genus *Autosticha* is closely allied to the genus *Apethistis* MEYRICK judging from the genitalia given by CLARKE (1969a) and ZIMMERMAN (1978). I consider that *Apethistis* can be defined by the bifid uncus in the male genitalia. In *Autosticha*, no apparent apomorphic character seems to have been found in the male genitalia. Therefore I tentatively regard *Autosticha* as those have a simple uncus in the subfamily Autostichinae. Although the forewing veins R4 and R5 are stalked in the Japanese species treated here, I assign them to the genus *Autosticha*, because the shapes of uncus are the *Autosticha* type. Further investigation is needed to clarify the monophyly of the genus *Autosticha* on the world basis.

Hosts of the genus are little known. However, as far as known, the larvae feed on moss, lichens and vegetable refuse (MEYRICK, 1925).

Key to Japanese species of *Autosticha*

External characters

1. Forewing with subcostal and dorsal dots from near base to 1/52
- Forewing without such dots4
2. Forewing with a distinct black spot on tornus; ground color whitish gray
.....*pachysticta* (MEYRICK)
- Forewing with a diffused fuscous or black spot on tornus; ground color
yellowish white or brownish ochereous3
3. Forewing with large stigmata; ground color yellowish white
.....*tetragonopa* (MEYRICK)
- Forewing with small stigmata; ground color brownish ochereous
.....*imitativa* sp. n.
4. Forewing suffused with ochereous on costa from before middle to near apex
.....*truncicola* sp. n.
- Forewing not suffused with ochereous on costa5
5. Labial palpus yellowish ochereous, with 2nd segment strongly irrorated
with fuscous*kyotensis* (MATSUMURA)
- Labial palpus ochereous, weakly irrorated with pale fuscous

-*modicella* (CHRISTOPH)
- Male genitalia*
1. Valva with sclerotized process on inner surface2
 - Valva without process4
 2. Valva broad and rather short*pachysticta* (MEYRICK)
 - Valva elongate and rather long3
 3. Valva with stout, digitate inner process*kyotensis* (MATSUMURA)
 - Valva with broad, subtriangular inner process.....*truncicola* sp. n.
 4. Valva with distal margin produced posteriorly into process5
 - Valva with distal margin not produced*modicella* (CHRISTOPH)
 5. Valva with distal margin armed with a thorn-like process
.....*tetragonopa* (MEYRICK)
 - Valva with distal margin armed with a long process*imitativa* sp. n.
- Female genitalia*
1. Ductus seminalis arising from junction of ductus bursae and corpus bursae
.....2
 - Ductus seminalis arising from posterior end of ductus bursae4
 2. Signum with U-shaped central part*modicella* (CHRISTOPH)
 - Signum with central part forming a single bar3
 3. Ductus bursae with many minute spines*tetragonopa* (MEYRICK)
 - Ductus bursae without spines*imitativa* sp. n.
 3. Lamella antevaginalis trapezoidal; ductus bursae membranous4
 - Lamella antevaginalis quadrate; ductus bursae weakly sclerotized
.....*truncicola* sp. n.
 4. Signum with central part forming a small quadrate plate
.....*kyotensis* (MATSUMURA)
 - Signum with central part forming a large, longitudinally long plate
.....*pachysticta* (MEYRICK)

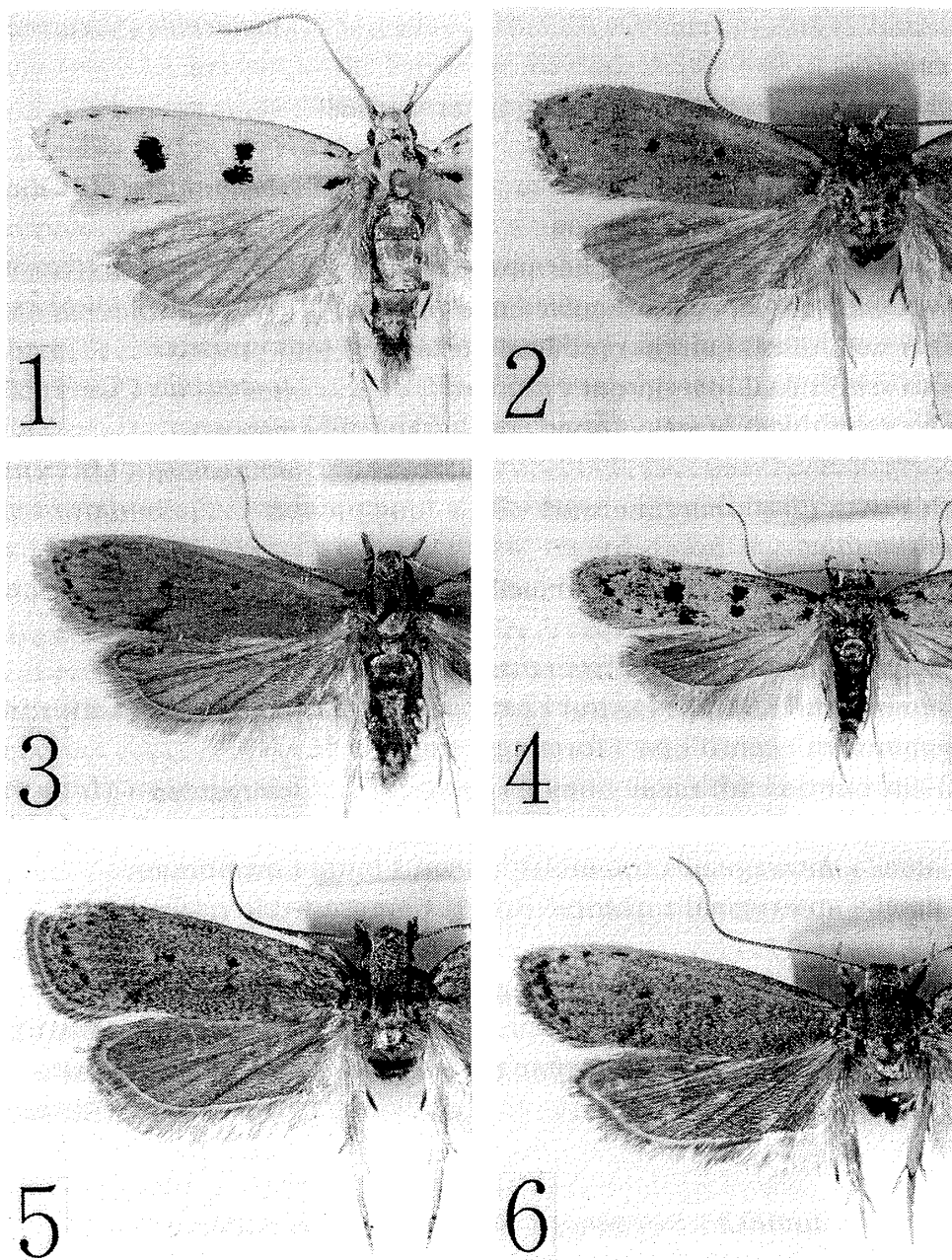
Autosticha tetragonopa (MEYRICK, 1935) comb. n.

(Figs. 1, 11, 17)

Brachmia tetragonopa MEYRICK, 1935: 75.; GAEDE, 1937, Lep. Cat., 79: 545.; CLARKE, 1969a: 377, pl. 187, Fig. 1.

Forewing length: 6.3–7.2 mm.

Head yellowish white. Antenna ocherous; scape black. Labial palpus yellowish white; 2nd segment suffused with fuscous from base to 2/3. Thorax yellowish white; anterior margin with narrow pale fuscous suffusion. Legs pale ocherous; fore and mid legs suffused with pale fuscous, except for tarsi; hind leg irrorated with pale fuscous. Forewing with CuA1 and CuA2 stalked; yellowish



Figs. 1-6. *Autosticha* spp., adults. — 1, *A. tetragonopa* (MEYRICK), ♂; 2, *A. imitativa* sp. n., ♂, holotype; 3, *A. modicella* (CHRISTOPH), ♂; 4, *A. pachysticta* (MEYRICK), ♂; 5, *A. kyotensis* (MATSUMURA), ♂; 6, *A. truncicola* sp. n., ♂, holotype.

white; costa pale fuscous in basal 1/4, with a blackish dot at base; subcosta with a blackish dot just before base; dorsum with a blackish spot at base; stigmata blackish, large; 1st discal at 1/3, plical larger and twice longer than the 1st, the two being scarcely confluent with each other, and 2nd obliquely long, situated at 2/3, occupying 1/3 the length of wing width; tornus with a diffused black spot; a series of 6 to 8 black marginal dots along posterior 1/3 of costa and

along termen; cilia yellowish white. Hindwing with Rs and M1 connate, and M3 and CuA1 connate; gray, strongly irrorated with pale fuscous; cilia pale brownish gray, with buff base; a narrow pale fuscous subbasal shade confluent with buff basal area.

Male genitalia. Uncus long, slender, curved ventrally, with inflated and oval apical portion. Tegumen trapezoid. Gnathos with blunt apex. Valva elongate; costal margin concave beyond middle; distal margin set with a short, pointed process. Juxta a quadrate plate; anterior margin slightly concave at middle; posterior margin strongly concave at middle. Saccus moderate in length. Aedeagus slender, tapered; right side with a minute process before apex.

Female genitalia. Papilla analis weakly sclerotized. Apophysis posterioris about twice length of apophysis anterioris. Eighth sternite broad, widest at anterior 1/4. Ostium reniform, opening about middle of 8th sternite. Ductus bursae stout, sclerotized, set with many minute spines. Ductus seminalis arising from junction of ductus bursae and corpus bursae. Signum a sclerotized bar, with a pair of slender, curved processes arising from basal 3/4.

Material examined. HONSHU: 1♂, Mt. Myojosan, Niigata Pref., 23–24. VII. 1982, A. SEINO, OMNH; 1♂, Ohnogawa, Nagano Pref., 15. VIII. 1988, H. HIRANO, OPU; 1♂, Kisojihar, Nagano Pref., 29–30. VII. 1991, T. HIROWATARI & Y. S. BAE, OPU; 3♂, Takayama, Gifu Pref., 22–24. VII. 1954, A. MUTUURA, OPU; 1♀, Sannoko, Nara Pref., 9. IX. 1991, T. UEDA, OPU. KYUSHU: 1♂, Shiramizu, Oita Pref., 27–28. VII. 1995, T. UEDA, OPU.

Distribution. Japan (Honshu, Kyushu), China.

Hosts. Unknown.

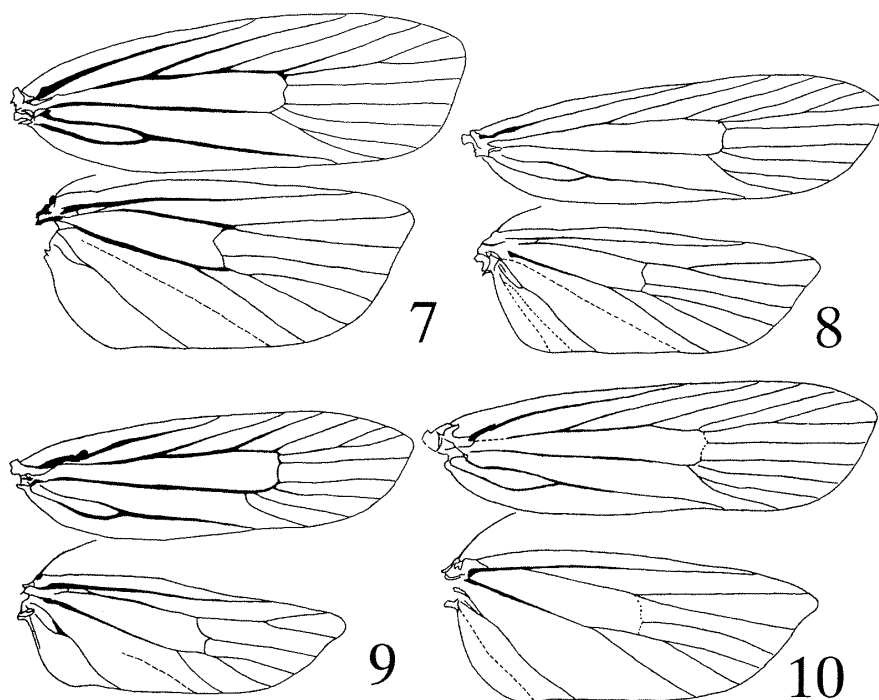
Remarks. This species is recorded from Japan for the first time. It is easily distinguished from the other *Autosticha* species by the yellowish white forewing and the conspicuous stigmata. In spite of superficial dissimilarity, it is nearest to *A. imitativa* sp. n., and the distinguishing characters between them will be mentioned under *imitativa*.

Autosticha imitativa sp. n.

(Figs. 2, 7, 12, 18)

Forewing length: 6.7–7.3 mm.

Head brownish ochereous, strongly irrorated with pale fuscous. Antenna ochereous, with fuscous annulations; scape ochereous, suffused with fuscous. Labial palpus ochereous; 2nd segment irrorated with fuscous outside; inner surface of 2nd and 3rd segments scattered with fuscous dots. Legs ochereous; fore and mid legs heavily irrorated with fuscous; hind tarsus scattered with fuscous scales. Forewing with CuA1 and CuA2 stalked; brownish ochereous,



Figs. 7–10. *Autosticha* spp., wing venation. — 7, *A. imitativa* sp. n., ♀, paratype; 8, *A. modicella* (CHRISTOPH), ♂; 9, *A. pachysticta* (MEYRICK), ♂; 10, *A. truncicola* sp. n., ♂, paratype.

strongly irrorated with pale fuscous; costa with a fuscous dot at extreme base; subcosta with a fuscous dot just before base; dorsum with a fuscous dot at base; stigmata fuscous; 1st discal at 1/3, plical beneath 1st, and 2nd at about 2/3; tornus with a diffused fuscous spot; a series of 6 to 7 fuscous marginal dots on apical 1/4 of costa and along termen; cilia pale fuscous, with ochreous base and narrow median shade. Hindwing with Rs and M1 connate, and M3 and CuA1 stalked; grayish brown, with whitish ochreous base and pale grayish brown apical shade.

Male genitalia. Uncus long, slender, curved ventrally; posterior margin rounded. Tegumen trapezoid. Gnathos with pointed apex. Valva elongate; costal margin deeply concave at posterior 3/7; distal margin set with a long, needle-shaped process. Juxta a quadrate plate; posterior margin concave at middle. Saccus moderate in length. Aedeagus slender; right side with a broad, triangular process at apex; cornuti composed of many minute denticles.

Female genitalia. Papilla analis weakly sclerotized. Apophysis posterioris about 2.5 times length of apophysis anterioris. Eighth sternite broad, nearly hexagonal. Ostium reniform, opening about middle of 8th sternite. Ductus bursae stout, sclerotized. Ductus seminalis arising from junction of ductus bursae and corpus bursae. Signum forming sclerotized bar, with a pair of slender, curved processes arising from beyond middle.

Material examined. Holotype: ♂, Japan: Honshu, Osaka Pref., Mino City, Ochiaidani, 21. VII. 1995, T. UEDA, OPU. Paratypes: 2 ♀, Mt. Makiosan, Osaka Pref., 28. VI. 1994, T. UEDA, OPU.

Distribution. Japan (Honshu).

Hosts. Unknown.

Remarks. This species is superficially similar to *A. modicella* (CHRISTOPH), *A. kyotensis* (MATSUMURA) and *A. truncicola* sp. n., but can be distinguished from them by the presence of 3 fuscous basal dots on the forewing. This species is closely allied to *A. tetragonopa* (MEYRICK) in the male and female genitalia, but is distinguished from the latter by the following points: the uncus with the apical portion nearly parallel-sided in *imitativa*, but oval in *tetragonopa*; the process of the valva of *imitativa* longer than that of *tetragonopa*; the ductus bursae set with many minute spines in *tetragonopa*, but with no spines in *imitativa*.

Autosticha modicella (CHRISTOPH, 1882) comb. n.

(Figs. 3, 8, 13, 19)

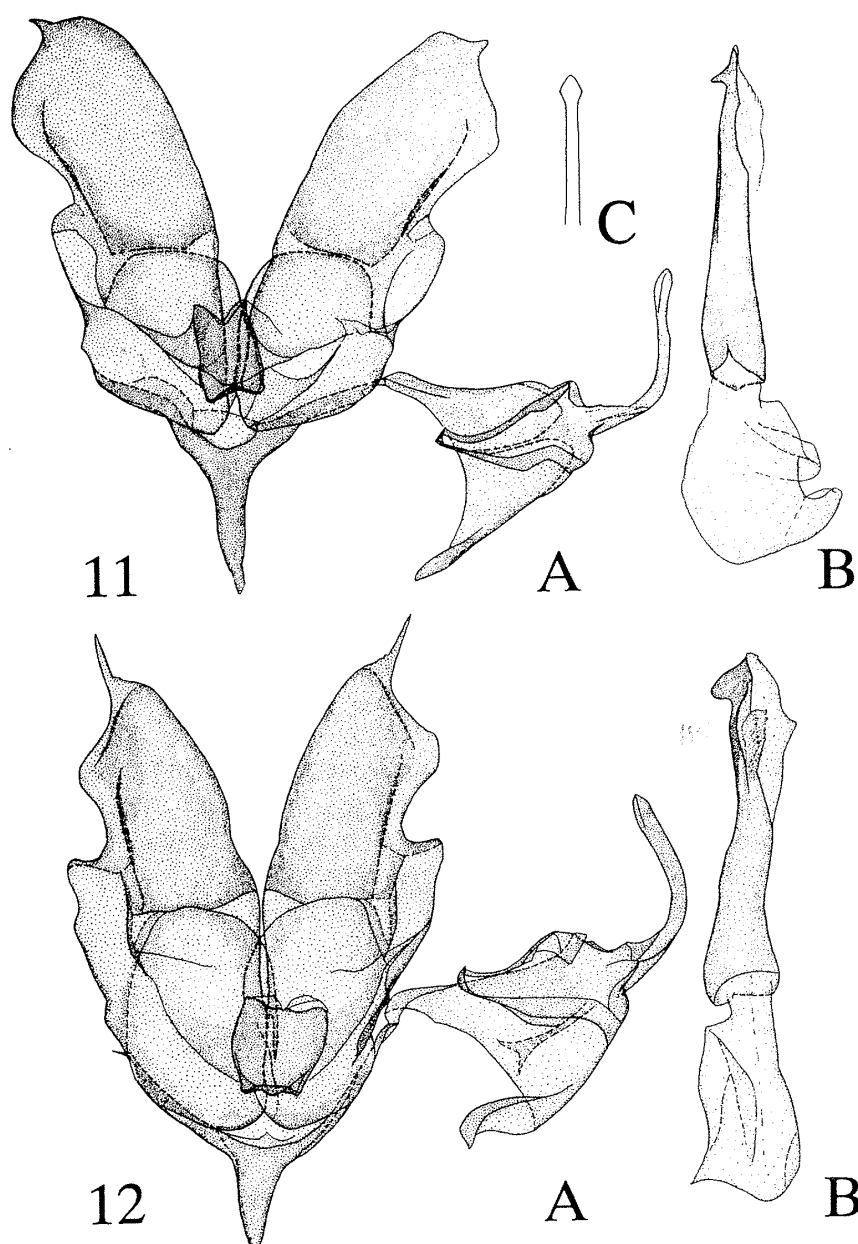
Ceratophora modicella CHRISTOPH, 1882, Bull. Soc. imp. Nat. Moscou, 57(1): 28.

Brachmia modicella: STAUDINGER & REBEL, 1901, Cat. Lep. pal. Fauna, 2: 157, nr. 2915.; ISSIKI, 1932, Icon. Ins. Japon.: 1475, fig. 2920.; Gaede, 1937, Lep. Cat., 79: 541.; ISSIKI, 1950, Icon. Ins. Japon., 1: 464, fig. 1255.; INOUE, 1954, Check Lists Lep. Japan, 1: 72.; OKANO, 1959, Icon. Ins. Japon. Col. Nat., 1: 271, pl. 180, fig. 6; SAITO, 1969, Early Stages Japan. Moths Col., 2: 112, pl. 54, fig. 215.; ISSIKI, 1971, Icon. Het. Japon. Col. Nat. Revised new edit.: 40, pl. 5, fig. 164.; MORIUTI, 1982: 287, pl. 13, fig. 44.

Forewing length: 4.7–7.5 mm.

Head ocherous. Antenna ocherous, annulated with pale fuscous; scape ocherous, irrorated with pale fuscous. Labial palpus ocherous, irrorated with pale fuscous. Thorax ocherous. Legs buff ocherous; fore tibia suffused with pale fuscous; fore tarsus annulated with pale fuscous; mid tibia suffused with ocherous; mid tarsus annulated with pale fuscous. Forewing with CuA1 and CuA2 stalked; ocherous, scattered with pale fuscous; costa with pale fuscous dot at extreme base; stigmata fuscous; 1st discal at 1/3, plical beneath it and 2nd at 2/3; tornus with a diffused pale fuscous spot; a terminal series of fuscous dots round posterior part of costa and along termen; cilia ocherous. Hindwing with Rs and M1 stalked, and M3 and CuA1 stalked; pale grayish brown; veins somewhat darker than ground color; cilia pale grayish, with buff base. Abdomen shining ocherous.

Male genitalia. Uncus strongly sclerotized, with pointed apex. Tegumen short, broad. Gnathos broad, with pointed apex. Valva elongate, about 5 times as long as wide and constricted at middle; distal margin slightly pointed. Juxta



Figs. 11–12. *Autosticha* spp., male genitalia. — 11, *A. tetragonopa* (MEYRICK); 12, *A. imitativa* sp. n., holotype. A, genitalia, aedeagus removed; B, aedeagus; C, uncus in dorsal view.

long, narrow, with sclerotized lateral margin; distal margin rounded. Saccus slender. Aedeagus slender, tapered, slightly curved dorsally at basal 1/5, with numerous thin spine-like cornuti.

Female genitalia. Papilla analis broad, nearly pentagon-shaped. Apophysis posterioris almost equal in length to apophysis anterioris. Posterior margin of 8th sternite concave at middle. Ostium bursae developed, trapezoidal in shape. Ductus bursae weakly sclerotized. Ductus seminalis arising from

junction of ductus bursae and corpus bursae. Corpus bursae oval, produced into trapezoid at insertion of signum. Signum U-shaped, with a pair of long-clawed processes.

Material examined. HOKKAIDO: 1♂, Futatsuyama, Kushiro City, 8. VIII. 1957, K. IJIMA, OPU. HONSHU: 1♂, Otani, Ishikawa Pref., 8. VII. 1991, T. UEDA, OPU; 1♂, 2♀, Kisogawa Riv., Gifu Pref., 10. VIII. 1994, T. UEDA, OPU; 2♂, 1♀, Mt. Takatoriyama, Nara Pref., 20. VII. 1991, T. UEDA, OPU; 1♀, Sannoko, Nara Pref., 18. VI. 1991, T. UEDA, OPU; 27♂, 43♀, same locality, 9. IX. 1991, T. UEDA, OPU; 4♂, 12♀, same locality, same data, T. HIROWATARI, OPU; 1♂, Kitamata, Nara Pref., 16. VI. 1992, T. UEDA, OPU; 1♀, same locality, 13. VII. 1993, T. UEDA, OPU; 1♀, Mt. Wasamatayama, Nara Pref., 24. VII. 1992, T. HIROWATARI, OPU; 1♂, Mt. Obakodake, Nara Pref., 3. VIII. 1979, K. YASUDA, OPU; 1♀, Totsukawa, Nara Pref., 25. V. 1979, K. YASUDA, OPU; 2♀, Ochiaidani, Osaka Pref., 21. VII. 1995, T. UEDA, OPU; 1♂, 1♀, Mt. Makiosan, Osaka Pref., 21. VI. 1980, T. SATO, OPU; 1♂, same locality, 18. IX. 1980, T. SATO, OPU; 1♂, 1♀, same locality, 18. VI. 1981, T. SATO, OPU; 1♂, Baba, Osaka Pref., 30. IX. 1994, T. UEDA, OPU; 1♂, Mt. Izumikatsuragisan, Osaka Pref., 26. VII. 1988, Y. S. BAE, OPU; 1♂, same locality, 16. VII. 1993, T. HIROWATARI, OPU; 1♂, Mt. Inunakisan, Osaka Pref., 16. VII. 1988, T. YASUDA & Y. S. BAE, OPU; 1♂, same locality, 3. VII. 1989, T. YASUDA & Y. S. BAE, OPU; 1♂, 3♀, same locality, 5. IV. 1991, T. UEDA, OPU; 6♂, 8♀, Mt. Mikusayama, Hyogo Pref., 27. VI. 1991, T. UEDA, OPU. SHIKOKU: 4♂, Misato-son, Tokushima Pref., 15. VI. 1991, T. HIROWATARI, OPU. KYUSHU: 1♂, Mt. Mikazukiyama, Fukuoka Pref., 16. VI. 1982, I. Kanazawa, OMNH; 1♂, Mt. Hikosan, Fukuoka Pref., 12. VII. 1979, I. Kanazawa, OMNH; 1♂, 4♀, Shiramizu, Oita Pref., 27-28. VII. 1995, T. UEDA, OPU.

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, Ussuri.

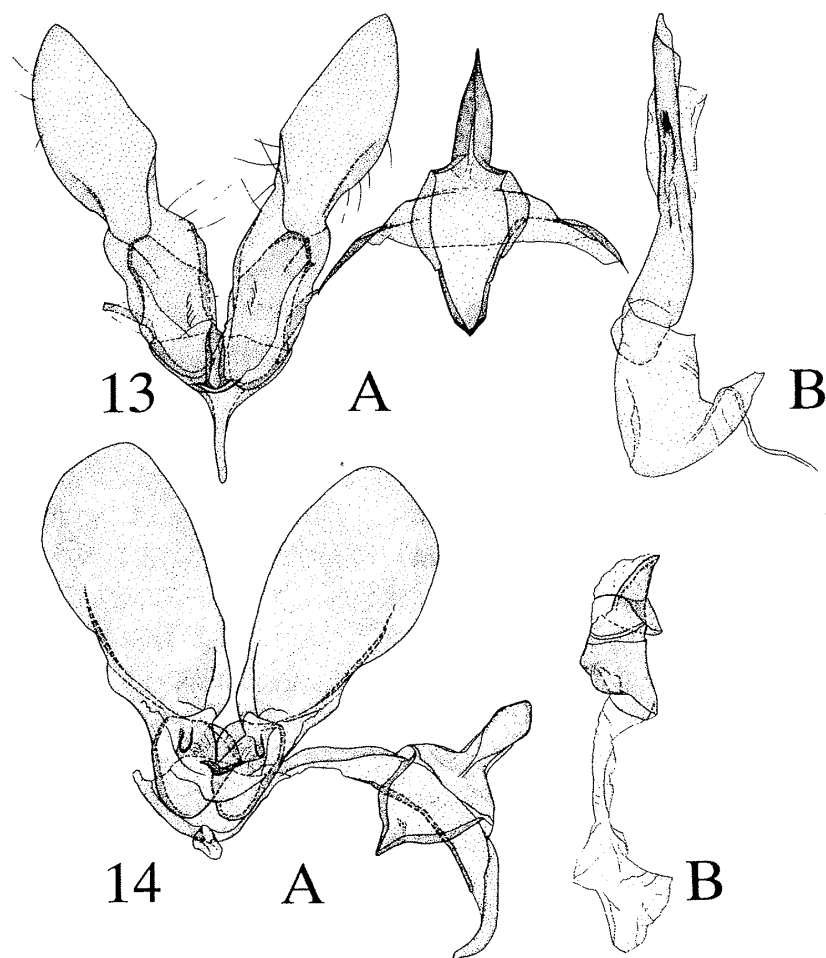
Hosts. Dead leaves. (The plant not identified.)

Remarks. This species resembles *A. imitativa* sp. n., *A. kyotensis* comb. n. and *A. truncicola* sp. n., but can be easily distinguished from them, in the genitalia, by the shape of the valva and the absence of the inner process of the valva (in male), and by the signum with a pair of strongly sclerotized, long-clawed processes (in female).

Autosticha pachysticta (MEYRICK, 1936) comb. n.

(Figs. 4, 9, 14, 20)

Semnolocha pachysticta MEYRICK, 1936, Exot. Microl., 5: 49.; GAEDE, 1937, Lep. Cat., 79: 541.;



Figs. 13–14. *Autosticha* spp., male genitalia. — 13, *A. modicella* (CHRISTOPH); 14, *A. pachysticta* (MEYRICK). A, genitalia, aedeagus removed; B, aedeagus.

CLARKE, 1969b: 363, pl. 181, fig. 1.; MORIUTI, 1982: 287, pl. 227, fig. 16, pl. 224, fig. 4, pl. 257, fig. 6.

Forewing length: 4.1–5.5 mm.

Head whitish gray, weakly irrorated with black. Antenna whitish gray, with pale fuscous annulations; scape suffused with fuscous, except for apical 1/4; pedicel fuscous. Labial palpus whitish gray; 2nd segment suffused with fuscous on basal half, and scattered with fuscous on apical half; 3rd segment scattered with fuscous. Thorax whitish gray, irrorated with pale fuscous. Legs whitish gray, irrorated with pale fuscous; mid tibia and tarsus ochreous, strongly irrorated with pale fuscous; hind tibia and tarsus ochreous. Forewing with CuA1 and CuA2 separate; whitish gray, irrorated with fuscous; costa margined with pale fuscous, with a black spot at base; subcosta with a black spot at 1/5; a black spot on dorsum at base; stigmata conspicuous, black; 1st discal orbicular, at 2/5, plical orbicular, beneath 1st, and 2nd at 3/5; tornus

with a conspicuous black spot; a series of 8 to 10 black dots along posterior half of costa and termen; cilia creamy white, tipped with whitish gray. Hindwing with Rs and M1 stalked, and M3 and CuA1 stalked; grayish brown; cilia grayish brown, with buff base. Abdomen grayish brown.

Male genitalia. Uncus short, digitate. Tegumen short, broad. Gnathos broad, with pointed apex. Valva broad; costal margin widely concave near middle; ventral margin concave at 1/5; distal margin slightly rounded; inner surface armed with a short sclerotized process at 1/5. Juxta V-shaped. Saccus short. Aedeagus short, stout, tapered; no cornutus.

Female genitalia. Papilla analis weakly sclerotized. Apophysis posterioris about 1.5 times length of apophysis anterioris. Anterior margin of 8th sternite rounded, concave at middle. Lamella antevaginalis large, trapezoid; posterior margin deeply concave at opening of ostium. Antrum small, strongly margined laterally. Ductus bursae long. Ductus seminalis arising from posterior end of ductus bursae. Corpus bursae oval. Signum a longitudinal plate, with a pair of recurved sclerotized processes.

Material examined. HONSHU: 5♂, Toshi Is., Mie Pref., 7. VIII. 1995, T. UEDA, OPU; 1♂, Mt. Makiosan, Osaka Pref., 19. VII. 1994, T. UEDA, OPU; 1♂, Mt. Ushitakisan, Osaka Pref., 9. VII. 1992, T. KADOHARA, OPU; 1♀, Nuno, Hiroshima Pref., 30. VI. 1992, Y. YAMATE, OPU; 1♂, same locality, 28. VII. 1992, Y. YAMATE, OPU. RYUKYUS: 2♂, 1♀, Mt. Omotodake, Okinawa Pref., 10. X. 1992, T. UEDA, OPU; 1♂, same locality, same data, T. HIROWATARI, OPU; 2♂, Funaura, Okinawa Pref., 13. X. 1992, T. UEDA, OPU; 1♂, same locality, 14. X. 1992, T. UEDA, OPU; 2♂, same locality, same data, T. HIROWATARI, OPU; 3♂, same locality, 11. V. 1993, Y. NAKATANI, OPU; 1♂, Nakamagawa, Okinawa Pref., 12. X. 1992, T. HIROWATARI, OPU.

Distribution. Japan (Honshu, Shikoku, Kyushu, Ryukyus).

Hosts. Unknown.

Remarks. This is the type species of *Semnolocha* MEYRICK. MORIUTI (1982) assigned the genus to the subfamily Autostichinae by the shape of the uncus and gnathos. I treat *Semnolocha* here as a junior subjective synonym of *Autosticha* MEYRICK on the basis of the male genitalic character. *A. pachysticta* is considered to be related to the two species described below in having the sclerotized process on the inner surface of the valva.

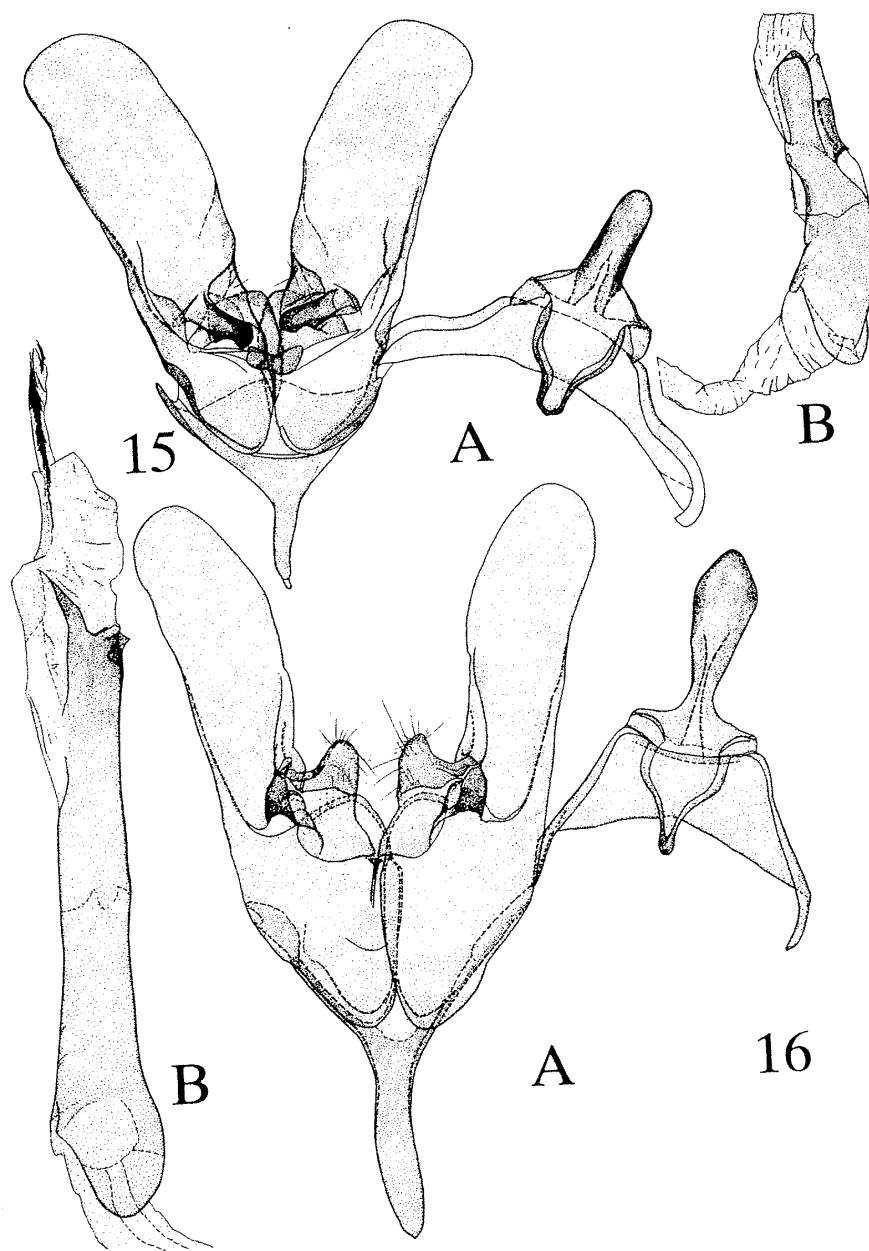
This species is characterized by the predominantly whitish gray forewing with distinct black stigmata, the broader valva, shorter saccus and shorter aedeagus.

Autosticha kyotensis (MATSUMURA, 1931) comb. n.

(Figs. 5, 15, 21)

Depressaria kyotensis MATSUMURA, 1931, 6000 illust. Insects Japan-Empire: 1090, fig. 2243.*Brachmia deodora* CLARKE, 1962, Ent. News 73: 98, figs 2, 6 (synonymy of *Depressaria kyotensis* MATSUMURA by RIDOUT, 1981, Ins. Matsum. n. s., 24: 35, figs 10, 22).*Brachmia kyotensis*: MORIUTI, 1982: 287, pl. 13, fig. 43.

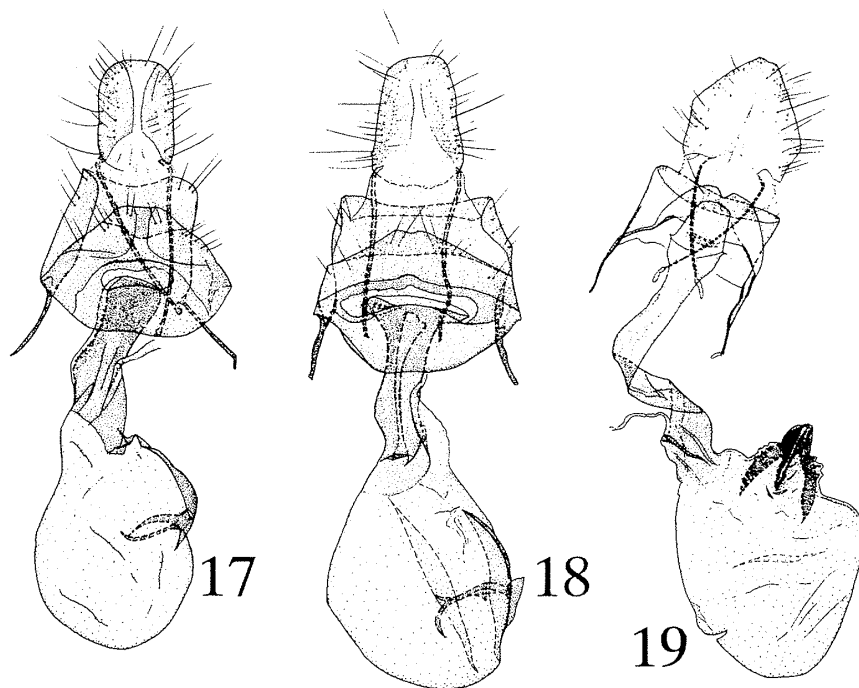
Forewing length: 6.1–8.3 mm.



Figs. 15–16. *Autosticha* spp., male genitalia. — 15, *A. kyotensis* (MATSUMURA); 16, *A. truncicola* sp. n., paratype. A, genitalia, aedeagus removed; B, aedeagus.

Head grayish buff, the individual scales being tipped with pale fuscous. Antenna yellowish ochreous, with narrow pale fuscous annulations; scape suffused with fuscous. Labial palpus yellowish ochreous; 2nd segment strongly irrorated with fuscous; 3rd segment scattered with fuscous. Thorax ochreous; tips of individual scales pale fuscous producing an irrorate effect. Legs yellowish ochreous, strongly irrorated with pale fuscous; mid tibia orange ochreous, strongly irrorated with fuscous. Forewing with CuA1 and CuA2 stalked; ochreous, the individual scales being tipped with pale fuscous; costa fuscous at extreme base, with 3 small pale fuscous dots on apical 1/3; stigmata fuscous; 1st discal at 2/5, plical beneath 1st, and 2nd at 3/5; tornus with a diffused fuscous spot; an indistinct series of 4 or 5 fuscous dots along termen; cilia ochreous, with fuscous subbasal shade and pale fuscous apical shades. Hindwing with Rs and M1 connate, and M3 and CuA1 stalked; pale shining brownish gray; cilia pale brownish gray, with buff base. Abdomen grayish buff.

Male genitalia. Uncus digitate. Tegumen short, broad. Gnathos broad, with pointed apex. Valva elongate, about 3.5 times as long as wide; distal margin rounded; sacculus produced inwardly into a triangular lobe before middle; inner surface produced inwardly into a strongly sclerotized, ventrally curved process at 1/3. Juxta trapezoidal, with long, needle-shaped sclerite which is produced posteriorly on the anterior margin; anterior and posterior margin concave. Saccus moderate. Aedeagus stout, tapered; ventral margin



Figs. 17-19. *Autosticha* spp., female genitalia. — 17, *A. tetragonopa* (MEYRICK); 18, *A. imitativa* sp. n., paratype; 19, *A. modicella* (CHRISTOPH).

armed with a short process at apical 1/4.

Female genitalia. Papilla analis elongate, with distal margin rounded. Apophysis posterioris about 1.5 times length of apophysis anterioris. Posterior margin of 8th sternite slightly rounded, concave at middle. Lamella ante-vaginalis trapezoidal; posterior margin concave at middle. Lamella post-evaginalis with rounded posterior margin. Antrum subtriangular; left side with a long, strongly sclerotized plate and right side with a short, strongly sclerotized plate. Ductus bursae long. Ductus seminalis arising from posterior end of ductus bursae. Corpus bursae oval. Signum a quadrate plate, with recurved, strongly sclerotized processes from each of posterior angles.

Material examined. HONSHU: 2♂, Kannondai, Ibaraki Pref., 12–17. VI. 1991, S. YOSHIMATSU, NIAES; 1♂, Kisogawa Riv., Gifu Pref., 10. VIII. 1994, T. UEDA, OPU; 1♂, 1♀, Toshi Is., Mie Pref., 7. VIII. 1995, T. UEDA, OPU; 1♂, Sakai, Osaka Pref., 23. IV. 1957, T. KODAMA, OPU; 1♂, Satsukinohigashi, Osaka Pref., 24. VI. 1991, M. ISHII, OPU; 10♂, 28♀, Yamatetyo, Osaka Pref., 2–19. VII. 1978, S. MORIUTI, OPU; 1♂, Mt. Mikusayama, Hyogo Pref., 27. VI. 1991, T. UEDA, OPU; 1♂, Aimi, Tottori Pref., 3. V. 1992, T. KADOHARA, OPU.

Distribution. Japan (Honshu).

Hosts. *Cedrus deodora* (Roxb.) Loud. (Pinaceae), *Prunus mume* (Sieb.) Sieb. et Zutt. (Rosaceae) (larvae in spun dead leaves of *Cedrus deodora* and fed on the bark of *Prunus mume*).

Remarks. This species is closely allied to the next species, *A. truncicola* sp. n. The diagnosis characters are described below. The bark of *Prunus mume* is recorded here as the host for the first time.

Autosticha truncicola sp. n.

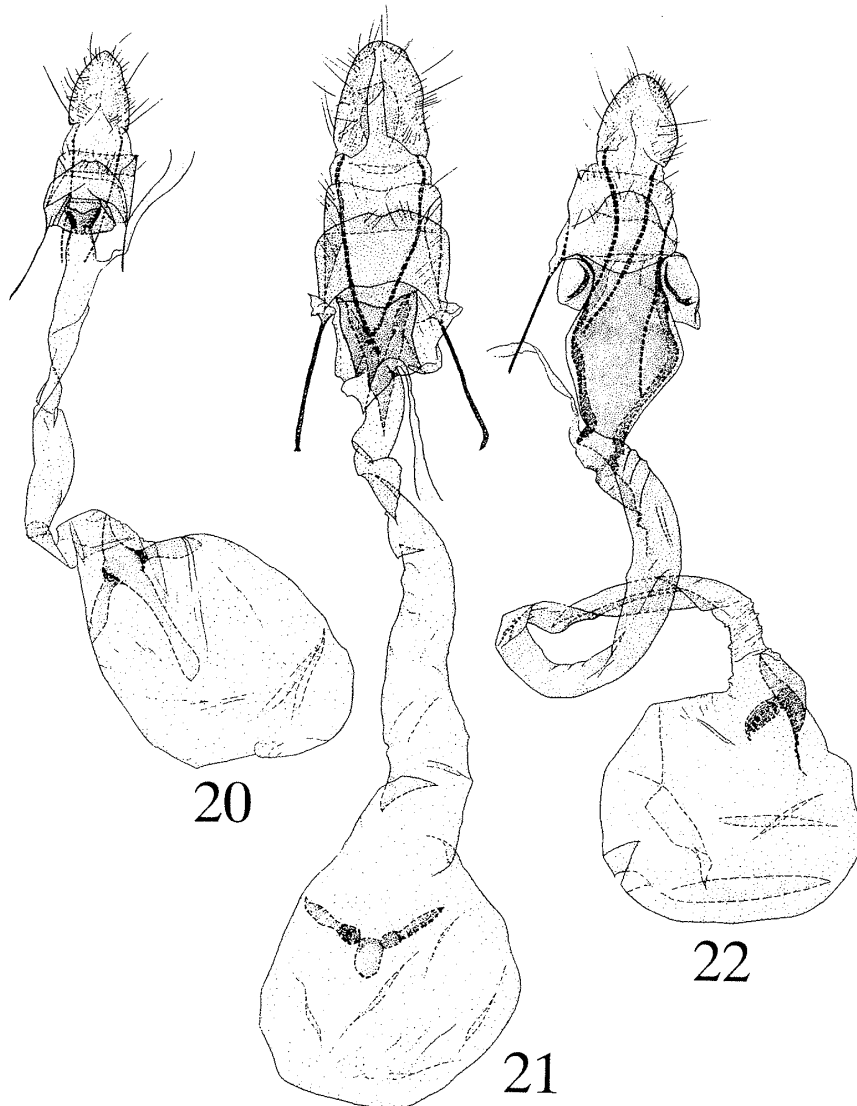
(Figs. 6, 10, 16, 22)

Brachmia opaca: MEYRICK, 1935, in CARDJA & MEYRICK, Microl. Kiangsu: 75, pro parte.

Brachmia sp.: YOSHIMATSU, 1992, Jpn. J. Ent., 60(4): 780, figs 5, 10.

Forewing length: 5.5–8.0 mm.

Head brownish ochreous, strongly irrorated with pale fuscous; anterior area of orbit fuscous. Antenna brownish ochreous, with pale fuscous annulations; scape irrorated with pale fuscous. Labial palpus whitish ochreous; 2nd segment heavily irrorated outwardly with fuscous, and 2nd and 3rd segments somewhat scattered inwardly with fuscous dots. Thorax brownish ochreous, strongly irrorated with pale fuscous. Fore and mid legs predominantly fuscous, and hind leg whitish ochreous. Forewing with CuA1 and CuA2 stalked; brownish ochreous, strongly irrorated with pale fuscous throughout; costa



Figs. 20–22. *Autosticha* spp., female genitalia. — 20, *A. pachysticta* (MEYRICK); 21, *A. kyotensis* (MATSUMURA); 22, *A. truncicola* sp. n., paratype.

suffused with ochreous from before middle to near apex; stigmata fuscous; 1st discal at 2/5, plical beneath the 1st, and second at 2/3; tornus with a diffused fuscous spot; a series of 8 to 9 fuscous dots along apical 1/4 of costa and termen; cilia pale fuscous, with ochreous base and with a narrow brownish ochreous median shade. Hindwing with Rs and M1 connate, and M3 and CuA1 stalked; grayish brown, irrorated with fuscous; cilia grayish brown, with whitish ochreous base and with a pale brownish gray median shade. Abdomen pale fuscous, with whitish ochreous posterior band on each segment.

Male genitalia. Uncus spatulate. Gnathos narrow, terminating in a blunt point. Valva elongate, narrow, with rounded distal margin; sacculus with a broad, triangular lobe at before middle; inner surface produced inwardly into a

subtriangular, strongly sclerotized process, which is combined with lobe of sacculus. Vinculum narrow, with long saccus. Aedeagus long, with a small process at ventro-apical margin; apex of dorsal corner set with a long, dorsally curved, needle-shaped process; vesica with numerous thin spine-like cornuti.

Female genitalia. Papilla analis moderate in shape. Apophysis posterioris about 1.5 times length of apophysis anterioris. Eighth sternite subtriangular, with posterior margin rounded. Lamella antevaginalis quadrate, with falcate, strongly sclerotized plates along each lateral side of antrum; posterior margin concave. Antrum large, strongly sclerotized, longer than wide, widest before middle. Ductus bursae elongate, coiled, weakly sclerotized. Ductus seminalis arising from posterior end of ductus bursae. Signum a strongly sclerotized bar, with a strongly sclerotized C-shaped process.

Material examined. Holotype: ♂, JAPAN; HONSHU, Mie Pref., Toba City, Toshi Is., 7. VIII. 1995, T. UEDA, OPU. Paratypes: HONSHU: 3♂, Kannondai, Ibaraki Pref., 1990, S. YOSHIMATSU, Em. 18. VI. 1990, NIAES; 1♂, same locality, VI. 1991, S. YOSHIMATSU, Em. 18. VI. 1991, NIAES; 1♂, same label, Em. 20. VI. 1991, NIAES; 2♂, same label, Em. 21. VI. 1991, NIAES; 3♂, 2♀, same label, Em. 25. VI. 1991, NIAES; 3♀, same label, Em. 26. VI. 1991, NIAES; 2♀, same label, Em. 27. VI. 1991, NIAES; 1♂, 2♀, same label, Em. 28. VI. 1991, NIAES; 1♀, same label, Em. 29. VI. 1991, NIAES; 3♂, 2♀, same label, Em. 1. VII. 1991, NIAES; 1♀, same label, Em. 2. VII. 1991, NIAES; 1♂, same label, Em. 3. VII. 1991, NIAES; 1♂, 2♀, same label, Em. 6. VII. 1991, NIAES; 1♂, 2♀, same label, Em. 8. VII. 1991, NIAES; 1♂, 1♀, same label, Em. 10. VII. 1991, NIAES; 3♂, 5♀, Toshi Is. Mie Pref., 7. VII. 1995, T. UEDA, OPU; 1♀, Yamatetyo, Osaka Pref., 3. VII. 1978, S. MORIUTI, OPU; 3♀, Aimi, Tottori Pref., 3. V. 1992, T. KADOHARA, OPU. KYUSHU: 1♂, 2♀, Kounominato, Fukuoka Pref., 3-4. VIII. 1991, T. HIROWATARI, OPU.

Distribution. Japan (Honshu, Kyushu).

Hosts. *Sophora japonica* Linn., *Robinia pseudoacacia* Linn. (Leguminosae), *Prunus mume* (Sieb.) Sieb. et Zutt. (Rosaceae) (larvae were found on cankers of *Sophora japonica* caused by *Uromyces truncicola*, and fed on the bark of *Sophora japonica*, *Robinia pseudoacacia* and *Prunus mume*).

Remarks. *A. truncicola* is closely allied to the preceding species, *A. kyotensis*. The costa of the forewing is suffused with ochreous from before middle to near apex in *truncicola*, but is not suffused with ochreous in *kyotensis*. The male genitalia resemble those of *kyotensis*, but are distinguished from them by the following respects: in *truncicola* the uncus spatulate, the valva with a subtriangular process on inner surface, and the aedeagus long, with cornuti, while in *kyotensis* the uncus digitate, the valva with a digitate process on inner surface, and the aedeagus stout, with no cornutus. In the female genitalia,

truncicola can be easily distinguished from *kyotensis* by the antrum broadest at the middle in *truncicola*, but triangular in *kyotensis*.

YOSHIMATSU (1992) recorded that the larvae of this new species are associated with *Sophora japonica* and *Robinia pseudoacacia*. According to him, the canker of *Sophora japonica* caused by *Uromyces truncicola* is considered to be one of the primary hosts and a suitable refuge for this species. The bark of *Prunus mume* is recorded here as the host for the first time.

Autosticha opaca (MEYRICK, 1927), comb. n., was described from a single Chinese female which is deposited in the Natural History Museum, London. I have examined the holotype, but unfortunately its abdomen is missing. MEYRICK (1935) recorded *opaca* from Japan and Taiwan, and the Japanese and Taiwanese specimens identified by him as *opaca* are also deposited in the Natural History Museum. However, the Japanese specimens differ from the holotype in the forewing coloration and are conspecific with *A. truncicola*. The genitalia of a Chinese male (slide no. 21883, K. S.; BMNH) which was collected at the type locality of *opaca* differ from those of *truncicola*. Judging from these points, I have come to the conclusions that the record of *opaca* from Japan was erroneously based on the misidentified specimens, and that the Japanese *opaca* should be described as new to science, viz., *A. truncicola*.

When CLARKE (1962) described *Brachmia deodora* Clarke, 1962 from Japan, he considered *deodora* to be close to *opaca*. Judging from the male genital characters of *opaca* given by CLARKE (1962), I am much inclined to think that his *opaca* was based on the Japanese specimen identifiable to *truncicola*.

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