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Genera *Eulamprotes* BRADLEY and *Daltopora* POVOLNÝ (Lepidoptera, Gelechiidae) from Japan

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Abstract Two Japanese species of the genus *Eulamprotes* are redescribed and 1 species of the related genus *Daltopora* is newly described.

Key words: *Eulamprotes*; *Daltopora*; *D. sinanesis* n. sp.; Gelechiidae; Japan.

The genera *Eulamprotes* BRADLEY, 1971 and *Daltopora* POVOLNÝ, 1979 are closely related to each other. The former genus is represented by 5 species mostly distributed in Europe, and 1 species, *E. atrella*, was recently recorded from Japan by SAKAMAKI (1993). On the other hand, the latter genus is monobasic, and the type species is so far known only from Mongolia. It is characterized by the secondary development of the very peculiar male gnathos, while most related genera are lacking even in the ordinary gnathos. In this paper 3 species of these genera are treated, 2 species of *Eulamprotes* is redescribed and 1 of *Daltopora* is newly described. On this occasion both the genera are also redescribed.

Genus *Eulamprotes* BRADLEY

Lamprotes HEINEMANN, 1870, Schmett. Dtl. Schweiz, 2(1): 309 (nom. preocc.). Type species: *Tinea atrella* (DENIS et SCHIFFERMÜLLER), 1775.

Argyritis HEINEMANN, 1870, Schmett. Dtl. Schweiz, 2(1): 283 (nom. preocc.). Type species: *Gelechia (Brachmia) pictella* ZELLER, 1839, [= *Phalaena (Tinea) wilkella* LINNAEUS, 1758].

Eulamprotes BRADLEY, 1971, Entomologist's Gaz., 22: 27 (objective replacement name for *Lamprotes* HEINEMANN).

♂ ♀. Head and face smooth or slightly rough-scaled, with neck plumes appressed together; ocellus posterior to antennal scape. Antenna filiform, 0.7–0.8 times as long as fore wing; scape slightly flattened at base. Maxillary palpus minute, 4-segmented, folded over base of tongue. Labial palpus smooth or slightly thickened with rough scales ventrally; 3rd segment smooth, about 1.0–1.1 times as long as 2nd segment. Thorax smooth. Legs long, smooth; fore tibia with a single minute calcarium at apex; mid tibia with a pair of

calcaria at apex; hind tibia with long or short bristly scales above, and with a pair of calcaria at middle and also at apex, the middle pair longer than the apical.

Fore wing (Fig. 1-A, B) somewhat broad, lanceolate, with an acute apex; discoidal cell somewhat long, occupying basal 2/3 of wing, nearly parallel-sided, obsolescent basally; 14-veined; R_1 running from middle of cell to about basal 3/5 of costa; R_2 from apical 1/3-1/4 of cell; R_3 from near upper angle of

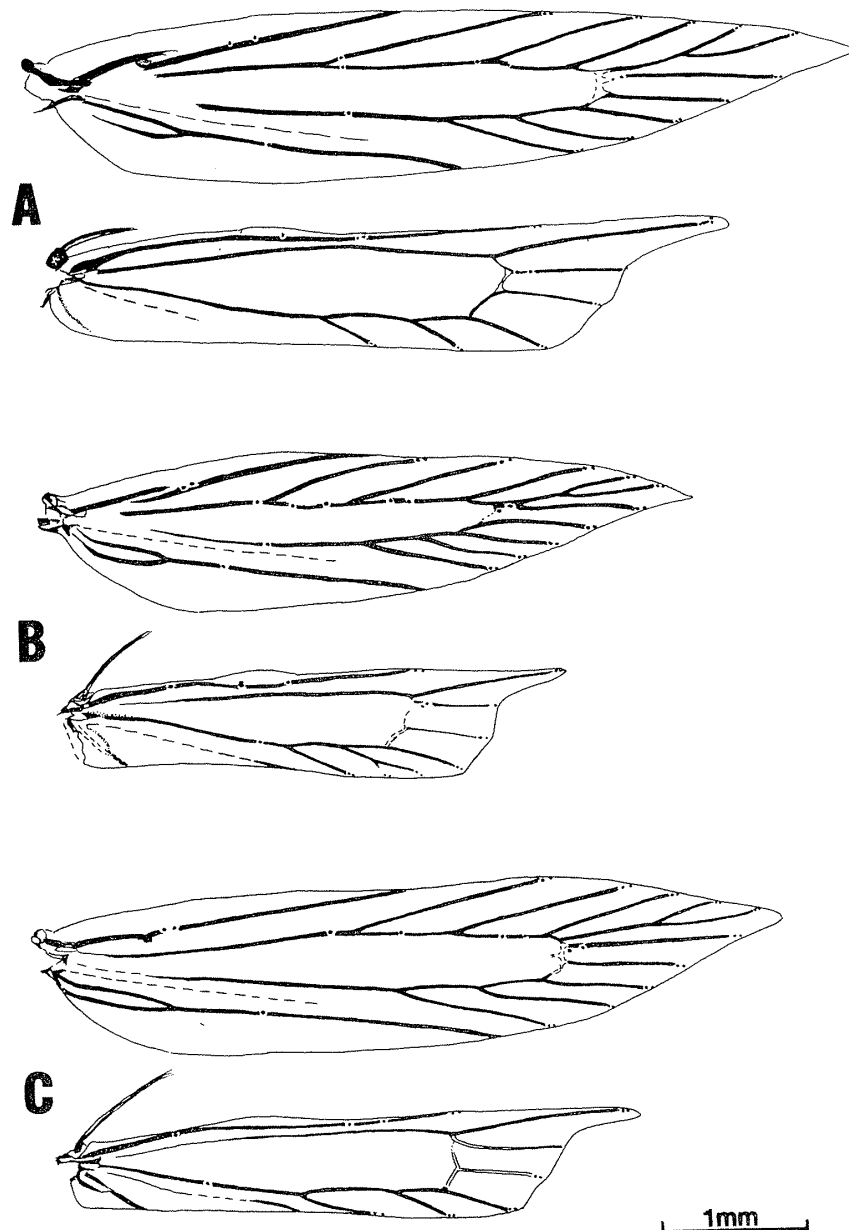


Fig. 1. Wing venation. A, *Eulamprotes atrella* ([DENIS et SCHIFFERMÜLLER]) [sl. no. Gel-94059]; B, *E. wilkella* (LINNAEUS) [sl. no. Gel-94032]; C, *Daltopora sinanensis* n. sp. [sl. no. Gel-94043, holotype].

cell; R_4 and R_5 long-stalked and the stalk arising from upper angle (in *E. wilkella* stem of R_4 and R_5 stalked with M_1); M_1 , M_2 and M_3 remote; CuA_1 and CuA_2 remote and parallel to one another; CuP rudimentary, obsolescent distally; $1A+2A$ forked at basal $1/6$, obsolescent basally. Hind wing about $5/6$ times as long as fore wing, trapezoidal, with an acute apex and an emarginate and somewhat sinuate termen; 9-veined; R_s running to apex; M_1 from nearer R_s than and parallel to M_2 ; M_3 from lower angle of cell to tornus; CuA_1 and CuA_2 short and parallel to each other; CuP running to middle part of dorsum, or obsolescent distally; anal vein rudimentary.

Male genitalia: Tegumen short, oblong, with a pair of triangular processes in cephalic corners; uncus spatulate, weakly sclerotized, with some long and short setae apically; tuba analis shortly projected. Transtilla sclerotized, somewhat broad. Valva constricted about middle, broadened apically, with a triangular inside lobe; inside lobe with some short setae on inner surface; sacculus short, digitate, with some short setae on almost whole surface. Vinculum narrow, with a long and pointed saccus. Aedeagus huge, taper-tubular, weakly sclerotized, with numerous and extremely minute cornuti, or without cornuti.

Female genitalia: Papilla analis weakly sclerotized, moderate or long, with some long and short setae and some fine plicae on almost whole surface; apophysis posterioris long, slender, slightly swollen at apex. Eighth abdominal segment weakly sclerotized, with some long setae on caudal margin; apophysis anterioris similar to apophysis posterioris in shape, but shorter than the latter; vaginal plate a little sclerotized, separated into a pair of lobes; sinus vaginalis with numerous minute spines on almost whole surface. Ostium bursae narrow, membranous; ductus bursae moderate in length, with a long ribbon-like cestum occupying caudal $2/3$; corpus bursae membranous, pyriform, with an oblong signum, which has some minute denticles and some long processes.

Species examined. *Eulamprotes atrella* ([DENIS et SCHIFFERMÜLLER]), *E. unicolorella* (DUPONCHEL), *E. wilkella* (LINNEAUS).

Remarks. This genus is closely related to *Daltopora*, *Argolamprotes* and *Monochroa*, but easily distinguishable from the latter three in the genitalia as follows: —Male gnathos absent; valva not sharply pointed at apex and constricted about middle; transtilla developed; aedeagus huge, tapering; female ductus bursae with a long ribbon-like cestum occupying caudal $2/3$.

So far as known, the species of *Eulamprotes* are associated with the Guttiferae, Caryophyllaceae and Lamiaceae.

Key to Japanese species of *Eulamprotes*

1. Fore wing with a pair of obscure yellow blotches; vein M_1 separate from a common stem of R_4 and R_5 *E. atrella*
- Fore wing with 3 silver fasciae and an apical silver spot; M_1 short-stalked with a common stem of veins R_4 and R_5 *E. wilkella*

Eulamprotes atrella ([DENIS et SCHIFFERMÜLLER], 1775)

Tinea atrella [DENIS et SCHIFFERMÜLLER], 1775, Ankündigung syst. werkes Schmett. Wienergegend: 140.

Anacampsis umbriferella HERRICH-SCHÄFFER, 1855, Schmett. Eur., 5: 195.

Lamprotes atrella: HEINEMANN, 1870, Schmett. Dtl. Schweiz, 2(1): 309.

Aristotelia atrella: MEYRICK, 1895, Handb. Br. Lep.: 575.

Xystophora atrella: CROMBRUGGLE, 1899, Ann. Soc. Ent. Belg., 43: 73.

Argyritis atrella: PIERCE & METCALFE, 1935, Genit. Tinein.: 4.

Eulamprotes atrella: BRADLEY, 1971, Entomologist's Gaz., 22: 27; SAKAMAKI, 1993, Tyô to Ga, 44: 18–21. figs. 1–A, 2.

♂ ♀. Expanse of wings: 10.8–13.0 mm. Length of fore wing: 5.6–6.0 mm.

Head cupreous fuscous; face yellowish ochre. Antenna filiform, a little shorter than fore wing, dark fuscous. Labial palpus yellowish ochre; 2nd segment with some pale fuscous scales scattered wholly; 3rd segment a little longer than 2nd segment, with a pair of dark fuscous longitudinal streaks on lateral sides. Thorax smooth, dark fuscous; metathorax pale fuscous. Legs dark fuscous; each femur greyish silver; apex of each segment of tarsi ochre; hind tibia with a whitish ochre band at middle and also at apex, and with ochre bristly scales above; calcaria of each tibia golden fuscous. Abdomen fuscous, becoming greyer ventrally.

Fore wing somewhat brilliantly brownish fuscous, with a yellow blotch on costa at apical 1/3 and also on tornus; cilia pale fuscous, becoming yellow towards base. Hind wing greyish fuscous; cilia pale fuscous.

Male genitalia: Valva elongated, somewhat constricted about middle; apical half of valva oblong; a triangular inside lobe of valva with some short setae; sacculus short, digitate. Uncus slender, weakly sclerotized, with 6 long and 4 short setae apically. Saccus long, pointed. Aedeagus massive, broad, tapering, weakly sclerotized, with numerous fine cornuti.

Female genitalia: Papilla analis long, narrow, weakly sclerotized, with some long and short setae and some longitudinal plicae on almost whole surface; apophysis posterioris long and slender. Eighth abdominal segment weakly sclerotized; apophysis anterioris slender, shorter than apophysis poste-

rioris. Vaginal plate separated into a pair of lobes, narrow; sinus vaginalis spinulate on almost whole surface. Ostium bursae narrow, membranous; ductus bursae moderate in length; cestum long, ribbon-like, occupying 2/3 of ductus bursae, with some minute dentate processes on cephalic part; corpus bursae pyriform, membranous; signum oblong, with 3 long processes at caudal margin and some denticles at caudal corners and cephalic margins.

Specimens examined. 5♂♂, 3♀♀. Japan [Hokkaidô]: 1♂, Horonobe Town, 23/viii/1993, Y. SAKAMAKI leg.; 2♂♂, 1♀, Kenebetsu, Nakashibetsu Town, 16/viii/1972, T. KUMATA leg. Denmark: 2♂♂, 2♀♀, Hanneov, Dania, vii/1969–78, J. LUNDQVIST leg.

Distribution. Palaearctic region from Europe to Japan.

Host plants. *Hypericum* spp. (Hypericaceae) in Europe; unknown in Japan.

Remarks. This species was recorded by SAKAMAKI (1993) from Japan on the basis of 3 specimens collected from the northeastern Hokkaidô. As further specimens are available for the present study, a redescription is given above. The drawing of the genitalia and the photograph of the adult specimen

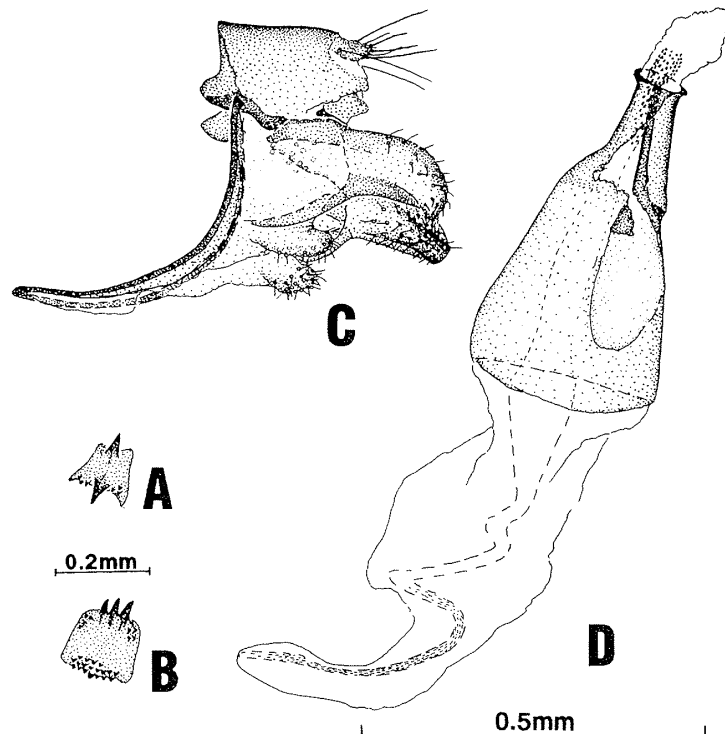


Fig. 2. A & B, female signum of *Eulamprotes atrella*. A, European specimen [Gen. sl. no. Gel-93066]; B, Japanese specimen [Gen. sl. no. Gel-93071]. C & D, *E. wilkella*; C, Male genitalia in lateral view, aedeagus omitted [Gen. sl. no. Gel-93075]; D, Aedeagus [ditto].

are given in my previous paper (SAKAMAKI, 1993). This redescription is based on the Japanese specimens. In the female signum, the Japanese specimens are a little different from the European one examined, as shown in Fig. 2 -A, B. This species is related to *E. unicolorella*, but easily distinguishable from the latter in having a pair of yellowish blotches on the fore wing.

Eulamprotes wilkella (LINNEAUS, 1761)

Phalaena (Tinea) wilkella LINNEAUS, 1758, Syst. Nat. (ed. 10), 1: 541.

Gelechia (Brachmia) pictella ZELLER, 1839, Isis, Leipzig, 1839: 202.

Gelechia germarella NOLCKEN, 1870, Fauna Estld., 2: 585.

Argyritis pictella: HEINEMANN, 1870, Schmett. Dtl. Schweiz, 2(1): 283.

Aristotelia pictella: MEYRICK, 1895, Handb. Br. Lep.: 574.

Eulamprotes wilkella: SATTLER, 1973, Bull. Br. Mus. nat. Hist. (Ent.), 28: 172.

♂. Expanse of wings: 9.3 mm. Length of fore wing: 4.3 mm.

Head and face brilliantly ochre. Antenna filiform, a little shorter than fore wing, fuscous, ringed with yellowish ochre. Labial palpus yellowish ochre; 3rd segment pale fuscous, with a yellowish apex. Thorax smooth, brilliant fuscous; patagium and tegula fuscous. Legs dark fuscous; each femur greyish silver; apex of each segment of tarsi ochre; hind tibia with a whitish ochre band at middle and also at apex, with short fuscous bristly scales above; calcaria golden fuscous. Abdomen not observed.

Fore wing brilliantly dark brown, with 3 silver fasciae; basal 2 fasciae parallel to each other, running from costa at basal 1/5 and 3/7 to near dorsum, respectively; 3rd fascia from 5/7 to tornus; a silver spot at apex of wing; cilia fuscous. Hind wing and its cilia pale fuscous.

Male genitalia (Fig. 2-C, D): Valva bluntly saber-shaped, somewhat constricted about middle; apical half of valva oblong, with numerous short setae on inner surface; an inside lobe of valva triangular, with some short setae; sacculus short, oval, with some short setae. Uncus short, slender, weakly sclerotized, with 6 long and 4 short setae apically. Saccus long, pointed. Aedeagus massive, broad, tapering, with a longitudinal sclerotized band on apical half, and with a side window at basal half; cornuti rather numerous, fine.

Specimens examined. 3♂♂. Japan [Hokkaidô]: 1♂, Toyotomi Town, 24/viii/1993, Y. SAKAMAKI leg. Denmark: 2♂♂, Hannenov, 28/vi/1947, and Asserbo, Dania, 11/vii/1977, J. LUNDQVIST leg.

Distribution. Palaearctic region from Europe to Japan (new record).

Host plant. *Cerastium* spp. (Caryophyllaceae) in Europe; unknown in Japan.

Remarks. This redescription is based on the single Japanese specimen

available, which is darker than the European ones in the ground colour of the fore wing. This species is new to the fauna of Japan.

This species is discriminated from other members of the genus by the combination of the following characters: —Third fascia of fore wing not interrupted; sacculus of male valva short, oval; male aedeagus with a longitudinal sclerotized band on apical half.

Genus *Daltopora* POVOLNÝ

Daltopora POVOLNÝ, 1979, Acta ent. bohemoslov. 76: 38–58. Type species: *Daltopora felixi* POVOLNÝ 1979

♂ ♀. Head and face smooth, with neck plumes somewhat erect. Ocelluli absent. Antenna filiform, shorter than fore wing. Maxillary palpus minute, folded over base of tongue. Labial palpus smooth or thickened with rough spread hairy scales ventrally. Thorax smooth. Legs long, smooth; mid tibia with a pair of calcaria at apex; hind tibia with long or short bristly scales above, and with a pair of calcaria at middle and also at apex, the middle pair longer than the apical.

Wings (Fig. 1–C) very similar to those of *Eulamprotes* in shape and venation. In the type species, veins R_4 and R_5 of fore wing stalked and the stem of them also stalked with M_1 , while in a new species, *D. sinanensis*, only veins R_4 and R_5 stalked.

Male genitalia: Tegumen short, oblong, with a pair of triangular processes in cephalic corners; tuba analis shortly projected. Uncus missing, or short, semicircular, with some long and short setae apically; gnathos strongly sclerotized, arch-shaped in caudal view, sigmoid in lateral view. Valva constricted about middle, broadened apically, with some setae inside; sacculus digitate, with some short setae on almost whole surface. Vinculum with a triangular saccus. Aedeagus somewhat broad, taper-tubular, weakly sclerotized, with numerous and extremely minute cornuti, or without cornuti.

Female genitalia: Papilla analis weakly sclerotized, short or moderate, with some long and short setae and some fine plicae on almost whole surface; apophysis posterioris long, slender, slightly swollen at apex. Eighth abdominal segment weakly sclerotized, with some long setae on caudal margin; apophysis anterioris similar to apophysis posterioris in shape, but shorter than the latter; vaginal plate little sclerotized; sinus vaginalis little sclerotized, smooth. Ostium bursae narrow, membranous; ductus bursae long, with a long ribbon-like or short cestum; corpus bursae membranous, oval, with 1 or 2 signa.

Remarks. The redescription given above is a little changed from the original description by an additional new species discovered in Japan, because

the original description is based on the type species alone and its generic diagnosis was narrowly restricted to it. For example, in the type species the female is brachypterous, while in the new species it has normal wings.

This genus is closely related to the genus *Eulamprotes* and very similar to it in male genital features except in having the peculiar gnathos, which is strongly sclerotized, arch-shaped in caudal view and sigmoid in lateral view. It is supposed that such a gnathos is developed secondarily, because it is unique to the genus *Daltopora* among its related genera (*Eulamprotes*, *Monochroa*, *Argolamprotes*), in which the gnathos is missing or rudimentary.

Daltopora sinanensis n. sp.

♂ ♀. Expanse of wings: 11.0–11.1 mm. Length of fore wing: 5.0–5.1 mm.

Head brilliant fuscous; face golden-fuscous; neck plumes somewhat rough scaled. Antenna filiform, about 3/5 as long as fore wing, fuscous, with a golden ring at each segment. Labial palpus dark fuscous, becoming paler inside; 3rd segment a little longer than the 2nd, with a pale ochre apex. Thorax and tegula smooth, fuscous; metathorax ochre. Legs dark fuscous; apex of each segment of tarsi golden; hind tibia with numerous pale fuscous bristly scales dorsally and laterally; calcaria of each tibia fuscous. Abdomen not observed.

Fore wing (Fig. 3) brownish fuscous, with an obscure discal stigma and 2 obscure ochre blotches, one on costa at apical 1/4 and the other on tornus; cilia fuscous, becoming paler towards base of wing. Hind wing greyish-fuscous, becoming darker towards apex; cilia pale fuscous.

Male genitalia (Fig. 4): Valva elongated, somewhat constricted about middle; apical half of valva oblong, with numerous short setae on inner surface;



Fig. 3. Adult specimen of *Daltopora sinanensis* n. sp. [paratype].

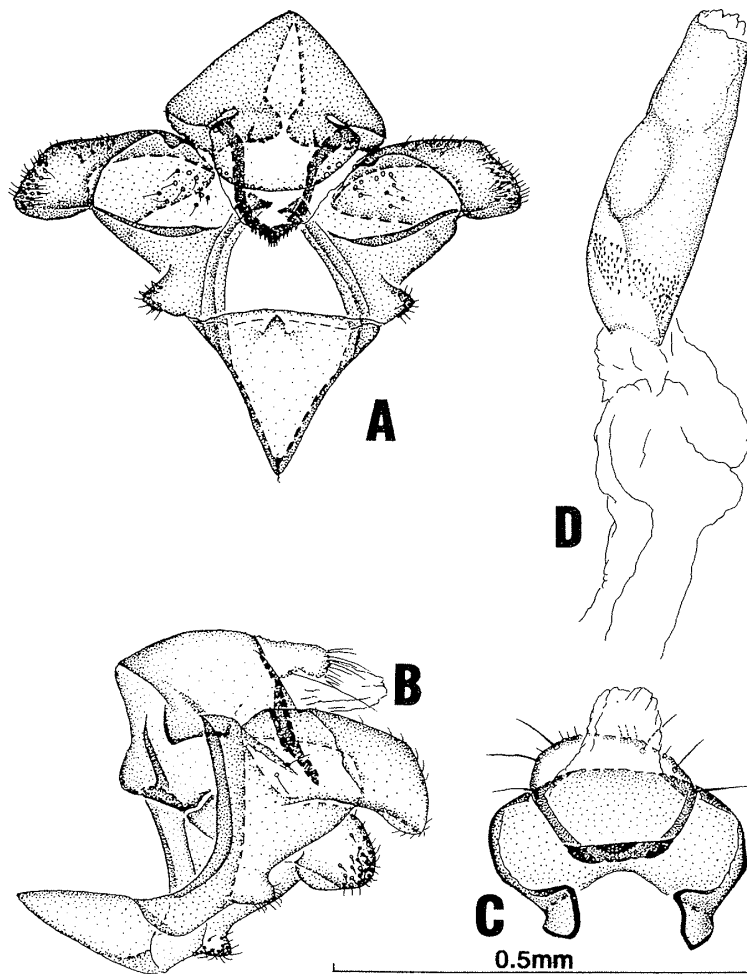


Fig. 4. *Daltopora sinanensis* n. sp. A, Male genitalia in caudal view, aedeagus omitted [Gen. sl. no. Gel-93099, holotype]; B, Ditto in lateral view [ditto]; C, Uncus, gnathos and tegumen in ventral view [ditto]; D, aedeagus [ditto].

sacculus short, triangular, with some short setae on inner surface. Uncus short, broad, semicircular, weakly sclerotized, with 6 long and 8 short setae marginally; gnathos strongly sclerotized, arch-shaped in caudal view, sigmoid in lateral view, with a spinulose apex. Saccus moderate in length, pointed. Aedeagus tubular, a little broad, weakly sclerotized, with an oval side window at middle; cornuti numerous, fine.

Female genitalia (Fig. 5): Papilla analis a little long, narrow, weakly sclerotized, with some long and short setae on almost whole surface; apophysis posterioris long and slender. Eighth abdominal segment weakly sclerotized, with some longitudinal plicae ventrally; apophysis anterioris slender, shorter than apophysis posterioris; sinus vaginalis membranous, shallow, smooth. Ostium bursae membranous; ductus bursae very long, crumpled on cephalic 4/5; cestum short, oblong; corpus bursae oval, membranous, somewhat crumpled,

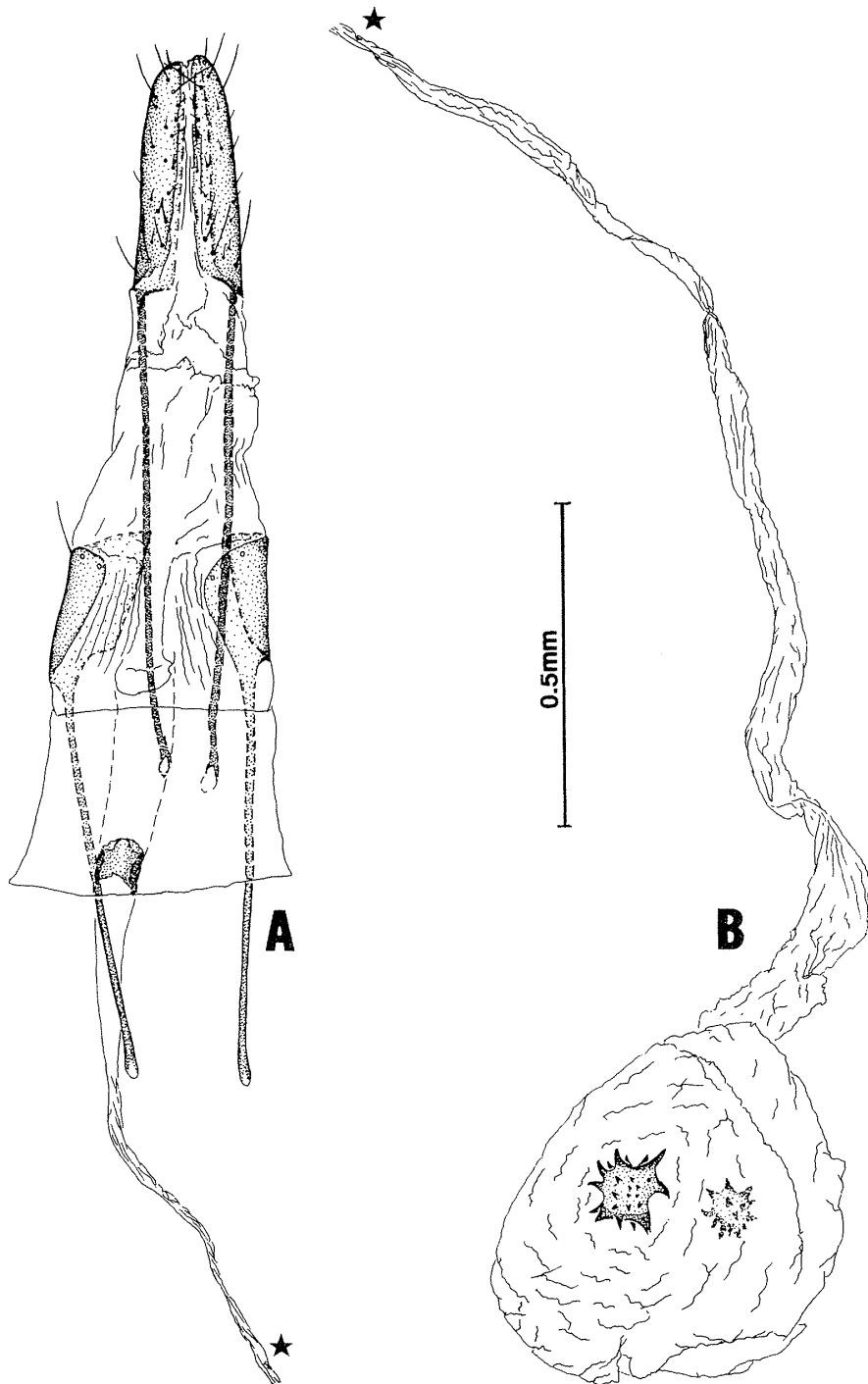


Fig. 5. *Daltopora sinanensis* n. sp. A, Female genitalia in ventral view, apical part of bursa copulatrix omitted [Gen. sl. no. Gel-93100, paratype]; B, Apical part of bursa copulatrix [ditto].

with a pair of thorny signa.

Specimens examined. 1♂, 1♀. Holotype, ♂, Ôtaki-Vill., Nagano-Pref.,

Honshû, 8/vii/1975, T. KUMATA leg., Gen. sl. no. Gel-93099. Paratype, 1 ♀, ditto, Gen. sl. no. Gel-93100, deposited in Hokkaido University.

Distribution. Japan (Honshû).

Host plants. Unknown.

Remarks. This new species is considerably different from the type species of the present genus, *D. felixi*, in the following characters: —The female is not brachypterous; the wing markings are indistinct; the labial palpus is smooth-scaled; the female cestum is short; and the corpus bursae has 2 signa. The new species is, however, surely referred to the genus *Daltopora* in that the male genitalia are very similar to those of the type species, especially in that the secondarily developed gnathos is a common character with the type species.

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