

Taxonomic Notes of the Genus *Oosternum*
(Coleoptera:Hydrophilidae) from Japan

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Taxonomic Notes of the Genus *Oosternum* (Coleoptera: Hydrophilidae) from Japan

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Abstract. A new species of the genus *Oosternum* is described under the name, *O. takedai* sp. nov. Moreover, *O. soricooides* d'Orchymont, 1941 is redescribed based on two type specimens. A key to the Japanese species of *Oosternum* is provided.

Introduction

The genus *Oosternum* consists of fifteen species (d'Orchymont, 1941; Hansen, 1991, 1999a, 1999b; Hebauer, 2002; Hoshina and Satô, 2004). In Japan, Hoshina and Satô (2004) described two species, *O. toshiiei* and *O. shigehisai*, with a key to three Japanese species of *Oosternum*.

Recently, the senior author collected seven specimens of *Oosternum* by the urea traps from Fukui Pref., Honshu. Moreover, we had an opportunity to examine two type specimens of *O. soricooides* d'Orchymont, 1941, preserved in the collection of Zoologisches Forschungsinstitut und Museum, Alexander Koenig, Bonn. Our careful examinations showed those specimens from Fukui Pref. belong to a new species, so that we are going to describe them with a redescription of *O. soricooides* in this paper.

The holotype designated in this study is deposited in the collection of the Museum of Nature and Human Activities, Hyôgo (MNHA). Paratypes are preserved in the author's collection. Before going into further details, we wish to express our sincere gratitude to Dr. Michael Schmitt (Zoologisches Forschungsinstitut und Museum, Alexander Koenig, Bonn) who gave us the opportunity of examining type specimens.

Key Words: Coleoptera, Hydrophilidae, the genus *Oosternum*, new species, redescription, Japan

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***Oosternum takedai* Hoshina et Satô, sp. nov.**

(Japanese name: Takeda-usuge-gamushi)

(Figs. 1, 3, 5, 7, 9, 11, 13)

This species is close to *Oosternum soricoides* d'Orchymont, 1941.

Diagnosis. Body length is about 1.5 mm. Dorsal color is brown and pubescent. Pronotum is weakly microreticulate, and strongly and densely punctate. A median carina of prosternum is high. Elevated middle portion of mesosternum is long-oval. Male genitalia has the relatively slender parameres in ventral view.

Measurement of holotype. Body length: 1.6 mm; head 0.37 mm in length and 0.47 mm in width; pronotum 0.38 mm in length and 0.76 mm in width; elytra 0.95 mm in length and 0.90 mm in width.

Coloration. Dorsum less shining, almost concolorous, brown, but head often a little darker than pronotum and elytra; dorsal pubescences very light brown; maxillary palpus light brown; 1st and terminal four segments of antennae brown and other segments light brown; all tarsi light brown, and other parts of legs brown with a little darker all coxae; prosternum dark-reddish brown with antennal grooves lighter than other area; a median carina of middle portion of prosternum black; meso- and metasterna dark-reddish brown.

Body 1.4-1.8 mm in length, about 1.7 times as long as wide (Fig. 1).

Head about 1.3 times as wide as long, slightly shorter than or almost as long as pronotum in length, about 0.62 times as wide as pronotum in width, partially and very weakly microreticulate, densely and minutely punctate, sparsely pubescent; clypeus almost smooth or very weakly microreticulate, feebly emarginated along apical margins, punctate as vertex; mentum impunctate and strongly microreticulate.

Pronotum about 2.1 times as wide as long, widest at the base, weakly microreticulate, sparsely pubescent as head; length and width of pronotum about 0.39 and 0.88 times as long as those of elytra, respectively (Fig. 1); lateral margins simply curved and narrowing from base to anterior margin; punctures of pronotum strong and dense, but minute in the central part (Fig. 3).

Scutellum smooth, and furnished with about five very minute punctures.

Elytra about 1.1 times as long as wide, widest at about basal 1/4 (Fig. 1), provided with nine punctate striae, but 8th and 9th striae hardly visible in dorsal view, sparsely and very minutely punctate between striae, and almost smooth, but partially weakly microreticulate; lateral margins weakly curved from the widest points towards apex; pubescences of elytra denser than those of head and pronotum; hind wings well developed.

Legs normal shape as other species of the genus *Oosternum*.

Prosternum less shining, glabrous, impunctate, and microreticulate; middle portion rough, with a distinct median carina whose length is about 0.10-0.13 mm (Fig. 5); mesosternum less shining, glabrous, impunctate, and microreticulate except for the middle portion; elevated middle portion of mesosternum shining, long-oval, and bluntly and apically pointed, punctate, sparsely pubescent, and smooth (Fig. 7); metasternum less shining, glabrous, impunctate, and rough except for middle portion, with indistinct femoral lines; anterolateral ridge weakly and posteriorly curved (Fig. 7); middle portion of metasternum elevated, but dished at central part, shining, pubescent, smooth, and punctate (Fig. 7).

Male genitalia 0.61 mm in length (Figs. 11 and 13); parameres slender in ventral view, longer than tegmen, sharply narrowed towards apex from about apical 1/5; median lobe simply and bluntly pointed, almost straight in ventral view and feebly curved and apically pointed in lateral view; genital segment as shown in Fig. 9.

Distribution. Japan: Honshu (Fukui Pref.).

Type series. Holotype, male, Nakaikemi Wetland, Tsuruga City, Fukui Pref., 24. vii.-5. viii. 2005, H. Hoshina leg. (by urea traps). Paratypes, 1 female, same data as holotype, except for the date, 14-17. vi. 2005 (by flight intercept traps); 6 specimens, same data as holotype.

Remarks. The present new species is similar to *Oosternum soricoides* d'Orchymont, 1941, but can be distinguished by having a body about 1.7 times as long as wide (Fig. 1), the dorsum relatively less shining, the pronotum weakly microreticulate, the strong pronotal punctures (Fig. 3), the anterolateral ridge of mesosternum weakly and posteriorly curved (Fig. 7), and relatively slender parameres in ventral view (Fig. 11). In contrast, the body of *O. soricoides* is about 1.9 times as long as wide (Fig. 2), the dorsum is relatively shining, the pronotum is strongly microreticulate, the pronotal punctures are small (Fig. 4), the ridge is almost straight (Fig. 8), and the parameres are relatively thick (Fig. 12). *O. takedai* sp. nov. is easily separated from *O. toshiiei* Hoshina et Satô, 2004 by having the brown dorsum and parameres longer than tegmen (Fig. 11), whereas in *O. toshiiei*, the dorsum is dark brown and parameres are shorter than tegmen.

Bionomics. In 2004-2005, the senior author collected beetles by sifting litters about ten times in Nakaikemi Wetland and its nearby forests, but no specimens of *O. takedai* sp. nov. could be found. In the biennial field surveys using about thirty flight intercept traps, only one specimen was caught. However, seven specimens were collected by six urea traps in July, 2005. There is no doubt that *O. takedai* sp. nov. is attracted to the urea.

All type specimens were caught in the wetland. However, they perhaps came flying from its adjacent forests to the wetland because other Japanese species of *Oosternum* are forestal.

Etymology. This new species is dedicated to the famous royalist during the Restoration period, Kôunsai Takeda (1803-1865) who was sent to the block in Tsuruga.

***Oosternum soricoides* d'Orchymont, 1941**

(Japanese name: Tairiku-usuge-gamushi)

(Figs. 2, 4, 6, 8, 10, 12, 14)

Oosternum soricoides d'Orchymont, 1941: 13 (type locality: Fukien, Chine); Hansen, 1999a: 242; Hansen, 1999b: 303; Hoshina and Satô, 2004: 15.

Redescription. Coloration. Dorsum a little shining; head dark brown; pronotum and elytra brown; body 1.6-1.7 mm in length and 0.85-0.90 mm in width; head about 1.3 times as wide as long, weakly microreticulate, sparsely pubescent; length of head almost as long as that of pronotum; width of head about 0.64 times as long as that of pronotum (Fig. 2); punctures of head minute and dense; clypeus microreticulate and punctate as vertex; pronotum about 2.0 times as wide as long, strongly microreticulate, sparsely pubescent; length and width of pronotum about 0.38 and 0.91 times as long as those of elytra, respectively; punctures of pronotum minute and dense (Fig. 4); scutellum smooth, and furnished with a few minute punctures; elytra about 1.2 times as long as wide, widest at about basal 1/4, with almost smooth, pubescent more densely than head and pronotum, provided with nine punctate striae, but 8th and 9th striae hardly visible in dorsal view, sparsely and very minutely punctate between striae; prosternum with a high median carina (Fig. 6); elevated middle portion of mesosternum shining and long-oval, punctate, sparsely pubescent, and smooth (Fig. 8); femoral lines indistinct; anterolateral ridge of metasternum distinct and nearly straight (Fig. 8); middle portion of metasternum elevated, but dished at central part, shining, pubescent, smooth, and minutely punctate (Fig. 8); genital segment and male genitalia as shown in Figs. 10, 12, and 14.

Distribution. China and Japan: Kyushu (?)

Specimens examined. Two types, 1 male and 1 female, Kwangtseh-Fukien, China, 24. vii. 1937, J. Klapperich leg. (preserved in the collection of Zoologisches Forschungsinstitut und Museum, Alexander Koenig, Bonn).

Remarks. *Oosternum soricoides* d'Orchymont, 1941 was recorded for the first time from Japan by Hansen (1999a). The present redescription is based on two Chinese types, and we have not examined Japanese specimens. Japanese species of *Oosternum* are similar to each other, and some unnamed specimens of this genus are preserved in the senior author's collection. Therefore, Japanese specimen identified as *O. soricoides* in Hansen (1999a) is probably *O. takedai* sp. nov. or other unknown species.

Key to Species of the Genus *Oosternum* in Japan

1. Body about 1.5 times as long as wide; dorsum dark brown; pronotum smooth; a median carina of prosternum indistinct; anterolateral ridge of metasternum indistinct on external 1/3 or 1/4; parameres of male genitalia clearly shorter than tegmen.
..... *Oosternum toshiiei* Hoshina et Satô
- . Body about 1.7-1.9 times as long as wide (Figs. 1-2); dorsum brown; pronotum weakly or strongly microreticulate; a median carina of prosternum distinct (Figs. 5 and 6); anterolateral ridge of metasternum distinct (Figs. 7 and 8); parameres longer than tegmen (Figs. 11 and 12). 2
2. Elevated middle portion of mesosternum sticky; parameres slightly longer than tegmen.
..... *O. shigehisai* Hoshina et Satô
- . Elevated middle portion of mesosternum long-oval (Figs. 7 and 8); parameres clearly longer than tegmen (Figs. 11 and 12). 3
3. Body about 1.7 times as long as wide (Fig. 1); dorsum less shining; pronotum weakly microreticulate; punctures of pronotum strong and minute (Fig. 3); the anterolateral ridge of mesosternum weakly and posteriorly curved (Fig. 7); parameres relatively slender in ventral view (Fig. 11). *O. takedai* sp. nov.
- . Body about 1.9 times as long as wide (Fig. 2); dorsum relatively shining; pronotum strongly microreticulate; punctures of pronotum small and minute (Fig. 4); the anterolateral ridge almost straight (Fig. 8); parameres thick in ventral view (Fig. 12).
..... *O. soricoides* d'Orchymont

要約

保科英人・佐藤正孝：日本産鞘翅目ガムシ科 *Oosternum* 属の分類学的知見

福井県敦賀市中池見湿原から、ガムシ科 *Oosternum* 属（和名：ウスゲガムシ属）の未記載種が採集され、本稿にて *O. takedai* sp. nov.（和名：タケダウスゲガムシ）と命名して記載した。学名および和名は、敦賀市で刑死した勤王の志士の武田耕雲斎（1803-1865）に由来する。第一著者は、2004年頃から、中池見湿原において落ち葉ふるいなどの方法で、10回程度コウチュウ類を調査してきたが、タケダウスゲガムシは採集できなかった。しかし、本年6月尿素トラップを用いると、7頭もの個体を得ることができた。本種が尿素に誘引されることはほぼ間違いがない。また、タケダウスゲガムシは湿原内で採集されたが、日本産本属の他種が森林性であることから、本種は湿地性種ではなく、湿地に隣接する林からトラップに飛来した可能性が高い。

また、ドイツ・ボン市の博物館に保管されている *O. soricoides* d'Orchymont, 1941 (和名：タイリクウスゲガムシ) の中国産タイプ標本をもとに、再記載を行った。タイリクウスゲガムシは、Hansen (1999a) により日本から記録された種であるが、著者らは日本産本種の標本を見たことがない。また、日本産ウスゲガムシ属は種間で外部形態差が小さく、国内の他の未記載種も存在することから、日本産タイリクウスゲガムシは、Hansen (1999a) の同定間違いで、日本に生息していない可能性も否定できない。

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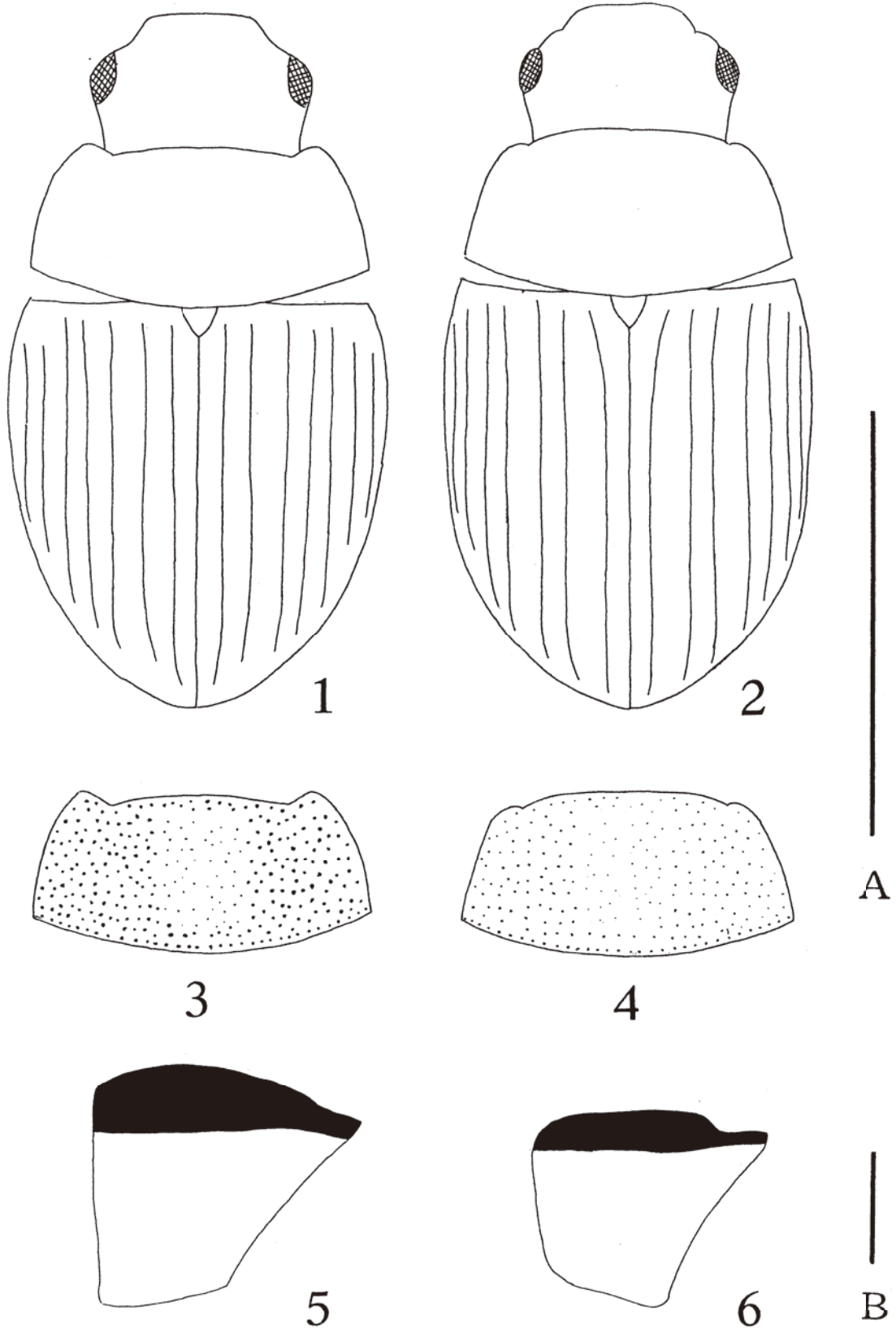
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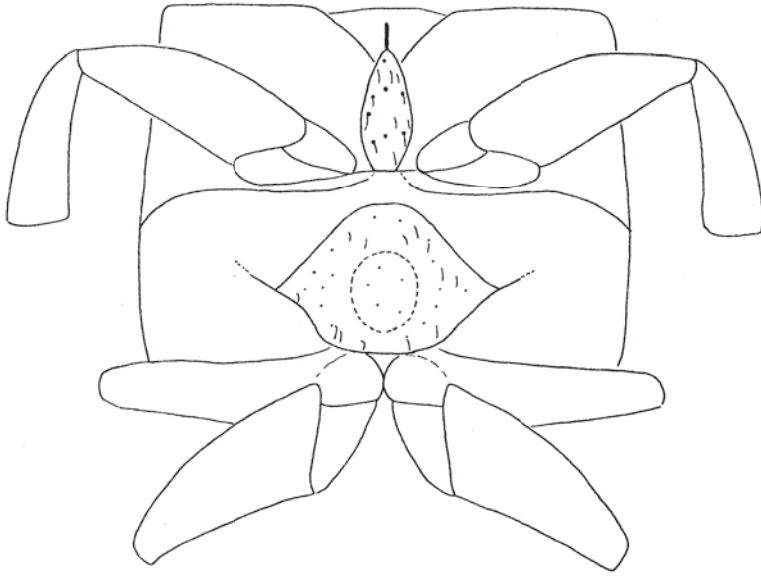
Explanations of Figures

Figs. 1, 3, 5, *Oosternum takedai* sp. nov. Figs. 2, 4, 6, *O. soricoides* d'Orchymont. 1 and 2, body; 3 and 4, pronotum; 5 and 6, prosternum, lateral view. Scale A: 1 mm for Figs. 1-4. Scale B: 0.05 mm for Figs. 5 and 6.

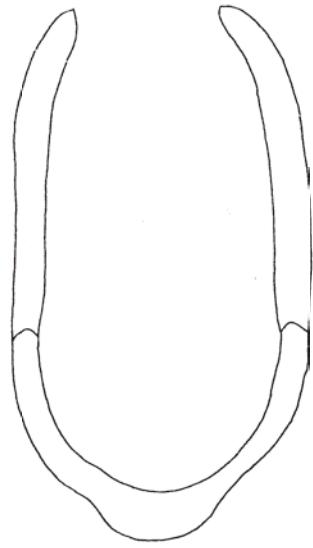
Figs. 7 and 9, *Oosternum takedai* sp. nov. Figs. 8 and 10, *O. soricoides* d'Orchymont. 7 and 8, meso-metasternum; 9 and 10, genital segment. Scale A: 0.5 mm for Figs. 7 and 8. Scale B: 0.25 mm for Figs. 9 and 10.

Figs. 11 and 13, *Oosternum takedai* sp. nov. Figs. 12 and 14, *O. soricoides* d'Orchymont. 11 and 12, male genitalia, ventral view; 13 and 14, male genitalia, lateral view, Scale: 0.5 mm for Figs. 11-14.

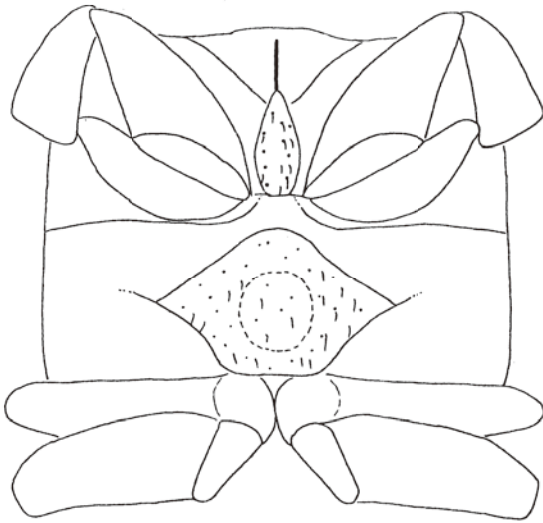




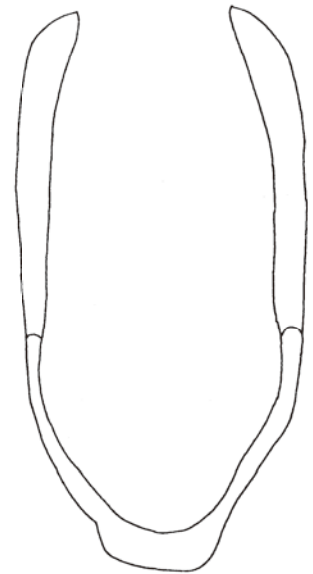
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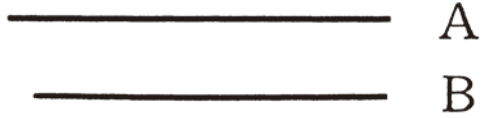
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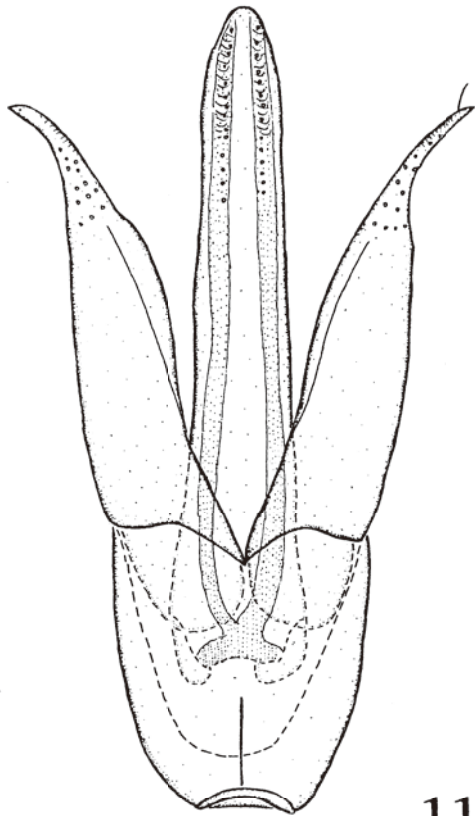


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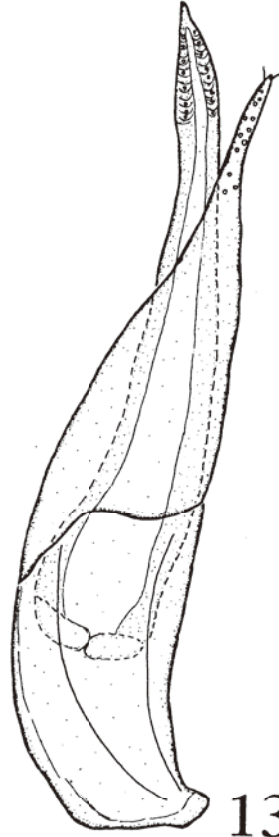


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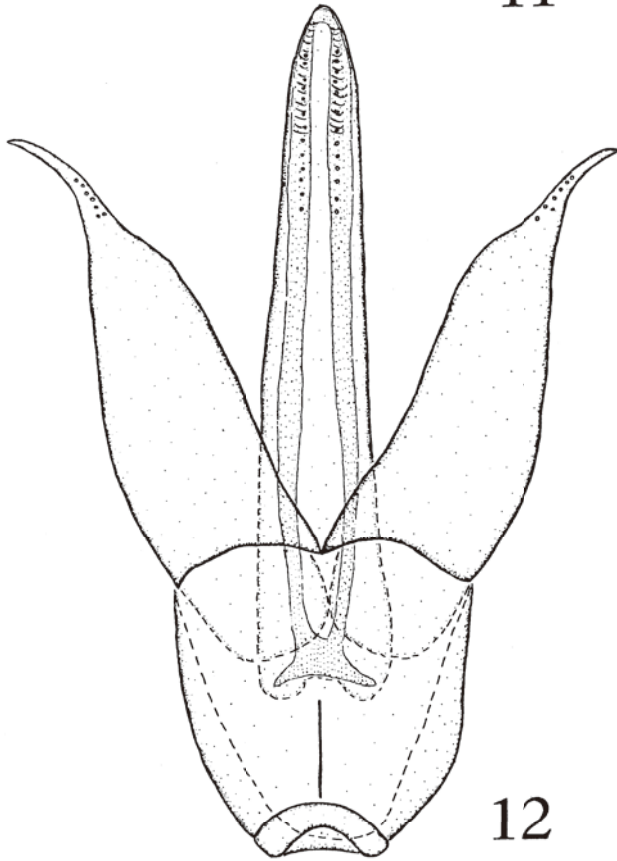




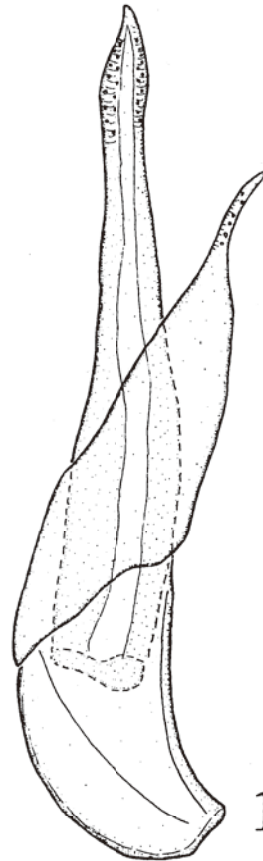
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