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Revision of *Eutheia* STEPHENS of Taiwan (Coleoptera: Scydmaenidae)

PAWEŁ JAŁOSZYŃSKI

Os. Wichrowe Wzgórze 22/13, 61-678 Poznań, Poland, email: scydmaenus@yahoo.com

ABSTRACT. Species of the genus *Eutheia* STEPHENS occurring in Taiwan are revised. *Eutheia simillima* FRANZ, *E. taiwanensis* FRANZ, and *E. klapperichi* FRANZ are redescribed; *E. latissima* n. sp. and *E. gramme* n. sp. are described. Total habitus photographs and illustrations of the aedeagi are provided. A separate position of a group of several East Palearctic species of *Eutheia* is discussed.

Key words: entomology, taxonomy, new species, Scydmaenidae, Eutheini, *Eutheia*, East Palearctic, Taiwan.

INTRODUCTION

Three species of *Eutheia* STEPHENS (Scydmaenidae, Scydmaeninae, Eutheini) have so far been known to occur in Taiwan. This was a remarkable number, taking into account a relatively small area of the island, and only two species recorded from the Russian Far East, three from Japan, and one from mainland China (KURBATOV 1990, 1991; JAŁOSZYŃSKI 2004, 2008, HOSHINA 2007). The Taiwanese species - *Eutheia taiwanensis*, *E. simillima*, and *E. klapperichi* - were all described in a single paper by Herbert FRANZ (1985). As *Eutheia* prefers rather the temperate climate zone, a few species discovered in subtropical regions are interesting from zoogeographical point of view. The present revision was prompted by a discovery of two apparently new species of *Eutheia* collected in Taiwan, and found during my systematic survey of abundant materials of the Scydmaenidae accumulated in various museums. With five known representatives of this cryptic and rare genus, Taiwan seems to be a hotspot of diversity on the distribution map of *Eutheia*. For comparison, in Europe, which is over 300 times larger and much better studied, only twelve species have been found (LÖBL &

SMETANA 2004). Interestingly, all five species known from Taiwan occur in the Alishan mountain range in the Chiayi Province (Chiayi Hsien), making this locality unusually rich in these rarely collected beetles.

The measurements presented in the taxonomic part below are as follows: body length is a sum of separate lengths of the head, pronotum, elytra and pygidium; length of head is measured along midline from the anterior margin of the frontoclypeal region to a hypothetical line connecting the posterior margins of the tempora; width of head includes eyes; length of pronotum is measured along midline; width of pronotum is maximum; length of elytra is measured along suture from a hypothetical line connecting humeri to posterior margin; width of elytra is combined, maximum; elytral index (EI) is length of elytra divided by width. The studied material is deposited in the Naturhistorisches Museum Wien, Vienna, Austria (NHMW), the Bishop Museum, Honolulu, USA (BM), and the National Museum of Nature and Science, Tokyo, Japan (NSMT). The types of new taxa were labeled during the present study with red printed labels with genus name in capital letters, species name in small letters, and “det. P. JAŁOSZYŃSKI, 2007, HOLOTYPUS”.

TAXONOMY

Eutheia klapperichi FRANZ

(Figs. 1, 6, 7)

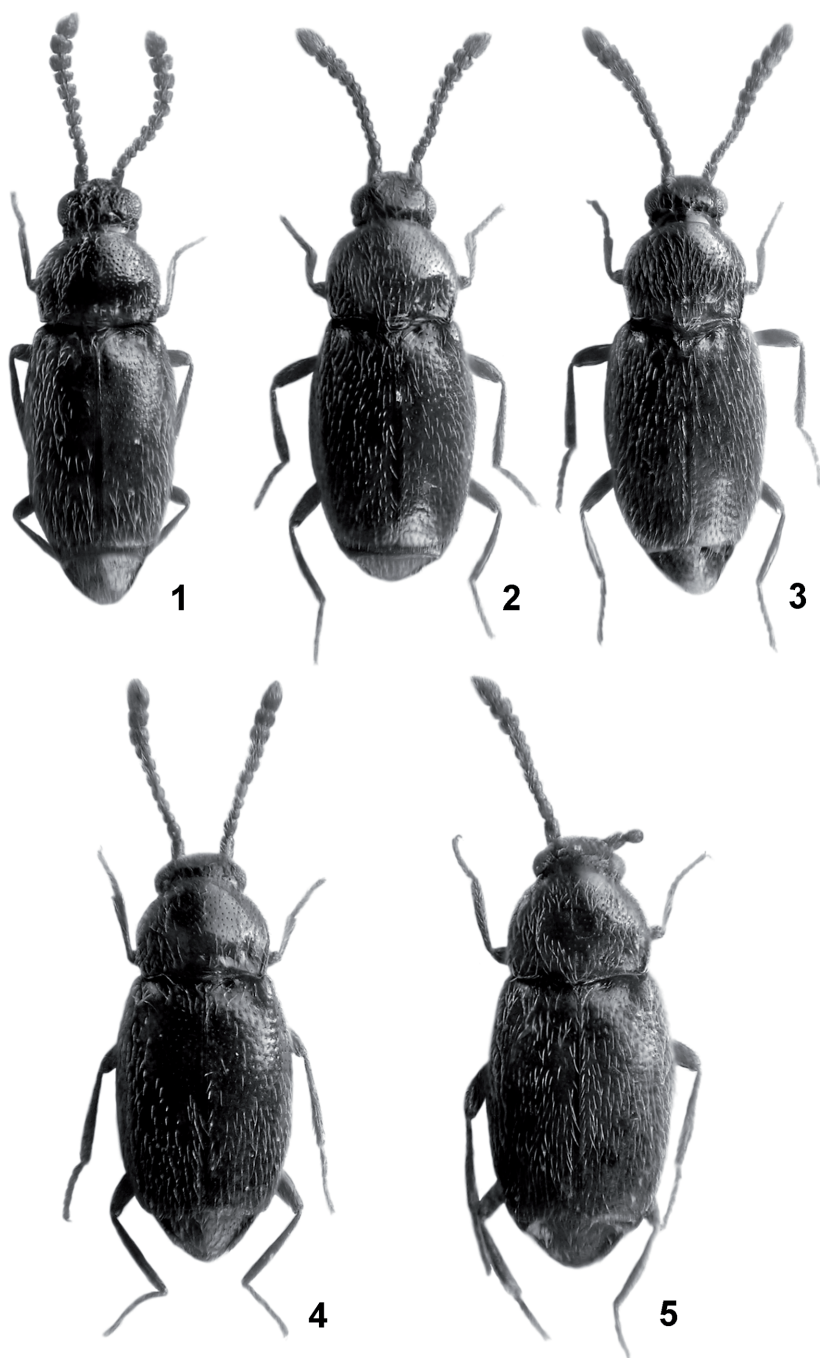
Eutheia klapperichi FRANZ, 1985: 93, fig. 3.

DIAGNOSIS

Males of this species differ from all other Taiwanese congeners in having more stout antennae, with transverse antennomeres V-X. Certain identification and discrimination from species inhabiting other regions is possible only by examination of unique aedeagus, which is unusually stout and bears short bifurcate and lightly sclerotized apical projection. Characters of females remain uncertain or unknown (see remarks).

REDESCRIPTION

Male (Fig. 1). Body length 1.32 mm, pigmentation moderately dark brown, except for head which is dark brown; vestiture pale yellowish. Head much broader than long, widest at large, very convex, moderately coarsely faceted eyes, length 0.22 mm, width 0.29 mm. Tempora very short but well visible; vertex very short and broad; frons very large, nearly flat, with pair of very shallow but relatively large longitudinal impressions; supraantennal tubercles indistinct. Punctuation on frons very dense and distinct, composed of deep, slightly unevenly distributed punctures nearly adjacent one to another; setation short, moderately dense, suberect, on posterior part of frons and vertex directed posteriorly. Antennae short and relatively stout, gradually thickened towards apices, with shallow excavations on three terminal antennomeres, length 0.60 mm; antennomere I about 3x as long as broad, II much shorter and minimally narrower than I, about 1.8x as long as broad; III distinctly broader than long, IV about as long as broad; V slightly



1-5. Dorsal aspect of males (to the same scale). 1 – *Eutheia klapperichi* FRANZ; 2 – *Eutheia simillima* FRANZ;
3 – *Eutheia taiwanensis* FRANZ; 4 – *Eutheia gramme* JALOSZYŃSKI; 5 – *Eutheia latissima* JALOSZYŃSKI

broader than long; from antennomere VI segments are gradually more transverse; XI slightly narrower than X, much shorter than IX-X together.

Pronotum distinctly broader than long, broadest slightly anterior to middle, length 0.35 mm, width 0.40 mm, in dorsal view nearly rectangular with strongly rounded and micro serrated lateral margins; anterior and posterior margins shallowly arcuate; posterior angles obtuse but sharply marked; ante-basal row of impressions composed of three shallow but distinct and distinctly transverse median pits and larger and deeper lateral pit near each hind angle, which is shifted anteriorly in relation to remaining pits, all impressions are so close one to another that they appear nearly connected; median part of base bears additional short transverse groove between median pit and posterior margin of pronotum. Punctuation in anterior half of pronotal disc very distinct, composed of large, deep and dense punctures separated by spaces shorter than puncture diameter, punctures are gradually smaller and shallower toward posterior row of impressions, area posterior to impressions remains impunctate; setation moderately dense and long, suberect.

Elytra oval and elongate, broadest slightly anterior to middle, length 0.75 mm, width 0.64 mm, EI 1.39. Apex of each elytron truncated and broadly rounded; basal pit small, nearly adjacent to lateral basal angle of scutellum; humeral callus moderately well marked, delimited by short but relatively deep subhumeral impression. Punctuation distinctly finer and sparser than that on pronotum, composed of distinct but shallow punctures; setation similar to that on pronotum. Scutellum moderately large, subtriangular. Hind wings well developed.

Legs slender, moderately long, with all tibiae straight, without any unique characters.

Metasternum impunctate, glossy, without impression.

Aedeagus (Figs. 6, 7) 0.29 mm in length, with large but short and well separated basal capsule (partly damaged in the holotype) and relatively short apical part, which in dorsal view is distinctly divided into very broad, subrectangular part adjacent to basal capsule and T-shaped apical projection with very lightly sclerotized apical lateral structures; only one paramere remained intact in the holotype, it is slender and bears two apical setae.

Female. Impossible to identify or unknown (see remarks).

TYPE MATERIAL

Holotype (male): white handwritten label: "Taiwan, Alishan, 2400 m, 10.6.77, lg. Klapperich"; white label with handwritten "Euthia klapperichi m." and printed "det. H. Franz"; small white printed label with male symbol and black margins; red handwritten label "Holotypus" (NHMW).

DISTRIBUTION

Taiwan, Chiayi Hsien.

REMARKS

The holotype male in the collection of NHMW is accompanied by four paratype females bearing labels with the same locality and date as the holotype. When compa-

red to all other species from Taiwan, they seem indeed most similar to *E. klapperichi*. However, the females show some degree of variability in body length, proportions of body parts, antennomeres, and pigmentation. Two females are distinctly smaller and lighter brown than the other two and than the male, and the two larger females, more similar to the holotype, have pronota of slightly different shapes. It is not possible to unambiguously associate the females with the only known male, neither on the basis of morphology nor by co-occurrence in the same sample (all species treated here have been collected in Alishan, and an occurrence of other similar species in this area cannot be excluded). Therefore, the determination of females must be treated as highly uncertain and it is possible that the type series of *E. klapperichi* is composed of more than one species.

***Eutheia simillima* FRANZ**

(Figs. 2, 8, 9)

Euthia simillima FRANZ, 1985: 93, fig. 2.

DIAGNOSIS

Males of this species can be identified only on the basis of the unique aedeagus, which in dorsal view bears pair of oval apical projections and broad median subapical column. Characters of females remain uncertain or unknown (see remarks).

REDESCRIPTION

Male (Fig. 2). Body length 1.57-1.66 mm (mean 1.61 mm), pigmentation moderately dark brown, except for head which is dark brown; vestiture pale yellowish. Head much broader than long, widest at large, very convex, moderately coarsely faceted eyes, length 0.20 mm, width 0.30 mm. Tempora very short but well visible; vertex very short and broad; frons very large, slightly convex, with pair of very indistinct, very shallow impressions; supraantennal tubercles indistinct. Punctuation on frons dense and distinct, composed of relatively shallow, very unevenly distributed punctures separated by spaces from shorter than puncture diameters to twice as long; setation short, moderately dense, suberect to erect, on posterior part of frons and vertex directed posteriorly. Antennae short, moderately stout, gradually thickened towards apices, with shallow excavations on three terminal antennomeres, length 0.57-0.62 mm (mean 0.59 mm); antennomere I about 3x as long as broad, II much shorter and minimally narrower than I, about 1.8x as long as broad; III slightly broader than long, IV-V each about as long as broad; VI-X transverse; XI slightly narrower than X, distinctly shorter than IX-X together.

Pronotum much broader than long, broadest between middle and anterior third, length 0.35-0.40 mm (0.37 mm), width 0.45-0.50 mm (mean 0.47 mm), in dorsal view nearly semielliptical with very finely micro serrated lateral margins which are strongly rounded in anterior half and only slightly rounded in posterior part; anterior margin broadly rounded (especially on sides); posterior margin very indistinctly biemarginate; posterior angles obtuse but sharply marked; ante-basal row of impressions composed of distinct and moderately deep pits, median pit transversely elongate, accompanied

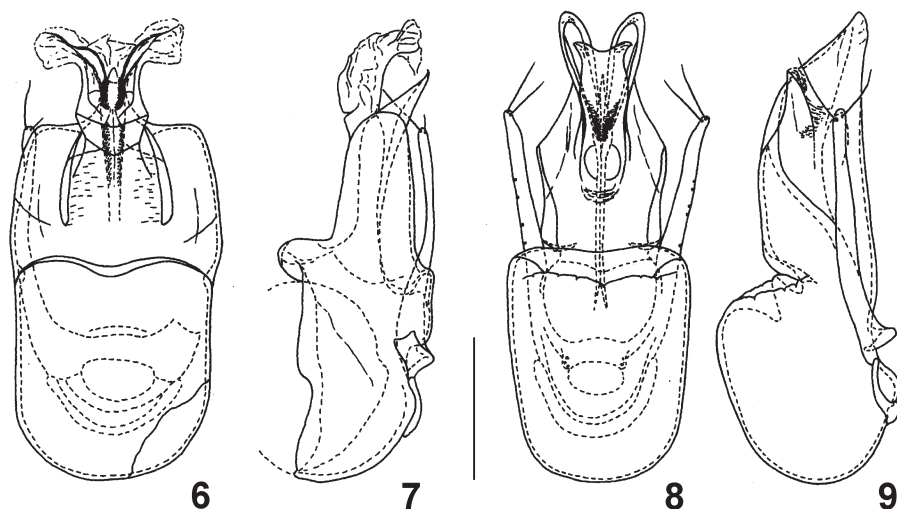
at each side by nearly circular impression, most external lateral pits near each hind angle are deeper than three ones between them and shifted more anteriorly, all pits or impressions are close one to another but they are clearly separated; median part of base bears additional transverse groove between median pit and posterior margin of pronotum, much closer to the latter. Punctuation in anterior half of pronotal disc distinct, composed of moderately large and deep, sharply marked punctures separated by spaces slightly shorter than or equal to puncture diameters, punctures are gradually smaller and shallower toward anterior margin and posterior row of impressions, area posterior to impressions remains impunctate; setation moderately dense and long, suberect.

Elytra oval and elongate, broadest slightly anterior to middle, length 0.77-0.81 mm (mean 0.79 mm), width 0.60-0.65 mm (mean 0.62 mm), EI 1.25-1.28. Apex of each elytron truncated and broadly rounded; basal pit very small, nearly adjacent to lateral basal angle of scutellum; humeral callus moderately well marked, delimited by short but relatively deep subhumeral impression. Punctuation in circumscutural area in anterior third of elytra composed of punctures distinctly larger than those on pronotum but less sharply marked, separated by spaces about equal to puncture diameters, punctures are gradually smaller and shallower (but not sparser) posteriorly; setation similar to that on pronotum. Scutellum moderately large, subtriangular. Hind wings well developed.

Legs slender, moderately long, with all tibiae straight, without any unique characters.

Metasternum without impression, with large and dense punctures in anterior part, which are gradually smaller and sparser toward posterior margin, so that posterior half of sternum (especially in middle) is very glossy and it is covered only with very fine punctures.

Aedeagus (Figs. 8, 9) 0.32 mm in length, with large but short, well separated basal capsule and relatively stout apical part, which in dorsal view is strongly constricted



6-9. Aedeagus of holotype in dorsal (6, 8) and lateral (7, 9) views. 6-7 – *Eutheia klapperichi* FRANZ; 8-9 – *Eutheia simillima* FRANZ (scale bar: 0.1 mm)

and bears large, rounded and divergent apical projections; parameres relatively broad, each with two apical setae.

Female. Impossible to identify or unknown (see remarks).

TYPE MATERIAL

Holotype (male): white handwritten label: "Taiwan, Alishan, 2400 m, 10.6.77, lg. Klapperich"; white label with handwritten "Euthia simillima m." and printed "det. H. Franz"; small white printed label with male symbol and black margins; red handwritten label "Holotypus" (NHMW). Additional material: 1 male, Taiwan, Tayulin, Hualien Hsien, 21. vi. 1976, H. MAKIHARA leg. (NSMT).

DISTRIBUTION

Taiwan, Chiayi Hsien and Hualien Hsien.

REMARKS

As in the case of *E. klapperichi*, also the holotype male of *E. simillima* is accompanied by a paratype female bearing labels with the same locality and date. The species is externally unremarkable and it is not possible to unambiguously associate this female with the holotype male.

Eutheia taiwanensis FRANZ

(Figs. 3, 10, 11)

Eutheia taiwanensis FRANZ, 1985: 92, fig. 1a-b.

DIAGNOSIS

Both sexes of this species can be distinguished from all other Taiwanese *Eutheia* on the basis of a longitudinal impression of the metasternum, which in cross-section is shallowly and broadly V-shaped. Males differ from all congeners in having unique aedeagus, which is bizarre in shape, with extremely long and slender apical part of the median lobe, bearing two pairs of subtriangular apical projections.

REDESCRIPTION

Male (Fig. 3). Body length 1.50 mm, pigmentation moderately dark brown, with slightly darker pronotum and head; vestiture pale yellowish. Head much broader than long, widest at large, very convex, moderately coarsely faceted eyes, length 0.20 mm, width 0.29 mm. Tempora very short but well visible; vertex very short and broad; frons very large, nearly flat, with pair of indistinct, very shallow longitudinal impressions; supraantennal tubercles indistinct. Punctuation on frons dense and distinct, in its posterior part punctures are slightly irregular and uneven, large but relatively shallow, moderately sharply marked, punctures are gradually smaller and denser toward anterior margin of head and in anterior half of frons they are nearly adjacent one to another; setation short, moderately dense, suberect to erect, on posterior part of frons and vertex directed posteriorly. Antennae moderately long and rather slender, gradually thickened

towards apices, with shallow excavations on three terminal antennomeres, length 0.62 mm; antennomere I about 3x as long as broad, II much shorter and minimally narrower than I, nearly twice as long as broad; III slightly broader than long, IV-V each distinctly elongate; VI about as long as broad; VII minimally broader than long; VIII-X each broader than long; XI slightly narrower than X, much shorter than IX-X together.

Pronotum distinctly broader than long, broadest between middle and anterior third, length 0.35 mm, width 0.40 mm, in dorsal view nearly semielliptical with very finely micro serrated lateral margins which are strongly rounded in anterior half and only slightly rounded in posterior part; anterior margin broadly rounded; posterior margin straight, with very short, nearly subtrapezoidal median expansion in front of scutellum and about as broad as base of scutellum; posterior angles obtuse but sharply marked; ante-basal row of impressions composed of distinct and moderately deep pits, median pit transverse, accompanied at each side by nearly circular impression, most external lateral pits near each hind angle are deeper than three ones between them and shifted more anteriorly, all impressions are close one to another but they are clearly separated; median part of base bears additional transverse groove separating very narrow margin of median expansion. Punctuation in anterior half of pronotal disc distinct, composed of relatively small but deep and sharply marked punctures separated by spaces slightly shorter than or equal to puncture diameters, punctures are gradually smaller and shallower toward anterior margin and posterior row of impressions, area posterior to impressions remains impunctate; setation moderately dense and long, suberect.

Elytra oval and elongate, broadest slightly anterior to middle, length 0.75 mm, width 0.54 mm, EI 1.39. Apex of each elytron truncated and broadly rounded; basal pit very small, nearly adjacent to lateral basal angle of scutellum; humeral callus moderately well marked, delimited by short but relatively deep subhumeral impression. Punctuation of elytra composed of shallow and relatively indistinctly delimited punctures finer than those on pronotum, even on basal part of each elytron where punctures are largest; punctures are gradually smaller and less distinct toward posterior and lateral margins; setation similar to that on pronotum. Scutellum moderately large, subtriangular. Hind wings well developed.

Legs slender, moderately long, with all tibiae straight, without any unique characters.

Metasternum with median longitudinal impression occupying about 3/4 of length of sternum in its posterior part, impression is broad and shallow, in cross-section broadly V-shaped, with deepest place marked as longitudinal median line; surface of metasternum is very finely punctate.

Aedeagus (Figs. 10, 11) as long as 1/3 of body length (0.50 mm), with elongate and well separated basal capsule (partly damaged in the holotype) and extremely long and slender apical part, which in dorsal view is gradually narrowing from its base up to subapical region, which is strongly expanded laterally and bears two pairs of subtriangular, rounded apical projections; parameres relatively slender, each with two apical setae.

Female. Very similar to male, differs only in shallower, but still distinct median impression on metasternum, which also has distinctly marked median line. Body length

1.52 mm, length of head 0.20 mm, width of head 0.30 mm, length of antenna 0.62 mm, length of pronotum 0.35 mm, width of pronotum 0.42 mm, length of elytra 0.77 mm, width of elytra 0.60 mm, EI 1.28.

TYPE MATERIAL

Holotype (male): white handwritten label: "Taiwan, Alishan, 2400 m, 10.6.77, lg. Klapperich"; white label with handwritten "Euthia taiwanensis m." and printed "det. H. Franz"; small white printed label with male symbol and black margins; red handwritten label "Holotypus" (NHMW). Paratype: female, white handwritten label as in holotype male, additionally with yellow label with handwritten "Euthia taiwanensis m." and printed "PARATYPUS" (NHMW).

DISTRIBUTION

Taiwan, Chiayi Hsien.

Eutheia gramme n. sp.

(Figs. 4, 12, 13)

NAME DERIVATION

The Greek noun "γραμμή" (*gramme*) means "a line", and was chosen as naturally associated with the genus name *Eutheia* - "ευθεία γραμμή" (*eutheia gramme*) means "a straight line". This is a similar play on words as that in *Eutheia linearis*.

DIAGNOSIS

The only one known male of this species is unremarkable and its primary diagnostic characters are located on the aedeagus, which in dorsal view has its apical part much narrower than basal capsule of the median lobe, and it bears two pairs of rounded apical projections. Females and their diagnostic characters remain unknown.

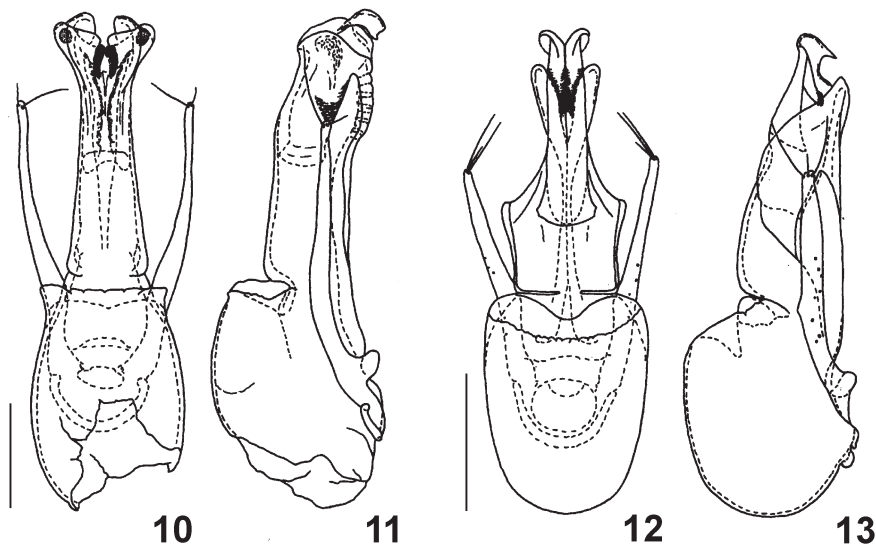
DESCRIPTION

Male (Fig. 4). Body length 1.49 mm, pigmentation moderately dark brown, with slightly darker head; vestiture pale yellowish. Head much broader than long, widest at large, very convex, moderately coarsely faceted eyes, length 0.20 mm, width 0.30 mm. Tempora very short but well visible; vertex very short and broad; frons very large, nearly flat, with pair of very indistinct, barely discernable longitudinal impressions; supraantennal tubercles indistinct. Punctuation on frons dense and distinct, but composed of relatively small, sharply marked punctures which are slightly unevenly distributed, in anterior part of frons slightly larger and distinctly denser than in posterior part, in central part of frons punctures are separated by spaces comparable to puncture diameters; setation short, moderately dense, suberect to erect, on posterior part of frons and vertex directed posteriorly. Antennae moderately long and very slender, gradually thickened towards apices, but with three terminal antennomeres forming indistinct club, each of them bearing shallow excavation on dorsal (IX-X) or lateral (XI) surface, length 0.65 mm; antennomere I about 3x as long as broad, II much shorter and minimally narrower

than I, about 1.7x as long as broad; III slightly broader than long, IV-VI each slightly longer than broad; VII about as broad as long; VIII-X each transverse; XI slightly narrower than X, much shorter than IX-X together.

Pronotum broader than long, broadest near middle, length 0.37 mm, width 0.42 mm, in dorsal view subquadrate with strongly rounded sides, slightly rounded anterior margin and nearly straight posterior margin with distinct median expansion in front of scutellum and about as broad as base of scutellum; lateral margins indistinctly micro-serrated; hind angles slightly obtuse but sharply marked; ante-basal row of impressions composed of five distinct and moderately deep pits, most external ones (near each hind angle) are deeper than three pits between them and shifted more anteriorly, all impressions are close one to another but clearly separated; median part of base bears additional transverse groove separating narrow margin of median expansion. Punctuation in central part of pronotal disc distinct, composed of relatively small but deep and sharply marked punctures separated by spaces about equal to or slightly longer than puncture diameters, punctures are gradually smaller and shallower toward anterior margin and posterior row of impressions, area posterior to impressions remains impunctate; setation moderately dense and long, suberect.

Elytra oval and elongate, broadest distinctly anterior to middle, length 0.77 mm, width 0.59 mm, EI 1.30. Apex of each elytron truncated and broadly rounded; basal pit very small, nearly adjacent to lateral basal angle of scutellum; humeral callus moderately well marked, delimited by short and shallow but broad subhumeral impression. Punctuation of elytra composed of small and relatively diffused punctures which near base of each elytron are about as large as those on pronotum, punctures are gradually



10-13. Aedeagus of holotype in dorsal (10, 12) and lateral (11, 13) views. 10-11 – *Eutheia taiwanensis* FRANZ;
12-13 – *Eutheia gramme* JAŁOSZYŃSKI (scale bar: 0.1 mm)

smaller and shallower toward lateral and posterior margins; setation similar to that on pronotum. Scutellum moderately large, subtriangular. Hind wings well developed.

Legs slender, moderately long, with all tibiae straight, without any unique characters.

Metasternum without impression, with moderately large and dense punctures on sides in its anterior part, punctures are gradually smaller and sparser toward posterior margin; median part of sternum and its sides in posterior 2/3 are covered with very fine punctures.

Aedeagus (Figs. 12, 13) 0.35 mm in length, with large but short, well separated basal capsule and slender, long apical part, which in dorsal view is strongly and rapidly narrowed toward apex and bears two pairs of small, rounded apical projections; parameres relatively broad, each with three apical setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): two white printed labels: "TAIWAN: Alishan, Chiayi Hsien, 2400 m, 12-16. VI. 1965", "T. Maa & K.S. Lin Collectors, BISHOP MUSEUM", and white handwritten label "Scydmaenidae" (BM).

DISTRIBUTION

Taiwan, Chiayi Hsien.

Eutheia latissima n. sp.

(Figs. 5, 14, 15)

NAME DERIVATION

The name refers to unusually broad body of this species.

DIAGNOSIS

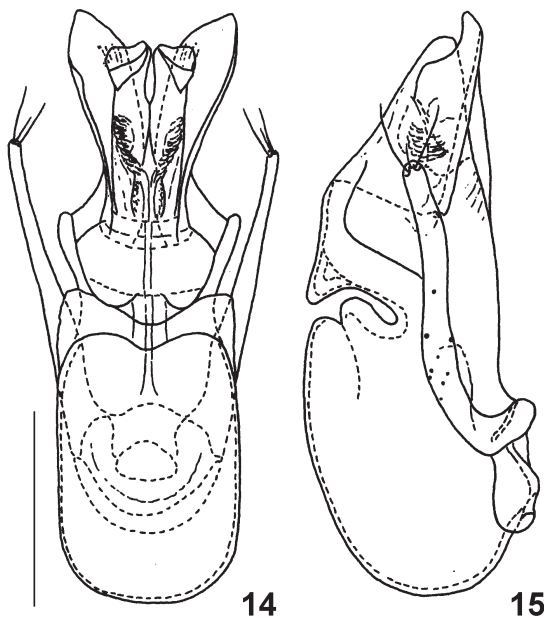
Males of this species can be distinguished from all Taiwanese (and world) representatives of the genus on the basis of very broad, stout body, and unique aedeagus, which in dorsal view has a pair of large, subtriangular, pointed and strongly divergent apical processes. Females and their diagnostic characters remain unknown.

DESCRIPTION

Male (Fig. 5). Body length 1.52 mm, pigmentation moderately dark brown, with minimally darker head; vestiture pale yellowish. Head much broader than long, widest at large, very convex, moderately coarsely faceted eyes, length 0.20 mm, width 0.30 mm. Tempora very short but well visible; vertex very short and broad; frons very large, nearly flat, with pair of indistinct, very shallow longitudinal impressions; supraantennal tubercles indistinct. Punctuation on frons dense and distinct, but composed of relatively small, sharply marked punctures unevenly distributed, in anterior part of frons distinctly smaller and denser than in posterior part, in middle separated by spaces slightly longer than puncture diameters; setation short, moderately dense, suberect to erect, on

posterior part of frons and vertex directed posteriorly. Antennae relatively short and slender, gradually thickened towards apices, with shallow excavations on three terminal antennomeres, length 0.65 mm; antennomere I about 2.7x as long as broad, II much shorter and minimally narrower than I, about 1.8x as long as broad; III slightly broader than long, IV-VI each about as long as broad; VII-X distinctly transverse; XI slightly narrower than X, much shorter than IX-X together.

Pronotum much broader than long, broadest between middle and posterior third, length 0.37 mm, width 0.47 mm, in dorsal view subtrapezoidal with strongly rounded sides, slightly rounded anterior margin and nearly straight posterior margin with distinct median expansion in front of scutellum and about as broad as base of scutellum; lateral margins very finely micro serrated; posterior angles obtuse and relatively blunt; ante-basal row of impressions composed of five distinct and moderately deep pits, most external ones (near each hind angle) are deeper than three pits between them and shifted more anteriorly, all impressions are close one to another and indistinctly connected by shallow and narrow transverse groove; median part of base bears additional transverse groove separating narrow margin of median expansion. Punctuation in central part of pronotal disc distinct, composed of relatively small but deep and sharply marked punctures separated by spaces about equal to or slightly longer than puncture diameters, punctures are gradually smaller and shallower toward anterior margin and posterior row of impressions, area posterior to impressions remains impunctate; setation moderately dense and long, suberect.



14, 15. *Eutheia latissima* JAŁOSZYŃSKI, aedeagus of holotype: 14 – dorsal view, 15 – lateral view (scale bar: 0.1 mm)

Elytra oval and elongate, broadest slightly anterior to middle, length 0.80 mm, width 0.62 mm, EI 1.29. Apex of each elytron truncated and broadly rounded; basal pit very small, nearly adjacent to lateral basal angle of scutellum; humeral callus moderately well marked, delimited by short and shallow but broad subhumeral impression. Punctuation of elytra finer than that on pronotum, composed of small and relatively diffused punctures which are largest near base and are gradually smaller and shallower toward lateral and posterior margins; setation similar to that on pronotum. Scutellum moderately large, subtriangular. Hind wings well developed.

Legs slender, moderately long, with all tibiae straight, without any unique characters.

Metasternum without impression, with moderately large and dense punctures on sides in its anterior part, punctures are gradually smaller and sparser toward posterior margin; median part of sternum and its sides in posterior 2/3 are covered with very fine punctures.

Aedeagus (Figs. 14, 15) 0.30 mm in length, with large and elongate, well separated basal capsule and X-shaped, long apical part, which in dorsal view is strongly constricted near middle and bears large, subtriangular, pointed and divergent apical projections; parameres relatively broad, each with three apical setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): two white printed labels: "TAIWAN: Arisan, 2130m (7300'), 23.VIII.1947", and "L.&M. Cressitt Collectors, BISHOP Mus." (BM).

DISTRIBUTION

Taiwan, Chiayi Hsien.

REMARKS

This is the only species of *Eutheia* known to occur in Taiwan that can be easily distinguished from all remaining congeners on the basis of external characters: the very broad and stout body and the largest width of the pronotum located in its posterior part allow for certain determination. However, taking into account a relatively large number of species belonging to *Eutheia* found on a relatively small area during only a few rather occasional surveys reported here, all new specimens must be dissected and identifications must be confirmed by examining the aedeagi.

DISCUSSION

Most species of *Eutheia* known so far from the eastern part of the Palearctic Region inhabit areas with cool climate – the northernmost Japanese island of Hokkaido, the Russian Far East, high altitudes (2130–2400 m) of Taiwanese mountains, or the Himalaya Mts. FRANZ described *Eutheia siamensis* from hot and humid forests of Thailand, but this species certainly does not belong to this genus (*teste* P. JALOSZYŃSKI; the genus cannot be determined due to partly damaged type material). Japanese and Taiwanese species

share a very unusual bifurcate and relatively complex apical structures of the aedeagus, whereas European species as well as those from the Russian Far East have the apices non-divided. Interestingly, a lateral expansion of the apical part of the aedeagus can be seen in *E. horiola* KURBATOV from Primorie. *Eutheia rufa* JALOSZYŃSKI from Hokkaido has the apex of the aedeagus expanded laterally and divided by deep median emargination, but still short and simple. Another species from Hokkaido, *E. horii* JALOSZYŃSKI, has the apex similar to that of *E. rufa*, but it is more complicated and with very narrow median notch dividing lateral lobes. In the Taiwanese species, which are externally very uniform and extremely similar one to another, the bifurcate apical projections show a tendency to become more clearly separated from the remaining part of the median lobe by distinct constriction, and lightly sclerotized. This phenomenon is best visible in *E. klapperichi*, which has the apical projections abruptly separated from the median lobe and their distal parts are membranous and nearly colorless. The structures of the aedeagus in *Eutheia* seem to be much more diverse than external morphology, and species with bifurcate apex may form a natural lineage within the genus.

ACKNOWLEDGMENTS

I am greatly indebted to Harald SCHILLHAMMER (NHMW), Shepherd MYERS (BM), and Shûhei NOMURA (NSMT) for handling the loans of material used in this study.

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