Elytra, Tokyo, **24** (1): 85–95, May 15, 1996

Studies on the Buprestidae (Coleoptera) of Asia

1) Taxonomical Notes on *Ovalisia kheili* and Description of its New Relative

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Abstract *Ovalisia kheili* (OBENBERGER, 1925) from China is redescribed based on the holotype, and its new relative is described from Taiwan under the name of *O. tapanensis* sp. nov.

Some specimens of a buprestid beetle collected in Taiwan looked similar to *O. kheili* (OBENBERGER, 1925) from China, but did not agree with it in certain morphological features. After a careful examination, it was found that these Taiwanese specimens belonged to a new species. In this paper, I am going to redescribe *O. kheili* (OBENBERGER, 1925) on the basis of its holotype and in comparison with it, will describe the Taiwanese species under the name *O. tapanensis* sp. nov.

I wish to express my sincere thanks to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, and Mr. Masatoshi TAKAKUWA, Kanagawa Prefectural Museum of Natural History, for their kindness in critically reading the original manuscript and offering invaluable suggestions, to Dr. Yoshihiko KUROSAWA, former head of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance throughout this study, and also to Mr. Kôyô AKIYAMA, Yokohama, for his support on my study. Deep indebtedness is also due to Dr. Svatopluk BÍLÝ of the Department of Entomology, National Museum of Czech Republic, and Dr. Malcom D. KERLEY of the Department of Entomology, The Natural History Museum, London, for their kind loan of the holotype specimens, to Dr. Roger-Paul DECHAMBRE of the Laboratoire d'Entomologie, Muséum national d'Histoire naturelle, Paris, for kind arrangement of the loan of the type specimens, and to Mr. Masahiro TANAKA, Kobe, for kind offer of material.

Ovalisia kheili (OBENBERGER, 1925)

(Figs. 1–7)

Lampra kheili J. OBENBERGER, 1925, Acta Soc. ent. čech., **21** [1924], pp. 100–101.
Ovalisia kheili: Y. KUROSAWA, 1976, Coleopterists' News, Tokyo, (36), p. 3.

Holotype. Body elongated ovate, greenish with aeneous tinge; head greenish with aeneous tinge on reticulations, frons, clypeus and labrum concolorous with head, vertex with a small longitudinal black spot on median line; pronotum greenish with aeneous tinge; elytra elongate, greenish, with aeneo-cupreous tinge in lateral part outside 8th interval, though the margin is greenish, each with four blackish spots: three ranged along suture and the remaining one just outside the 2nd spot.

Head narrower than the base of pronotum; vertex convex with median groove narrow and running from vertex to the top of frons; frons evenly convex though slightly depressed along median line, and forming an inverted pentagon between eyes; clypeus transverse, 3.0 times as wide as long, feebly depressed between antennal cavities, with anterior margin triangularly emarginate, clypeal suture invisible; antennal cavities small and internally surrounded by arcuate ridges; surface coarsely and shallowly punctate, the punctures separated from one another by broad reticulation, each with a short semirecumbent silver-whitish hair; eyes with internal margins feebly sinuate and gently convergent to vertex.

Antennae lost except 1st and 2nd segments; 1st obconical; 2nd globular, about 2/5 times as long as 1st (according to the original description, "Antennis

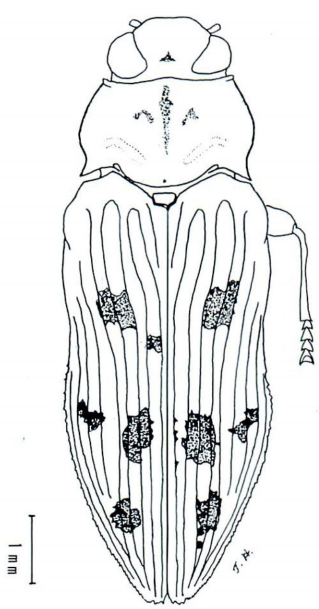


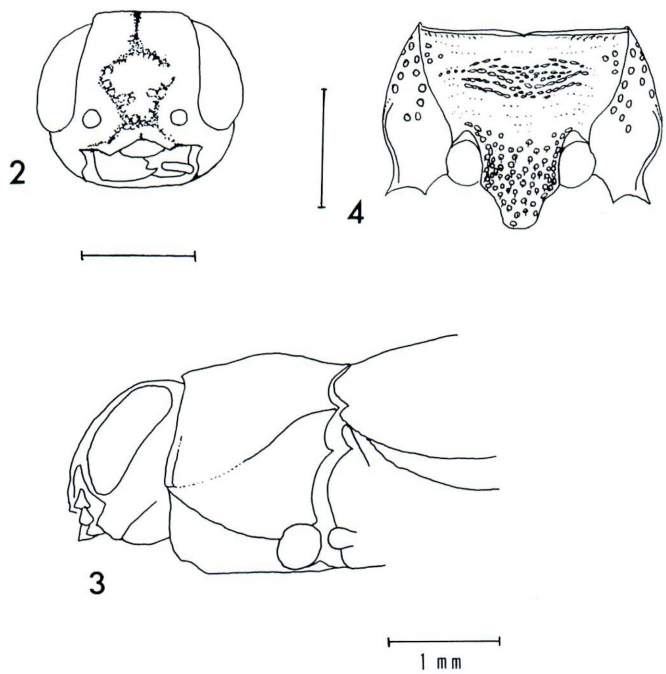
Fig. 1. *Ovalisia kheili* OBENBERGER, holotype; dorsal view.

coerulescentibus, brevibus, articulis III. et IV. aequalibus, articulo III. illo II. 1 2/3 longiore").

Pronotum transverse, widest just behind the middle, about 1.7 times as wide as long, and reticulate; lateral margins sinuate, emarginate from base to the widest part, and then arcuately convergent to anterior angles, which are obtusely angulate and slightly produced anteriad in lateral view; marginal carina well-defined only in basal part; anterior margin 0.83 times as wide as the posterior, bisinuate with median lobe broadly and feebly produced, and indistinctly bordered except for the median part; posterior angles acute and produced; posterior margin deeply bisinuate with median lobe arcuately produced, obviously emarginate on each side of median line, each emargination distinctly incised at the bottom; disc convex, shallowly and obliquely impressed on each side before base, the impression being curved posteriorly at the lateral part though not reaching any margins; surface reticulate, irregularly covered with normal-sized punctures except for small blackish spots on median line and on each side of the line before the middle; normal-sized punctures each with a silver-whitish short semirecumbent hair.

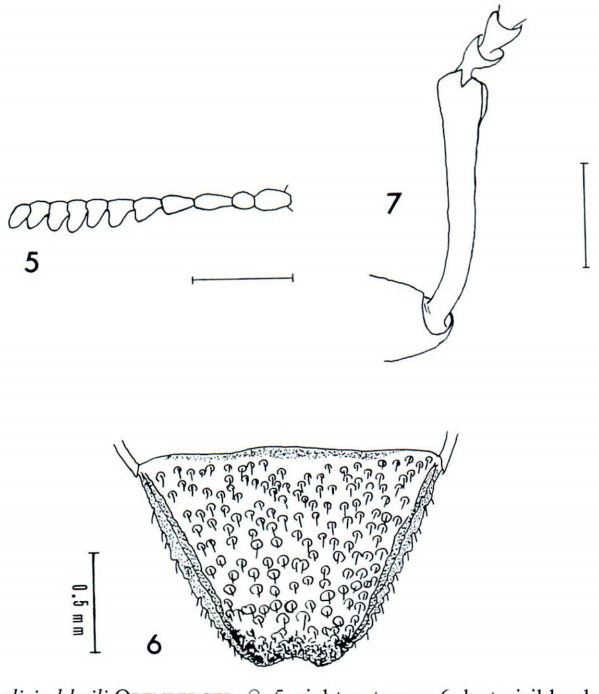
Scutellum transverse, inversely pentagonal, and depressed on median longitudinal line; surface finely, transversely rugoso-punctate.

Elytra elongated ovate, 4.0 times as long as pronotum, wider than pronotum,



Figs. 2–4. *Ovalisia kheili* OBENBERGER, holotype; 2, head in frontal view; 3, pronotum in lateral view; 4, prosternum in ventral view. (Scale: 1 mm.)

widest just behind the middle, and 1.92 times as long as the widest part; humeri obtusely angulate; sides expanded just behind humeri, feebly sinuate to the gradually arcuate widest part, then arcuately convergent to apices, which are inconspicuously rounded or truncated with irregular denticulations; lateral margins serrate from the middle to apices, the serration being much more spaced in front than behind; basal lobes subangulately produced at about 2/3 from median line; disc with 10 intervals on each elytron, though the 10th is invisible in dorsal view, being located under the 9th interval; 1st spot located at basal 1/4 on 4th and 5th intervals and 1/18 as long as the elytral length,[1] 2nd at apical 2/5 on 3rd, 4th and a small portion of 5th intervals and 1/11 as long as elytral length, 3rd at apical 1/4 on 4th and 5th intervals and 1/13 as long as elytra, 4th spot at apical 3/7 on 7th and 8th intervals and 1/15 as long as elytra; surface rugose with normal-sized punctures all over, which are relatively small and shallow, though very few on the spots which are covered with small punctures; each normal-sized puncture with a short silver-whitish semirecumbent hair; small punctures forming rugae between normal-sized punctures; striae deeply, sparsely and elliptically punctate, without hair.



Figs. 5–7. *Ovalisia kheili* OBENBERGER, ♀; 5, right antenna; 6, last visible abdominal sternite; 7, right frontal tibia in dorsal view. (Scale: 0.5 mm.)

1) Elytral length is measured from the tip of scutellum to apices.

Ventral surface shallowly and widely punctate, clothed with silver-whitish semirecumbent hairs. Prosternum convex along anterior margin in anterior 1/4, flattened in middle; anterior margin obtusely incised at the middle though straight on both sides with a groove just behind the margin; punctures in anterior 1/4 transversely rugose and confluent; prepisterna sparsely scattered with shallow punctures in anterior and middle parts, the remaining parts being covered with small punctures; prosternal process feebly narrowed by front coxae and feebly produced just behind them, then with the sides emarginate and parallel towards apex which is feebly arcuate. Mesosternum divided. Metasternum longitudinally grooved at middle.

Middle coxae a little more widely separated from each other than in the anterior ones. Posterior coxae arcuately emarginate at each posterior margin.

Abdomen lost.

Legs moderate in size; mesofemora robust, mesotibiae cylindrical, feebly curved inwards.

Length: 8.4 mm. Width: 3.0 mm.

Holotype: (Sex unknown), China.

Depository. National Museum of Czech Republic.

Notes. A second specimen of *Ovalisia kheili* was available for my study after my re-examination of the holotype was completed. I am going to supplement the above redescription of the holotype on the basis of this additional specimen.

Antennae with 1st segment obconical, 2nd globular, 3rd fusiform and 1.6 times as long as 2nd, 4th obtusely triangular and 1.4 times as long as 2nd, ratio of maximum width / length 0.62, 5th to 10th serrate and 11th elliptical; length and width of each segment as shown in Table 1, in which the length is of the stem part of antennae and the width is of the maximum width; sensory pores concentrated in a distinct round pit on each apico-inner surface of 4th to apical segments.

Table 1. Length and width of each antennal segment of *Ovalisia kheili* (in 0.1 mm).

Segment no.	1	2	3	4	5	6	7	8	9	10	11
Length	1.9	1.1	1.8	1.6	1.4	1.3	1.0	1.0	1.0	1.0	0.88
Width	1.1	0.63	0.63	1.0	1.4	1.5	1.6	1.6	1.3	1.3	1.3

Abdomen shallowly and densely punctate, the punctures becoming stronger towards sides except in the last visible abdominal sternite, each with a short semi-recumbent silver-whitish hair; apex of last visible sternite arcuately emarginate at the middle, with rounded sides (female).

Legs rather short and robust, sparsely clothed with silver-whitish setae; all

femora fusiform; anterior tibiae feebly curved outwards, with the outer sides dilated in apical 3/10, and with latero-apical angles obtuse; meso- and metatibiae feebly curved inwards; all tarsal segments short and nearly equal in length to each other.

Length: 8.3 mm. Width: 2.9 mm.

Specimen examined. 1♀, Mt. Lu Shan (alt. 960–1,210 m), Jiangxi Prov., China, 16～17–VIII–1994.

Ovalisia tapanensis sp. nov.

(Figs. 8–16)

Body elongated ovate, greenish with aeneous tinge; head greenish with aeneous tinge on frons, punctures on vertex aeneous, clypeus and labrum greenish, vertex with a small longitudinal blackish spot along median line; pronotum greenish with aeneous tinge, with reddish-cupreous tinge at the sides; elytra elongate, greenish, though reddish aeneo-cupreous outside 6th interval, though the margin is greenish with aeneous tinge in apical 1/4, each with four blackish-purpureous spots: three ranged along suture and the remaining just outside the 2nd spot.

Head narrower than the base of pronotum; vertex convex, with median groove narrow and running from vertex to the top of frons; frons convex and forming an inverted pentagon, though shallowly depressed along median line between eyes; clypeus transverse, 3.1 times as wide as long, feebly depressed between antennal

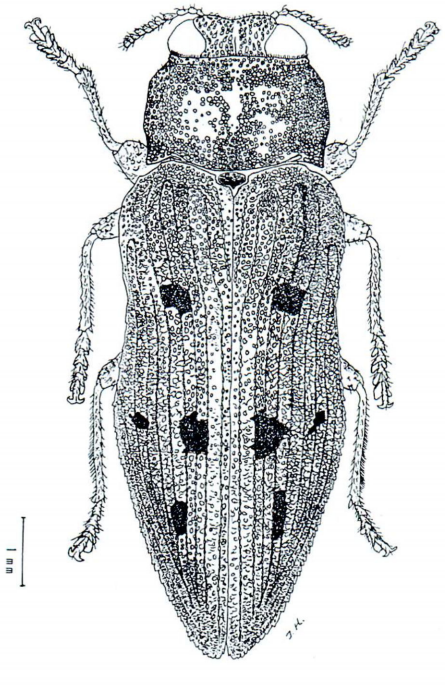


Fig. 8. *Ovalisia tapanensis* sp. nov., ♂ holotype; dorsal view.

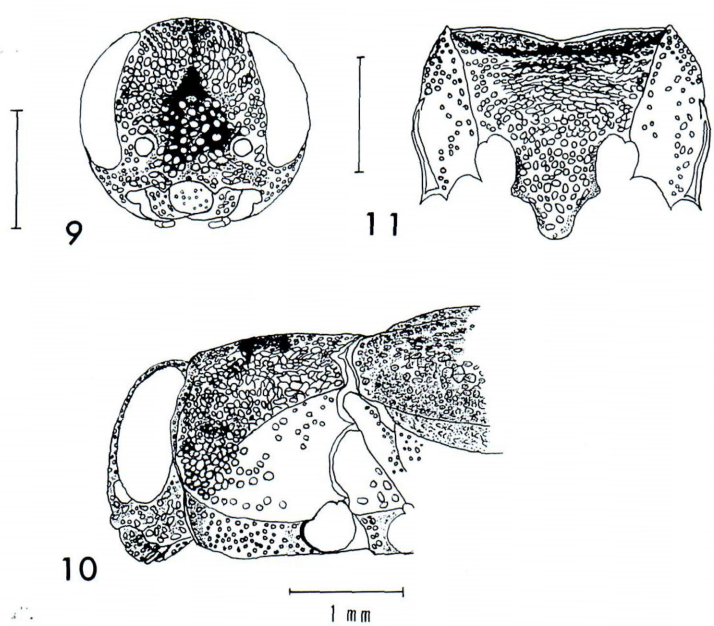
cavities, with anterior margin arcuately emarginate, clypeal suture invisible; antennal cavities small and internally surrounded by arcuate ridges; surface coasely and shallowly punctate, the punctures separated from one another by broad reticulation, each with a short semirecumbent silver-whitish hair; eyes with internal margins feebly sinuate and gently convergent to vertex.

Antennae with 1st segment obconical, 2nd globular, 3rd fusiform and 1.3 times as long as 2nd, 4th triangular and 1.5 times as long as 2nd, ratio of maximum width/length 0.67, 5th to 10th serrate and 11th elliptical; length and width of each segment as shown in Table 2; sensory pores concentrated in a distinct round pit on each apico-inner surface of 4th to apical segments.

Table 2. Length and width of each antennal segment of *Ovalisia tapanensis* sp. nov. (in 0.1 mm).

Segment no.	1	2	3	4	5	6	7	8	9	10	11
Length	1.6	1.5	2.0	2.3	1.6	1.4	1.3	1.1	1.1	1.0	1.0
Width	0.88	1.0	0.63	1.5	1.5	1.9	2.0	2.0	2.0	1.8	1.4

Pronotum transverse, widest just behind basal 1/3, about 1.7 times as wide as long, and covered with punctures; lateral margins obtusely biangulate and subparallel between these angles, and feebly emarginate behind the posterior angles,



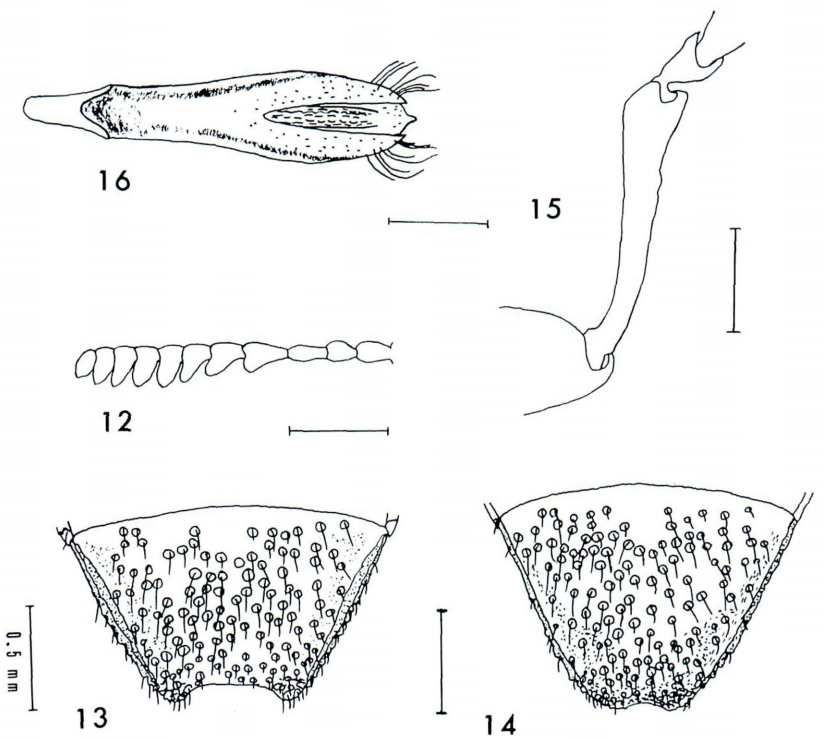
Figs. 9–11. *Ovalisia tapanensis* sp. nov., ♂ holotype; 9, head in frontal view; 10, pronotum in lateral view; 11, prosternum in ventral view. (Scale: 1 mm.)

linearly convergent to apical angles before the anterior angles; apical angles rounded and produced anteriorly in lateral view; marginal carina in lateral view well-defined, arcuate to near basal 2/3; anterior margin 0.79 times as wide as posterior margin, slightly bisinuate though seemingly almost straight; posterior angles acute but hardly produced outwards; posterior margin deeply bisinuate with median lobe arcuately produced, each emargination with an incision at the bottom; disc convex, shallowly and obliquely impressed on each side before base, the impression being hardly curved laterad; median line feebly depressed with small punctures; surface irregularly covered with normal-sized punctures except on spots, which are dull greenish or dull bluish-green and covered with small punctures; normal-sized punctures each with a silver-whitish short semirecumbent hair.

Scutellum transverse, inversely pentagonal, and depressed in posterior part; surface finely, transversely rugoso-punctate.

Elytra elongated ovate, 4.2 times as long as pronotum, widest just before the middle and 2.2 times as long as wide at the widest part which is wider than pronotum; humeri obtusely angulate; sides expanded just behind humeri, feebly sinuate to the gradually arcuate widest part, then arcuately convergent to apices, which are rounded with irregular denticulation; lateral margins serrate from middle, the serration becoming denser towards apices; basal lobes roundly produced at about 2/3 from median line; disc with 10 intervals on each elytron, the 10th one visible in dorsal view; 1st spot at basal 1/4 on 4th and 5th intervals and 1/15 as long as elytral length, 2nd spot at the middle on 3rd, 4th and a half of 5th intervals and 1/10 as long as elytra, 3rd at apical 1/4 on 5th interval and 1/13 as long as elytra, 4th spot at the middle on 7th and 8th intervals and 1/19 as long as elytra; surface rugose with normal-sized punctures all over, which are relatively small and shallow, though very few on the spots which are covered with small punctures; normal-sized punctures with silver-whitish short semirecumbent hairs; small punctures forming rugae between the normal-sized punctures, which are weakly punctate and with shimmer; striae deeply, sparsely and elliptically punctate and devoid of hairs.

Ventral surface shallowly and widely punctate, clothed with silver-whitish semirecumbent hairs. Prosternum convex along anterior margin in anterior 1/10 weakly convex in middle; anterior margin obtusely emarginate at middle and arcuately extended to lateral ends with a groove just behind the margin; punctures in anterior 1/4 transversely rugose and confluent; prepisterna sparsely scattered with shallow punctures in anterior and middle parts, the remaining parts being covered with small punctures; prosternal process feebly narrowed by front coxae and produced just behind them, then with the sides emarginate and parallel towards apex which is feebly arcuate, slightly convex or slightly concave in middle in both sexes. Mesosternum divided. Metasternum longitudinally grooved at middle.



Figs. 12–16. *Ovalisia tapanensis* sp. nov. (12, 13, 15 & 16, ♂ holotype), (14, ♀); 12, right antenna; 13–14, last visible abdominal sternite; 15, right frontal tibia in dorsal view; 16, male genital apparatus in dorsal view. (Scale: 0.5 mm.)

Middle coxae a little more widely separated from each other than anterior coxae. Posterior coxae arcuately emarginate at each posterior margin.

Abdomen shallowly, sparsely punctate; the punctures becoming stronger towards sides except in the last visible sternite, each with a silver-whitish short semirecumbent hair; density of punctures lower in female than in male; apex of last visible sternite trapezoidally emarginate at the middle, with rounded sides (male) or arcuately emarginate at middle, with rounded sides (female).

Legs rather short and robust, sparsely clothed with silver-whitish setae; all femora fusiform; anterior tibiae almost straight with outer sides dilated obliquely towards apices in apical 2/10 and with latero-apical angles acute; meso- and metatibiae straight; all tarsal segments short and nearly equal in length to each other.

Male genital apparatus slender; median lobe linearly narrowed to apex, which is narrowly rounded.

Length: 7.0–9.4 mm (mean 8.1 mm) (♂), 7.5–8.5 mm (mean 8.1 mm) (♀). Width: 2.6–3.4 mm (mean 2.9 mm) (♂), 2.6–3.9 mm (mean 3.2 mm) (♀).

Type series. Holotype: ♂, Tapan (1,800 m alt.), Taichung Hsien, Taiwan, 30–VII–1992, T. HATTORI leg. Allotype: ♀, Tapan (1,800 m alt.), Taichung Hsien, Taiwan, 4–VIII–1991, T. HATTORI leg. Paratypes (same locality and collector as the holotype): 5♂♂, 27～30–VII–1983; 1♀, 27–VII–1983; 2♂♂, 28–VII–1985; 2♀♀, 28–VII–1985; 3♂♂, 25–VII–1986; 6♀♀, 26–VII–1986; 2♀♀, 2–VIII–1987; 3♂♂, 31–VII–1988; 2♀♀, 31–VII–1988; 4♂♂, 29–VII～2–VIII–1991; 4♀♀, 29–VII～2–VIII–1991; 3♂♂, 30–VII～4–VIII–1992; 1♀, 26–VII–1993.

The holotype and allotype are deposited in the National Science Museum (Nat. Hist.), Tokyo.

Host plants. All specimens were taken by sweeping leaves of a *Carpinus* tree, which was reported as a probable host plant of *Dicerca unokichii* HATTORI, 1991 from Taiwan.

Etymology. The specific name is derived from the name of the type locality.

Remarks. This new species is allied to *Ovalisia kheili* (OBENBERGER, 1925), but can be distinguished from it by the diagnoses given in Table 3.

Table 3. Characteristics of the species concerned.

Species	*Ovalisia kheili* (OBENBERGER, 1925)	*Ovalisia tapanensis* sp. nov.
Pronotal and elytral coloration	Greenish, with sides tinged with weak aeneo-cupreous	Greenish, with sides strongly reddish aeneo-cupreous
Anterior margin of clypeus	Triangularly emarginate	Arcuately emarginate
Comparison of length of 3rd antennal segment	4th slightly shorter than 3rd	4th longer than 3rd
Lateral margin of pronotum	Widest just behind the middle; sinuate and emarginate before posterior angle	Widest just behind basal 1/3; subparallel and feebly emarginate before posterior angle
Anterior and apical angles of pronotum	Angulate in lateral view	Rounded in lateral view
Impression on pronotum	Curved posteriorly at the lateral part on each side	Hardly curved laterad on each side
Punctures on abdomen	Dense	Sparse
Outer sides of frontal tibiae	Dilated in apical 3/10 and with latero-apical angles obtuse	Dilated obliquely towards apices in apical 2/10 and with latero-apical angles acute

要　約

服部宇春：アジアのタマムシの研究．1）中国産クロホシタマムシ属の1種の再記載とそれに近縁な台湾からの1新種．—— 中国から記載されている *Ovalisia kheili* (OBENBERGER, 1925) を再記載し，それに近縁な新種として，台湾から *Ovalisia tapanensis* を記載した．この新種は，中国から記載された前者とは，頭盾の前縁が弓形に浅くえぐれること，前胸背板の後角直前のえぐれが小さいために両側縁がほぼ平行であること，そして背面の側縁の色彩が濃い赤銅色であることなどの差異によって区別できる．

Errata for Preceding Descriptions

Two preceding papers of mine contain some errors. On this occasion, I am going to correct them.

1) Studies on the Buprestidae (Coleoptera) of Taiwan. I. A new genus and species of the tribe Coraebini (1990; *Elytra*, *Tokyo*, **18**: 221–225).

Page	Error	Correction
Page 221, line 10	I had an opportunity to collect five specimens of a buprestid beetle at Sungkang (2,500 m alt.)...	I had an opportunity to collect four specimens of a buprestid beetle at Sungkang (2,500 m alt.)...
Page 223, caption for figs. 1–4	2, right antenna, frontal view;	2, left antenna, frontal view;

2) Studies on the Buprestidae (Coleoptera) of Taiwan. II. A new species of the genus *Dicerca* (1991; *Elytra*, *Tokyo*, **19**: 57–61).

Location	Error	Correction
Page 58, line 20	Scutellum small and triangular with a depression on the median line.	Scutellum small and inversely pentagonal with a depression on the median line.

References

HATTORI, T., 1990. Studies on the Buprestidae (Coleoptera) of Taiwan. I. A new genus and species of the tribe Coraebini. *Elytra*, *Tokyo*, **18**: 221–225.

——— 1991. Studies on the Buprestidae (Coleoptera) of Taiwan. II. A new species of the genus *Dicerca*. *Ibid.*, **19**: 57–61.

KUROSAWA, Y., 1976. Introduction to Japanese Buprestidae (19). *Coleopterists' News*, *Tokyo*, (36): 1–7. (In Japanese.)

OBENBERGER, J., 1925. De novis Buprestidarum regionis palaearcticae specibus IV. b. *Acta Soc. ent. čech.*, **21** [1924]: 100–104.