

Studies on the Buprestidae (Coleoptera) of Asia

10) One New Subspecies in Genus *Chrysodema* and Four New Species of the Genera *Nipponobuprestis* and *Coraebus* from Taiwan

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Abstract *Chrysodema* (*Pseudochrysodema*) *dalmani penghuensis* is described as a new subspecies from Taiwan. Four new species, *Nipponobuprestis* (*Nipponobuprestisia*) *datunensis*, *Coraebus tuberculisternus*, *Co. cheni* and *Co. cupreofemineus* are also described from Taiwan.

Key words: Jewel beetles, taxonomy, new taxa, fauna, Penghu Island, Philippines, Japan.

Introduction

For the species *Chrysodema* (*Pseudochrysodema*) *dalmani* (ESCHSCHOLTZ, 1837), several specimens from Penghu Island located west of mainland Taiwan have been collected in the last few years. The authors have carefully compared them with specimens from the Ryukyu Archipelago of Japan and the main island of Taiwan, as well as with the islands from the Philippines. It was then determined that the specimens from Penghu Island are different in the coloration of the legs. Therefore, the authors describe them as a new subspecies, *Ch. (P.) dalmani penghuensis* subsp. nov.

Two species in the genus *Nipponobuprestis* OBENBERGER, 1942, were described from Japan in the 19th century but since these descriptions, no species were found from East Asia until the end of the 20th century when four new species were described from China by PENG (1995). It had however been unknown from Taiwan. KUROSAWA (1969) included a secondhand record of *Nipponobuprestis querceti* (E. SAUNDERS, 1873) from Taiwan in “Review of the Japanese species of the family Buprestidae (4)”, but he described that the record was suspicious in the validity. In the last few years, some specimens in this genus have been found from the north of Taiwan, and after careful examination it was determined that this species is not previously described. In this paper, the authors describe the new species as *N. (Nipponobuprestisia) datunensis* sp. nov.

In recent years, our colleagues Mr. Chiamu CHEN and his older brother Mr. Jiafong CHEN devoted themselves to collecting buprestid beetles in southeastern Taiwan and have made significant contributions to science. Through their courtesy, the authors had an opportunity to examine their buprestid collection, and after careful examination, it became apparent that several specimens belonged to new species of the genus *Coraebus* GORY & LAPORTE DE CASTELNAU, 1839. In this paper, the authors describe three new species, *Coraebus tuberculisternus* sp. nov. from Pingtung County, which was already found from New Taipei City and Nantou County and *Co. cheni* sp. nov. and *Co. cupreofemineus* sp. nov. from Taitung County.

Material and Methods

The holotype and some paratypes are deposited in the National Museum of Natural Science, Taichung, Taiwan (NMNST), and some of the paratypes are also deposited in the National Museum of

Nature and Science, Tsukuba, Japan (NSMT) and some remaining paratypes are in the author's collections.

All specimens were examined under binoculars model SM-Z (Nikon, Japan) with magnification $\times 10$ –40 and with 40×40 mesh glass plate just under the ocular lens for creating illustrations.

For digital photography, the authors use the following equipment: camera body, Canon 80D; lens, Canon MP-E 65 mm f/2.8 1–5 \times ; macro rail, Cognisys Stackshot automated macro rail; photo stacking software, Helicon Focus 6.7.1; post editing software, Adobe Photoshop CC 2018.

Measurements were made by the following method: pronotal length — from the base of posterior median lobe to anterior median lobe; elytral length — from the most anterior margins of the elytral base to apices; male genital apparatus length — from the anterior margin of the genital apparatus to the apex of parameres.

Taxonomy

Chrysodema (Pseudochrysodema) dalmanni penghuensis subsp. nov.

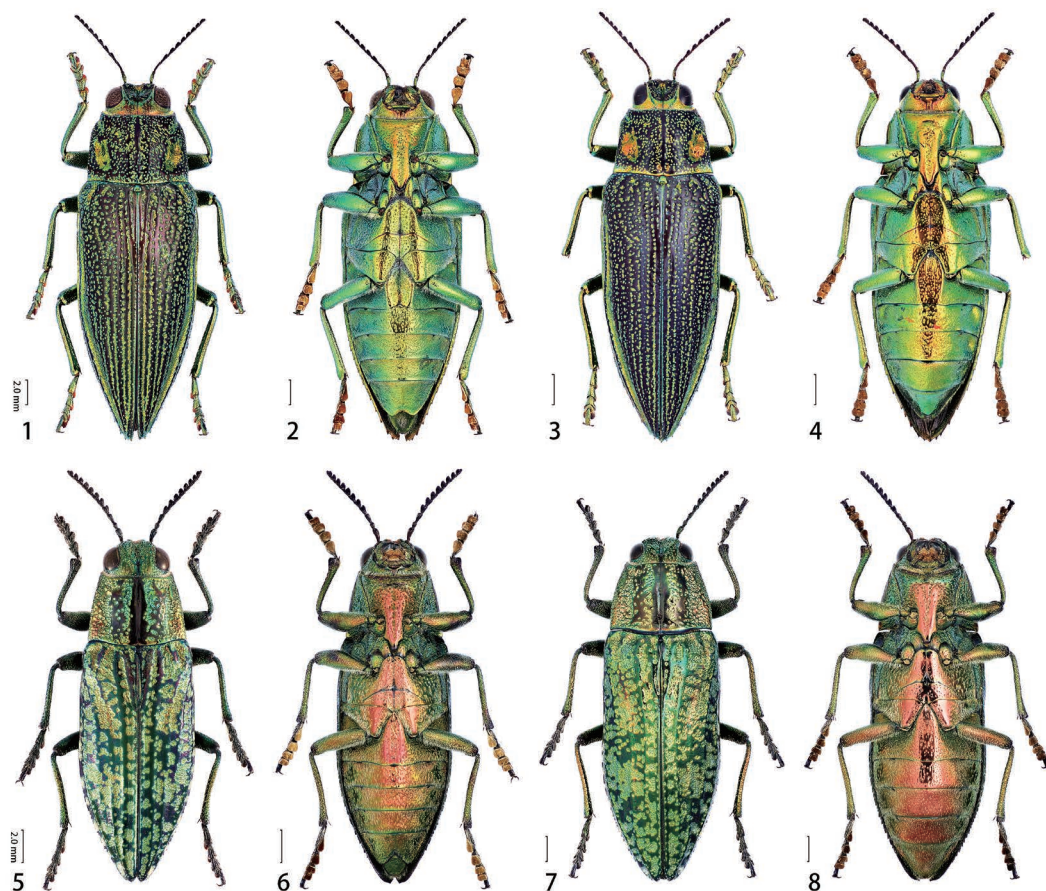
(Figs. 1–4 & 21–23)

Chrysodema (Pseudochrysodema) dalmanni was described from Manilla in Luzon Is. in the Philippines by ESCHSCHOLTZ in MANNERHEIM (1837). Then, it is known that this species inhabits in another islands in the Philippines, the main island and Lyudao Is. in Taiwan, and the Ryukyu Archipelago in Japan. Recently, this species was found from Penghu Is. in Taiwan. The specimens from Penghu Is. are able to be distinguished from the specimens known from previously known localities as a new subspecies. This new subspecies has the following diagnostic feature in both sexes, comparing with the nominotypical subspecies, *Ch. (P.) dalmanni dalmanni*, already known from the habitat of the Philippines (Fig. 36), Taiwan (Fig. 37) and Japan (Fig. 38): femora, tibiae and tarsal segments with simply greenish tinges on green of basal coloration, while in the nominotypical subspecies, with cupreous or aeneous tinges on green of basal coloration and in a junior synonym of *Ch. (P.) dalmanni*, *Ch. manillarum* THOMSON, 1879, described as “pedes viridi-cuprescentes” for the specimen from “Manilla” (THOMSON, 1879).

Last visible abdominal sternite in male of the new subspecies is emarginate as inverted “V”-shape at the apex, and male of the nominotypical subspecies from the Philippines, Taiwan and the Ryukyu Archipelago is almost same in shape. Male genital apparatus is also almost same in shape as male of the nominotypical subspecies from the Philippines, Taiwan and the Ryukyu Archipelago. Last visible abdominal sternite in female of the new subspecies is emarginate in varying degrees, from obvious “M”-shape to inverted “U”-shape with a small projection at the middle of bottom on apical margin. The shape of the bottom of the last sternite in female from Camiguin Is. in the Philippines and Taketomi Is., Yonaguni Is. and Iriomote Is. in the Ryukyu Archipelago bears inverted “U”-shape with a small projection at the middle of the bottom. Therefore, the shape of the bottom in female is not a sufficient distinguishing point between the two subspecies.

Type series. Holotype: ♂, Tienren Lake, Penghu County, Taiwan, 18.IX.2017, Uika ONG leg. Paratypes: 1 ♀, Tienren Lake, Penghu County, Taiwan (N23.55743°, E119.60592°), 26.IX.2014, Jyh-jong CHERNG leg.; 1 ♂, 1 ♀, same data as the holotype; 5 ♂♂, same locality and collector as the holotype, 20.IX.2017. One pair paratypes are deposited in NSMT.

Bionomics. All specimens of the type series were taken by sweeping the leaves of *Terminalia catappa* trees (Combretaceae).



Figs. 1–8. Habitus. — 1–4, *Chrysodema* (*Pseudochrysodema*) *dalmanni penghuensis* subsp. nov.; 5–8, *Nipponobuprestis* (*Nipponobuprestisia*) *datunensis* sp. nov. — 1, 3, 5 & 7, Dorsal view; 2, 4, 6 & 8, ventral view. — 1, 2, 5 & 6, Males; 3, 4, 7 & 8, females. Scale bars: 2.0 mm.

Distribution. Taiwan (Penghu Is.).

Etymology. This specific name was given for the type locality.

Comparative specimens examined. *Chrysodema* (*Pseudochrysodema*) *dalmanni dalmanni*: [Philippines] 1 ♀, Santa Praxedes, West Cagayan, north Luzon Is., V.2019; 1 ♀, Romblon Is. 1979; 1 ♀, Sybuyan Is., I.1982; 2 ♀♀, Camiguin Is., Babyanes, VI.1988; [Taiwan] 4 ♂♂, Hengchuen, Pingtung County, VI.1979, Chingkin YU leg.; 2 ♂♂, 3 ♀♀, Lyudao Is., Taitung County, 29.IV.1990, Chinchu LUO leg.; 1 ♂, 2 ♀♀, Anshuo, Taitung County, 23.VII.2016, Uitsiann ONG leg.; [Japan, Okinawa Prefecture] 4 ♂♂, 1 ♀, Sonai, Iriomote Is., 28.V.1973, Kôyô AKIYAMA leg.; 3 ♂♂, 1 ♀, Taihu, Iriomote Is., 10.VIII.1973, Y. SUZUKI leg.; 3 ♂♂, 3 ♀♀, Shiokawa, Tarama Is., 1.IX.1979, Jun OKUMA leg.; 2 ♂♂, 3 ♀♀, same locality, 11.IX.1979, Jun OKUMA leg.; 1 ♀, Mt. Urabu, Yonaguni Is., 8.V.1989, T. MIYAMOTO leg.; 1 ♀, Sonai, Yonaguni Is., 9.V.1992, T. MIYAMOTO leg.; 1 ♂, Taketomichyou, Hateruma Is., 11.VII.1997, N. NITTA leg.; 1 ♀, Taketomi Is., 9.VII.2007, Kouzou TAKASHIMA leg.

Nipponobuprestis (Nipponobuprestisia) datunensis sp. nov.

(Figs. 5–8, 24–26 & 42–45)

Male. Body 18.2–19.5 mm (mean 18.7 mm) long, 6.1–6.4 mm (mean 6.2 mm) wide, elongate ovate; coloration lustrous greenish, and blackish on elevated carinae of reticulation and rugae, with aeneous tinges; head blackish green; antennae black with a greenish tinge on 1st segment, black on 2nd to apical segments; pronotum greenish with aeneous tinges, blackish on rugae; lateral sides in posterior half with cupreous tinges; longitudinal broad median costal band and both broad costal bands beside the median band blackish; elytra greenish with aeneous tinges; two shallow and obsoletely depressed markings which are ranged longitudinally and aeneo-greenish on each elytron; costae and reticulation between the costae blackish with bluish tinges; ventral aspect greenish with aeneous tinges; legs with coxae, femora, tibiae greenish with aeneous tinges; tarsi and claws blackish with purplish tinges though tarsal pads ochreous.

Head transverse and declivous anteriorly, coarsely punctate; vertex with a median groove narrow; frons depressed along median line and declivous from both sides to the median line; clypeal suture absent; clypeus transverse, triangularly emarginate on anterior margin with long ochreous setae; each antennal cavity surrounded by a triangular elevated rim and opened laterally; surface coarsely rugoso-punctate with whitish setae; eyes convergent above in front of view; labrum projected anteriorly and triangularly excavate on anterior margin with ochreous long setae.

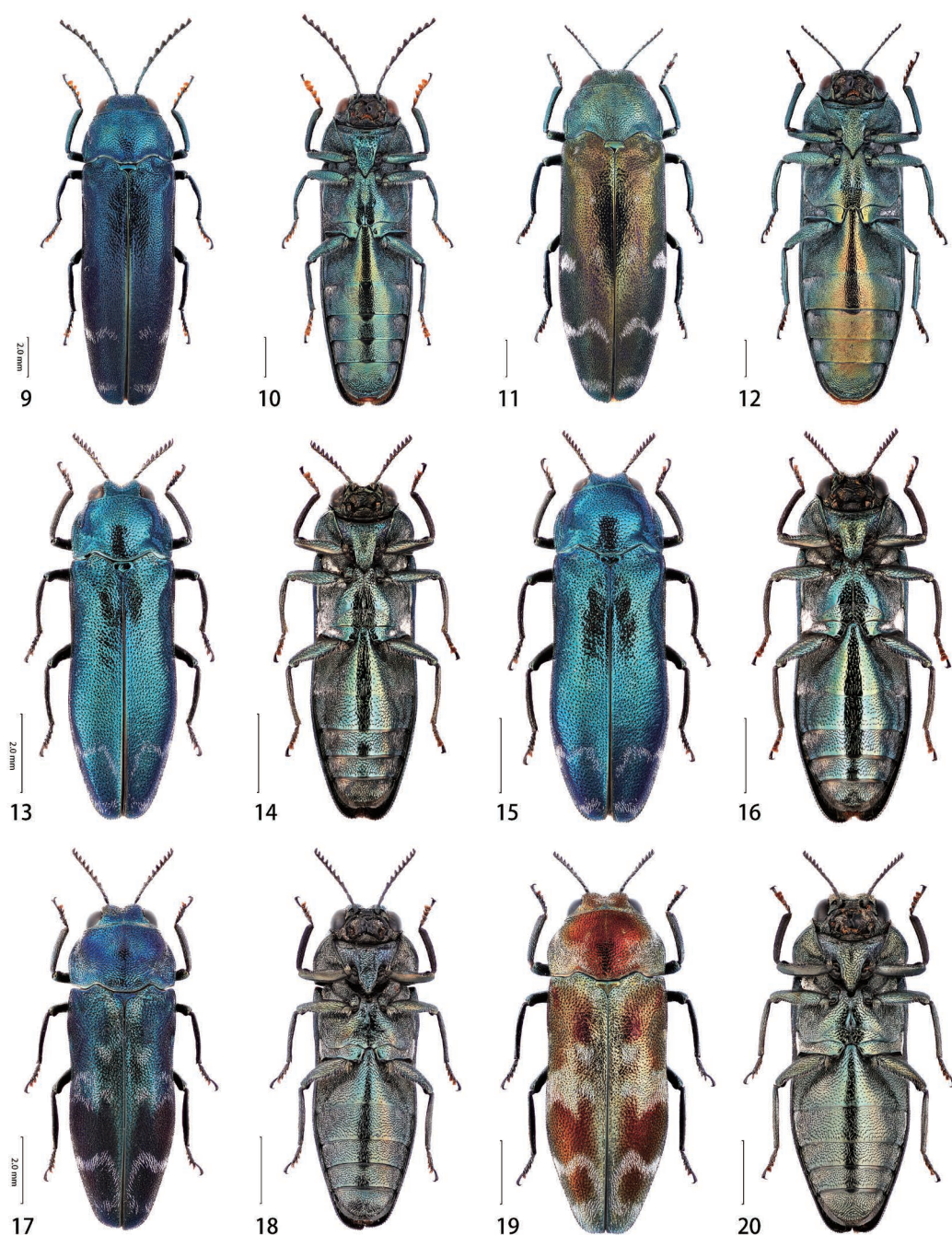
Antennae compact, reaching anterior 1/2 of pronotum; 1st segment fusiform; 2nd globular; 3rd to 10th triangular; apical 11th oval and notched on the terminal margin; sensory pores concentrated in a circular socket at ventro-apical part on each 3rd to apical segment, and scattered sensory pores distributed on the inner and outer sides except the stem part on each 4th to apical segment.

Pronotum subtrapezoid, widest just behind basal 1/3, about 1.4 times as wide as long; lateral margins obliquely dilated from the base to widest part where they are arcuate, then feebly and arcuately convergent to anterior angles; anterior angles obtusely angulate and produced anteriorly in lateral view; marginal carinae entirely well-defined; prehumeral carinae obsolete and arcuately and outwardly convex in basal 1/3; anterior margin bisinuate, 0.7 times as wide as posterior margin; posterior margin feebly bisinuate, with a median lobe arcuately produced; posterior angles acute; disc convex, spherically impressed at each lateral 2/3 from ante-scutellar part before the base; longitudinal median broad costa with a longitudinal shallow depression in the middle and both broad costae obsoletely punctate at lateral 2/5 from median line; surface densely, irregularly and coarsely punctate except these longitudinal broad costae; surficial punctuation coarsely rugose on each side.

Scutellum small, convex and transversely subrectangular.

Elytra 3.3 times as long as pronotum, 1.2 times as wide as pronotum, widest just the middle and 2.1 times as long as wide at the widest part which is wider than pronotum; basal margin feebly sinuate; humeral angles obtusely angulate; humeri feebly prominent; sides feebly sinuate from behind humeri to the widest part where they are arcuate, then straightly convergent to the apices; each apex sinuously convergent to a unidentate sutural angle; sutural angles dehiscent; lateral margins serrate from apical 2/5; serration becoming denser and more acute toward the apices; disc of each elytron with obsolete though rather elevated five costae along suture, which are broadly convex, and gradually obsolete toward lateral margin, and with two obsolete shallow depressions ranged longitudinally and interrupting the costae; surface densely scattered with depressed spots concentrated with obsolete punctures; each spot being among reticulations; each puncture with a short recumbent whitish seta.

Ventral surface rugoso-punctate, clothed with whitish recumbent hairs. Prosternum declivous from the middle to lateral sides; anterior margin arcuately emarginate; prosternal process planate,



Figs. 9–20. Habitus. — 9–12, *Coraebus tuberculisternus* sp. nov.; 13–16, *Coraebus cheni* sp. nov.; 17–20, *Coraebus cupreofemineus* sp. nov. — 9, 11, 13, 15, 17 & 19, Dorsal view; 10, 12, 14, 16, 18 & 20, ventral view. — 9, 10, 13, 14, 17 & 18, Males; 11, 12, 15, 16, 19 & 20, females. Scale bars: 2.0 mm.

scattered with coarse punctures bearing long hairs, and with deep and coarse punctures on median line, which are longitudinally and confluent with each other; lateral margins subparallel, feebly and arcuately constricted between anterior coxal cavities, then inwardly and arcuately convergent toward the arcuate apex. Mesosternum entirely penetrated by prosternal process. Metasternum with an entire median groove. Abdomen convex; last visible abdominal sternite triangularly and strongly emarginate at the middle of apical margin.

Legs rather long, slender and straight; tarsal segments moderate in length; 1st metatarsal segment 1.4 times as long as 2nd; claws slightly long, 1.9 times as long as the stem parts of the last metatarsal segments.

Male genital apparatus slender, depressed; parameres with lateral margins arcuately divergent to apical 2/5, then sub-parallel to apical 1/10 where they are swollen, and finally obliquely convergent to the apices; aedeagus sinuously convergent to the apex.

Hindwing with anal cell¹⁾.

F e m a l e. Body 25.3 mm long, 8.7 mm wide. Elytra less costate and more punctate than in male; last visible abdominal sternite with the simply arcuate apex.

Type series. Holotype: ♂, Beitou, Taipei City, Taiwan, 5.VI.2019, Uitsiann ONG leg. Paratypes: 1 ♀, same locality and collector as the holotype, 5–6.VI.2019; 1 ♂, same locality and collector as the holotype, 5.VI.2019; 2 ♂♂, same locality and collector as the holotype, 5–6.VI.2019. The last one male paratype is deposited in NSMT.

Bionomics. All specimens were collected on the trunk of old trees of *Celtis sinensis* (Cannabaceae) (Fig. 63).

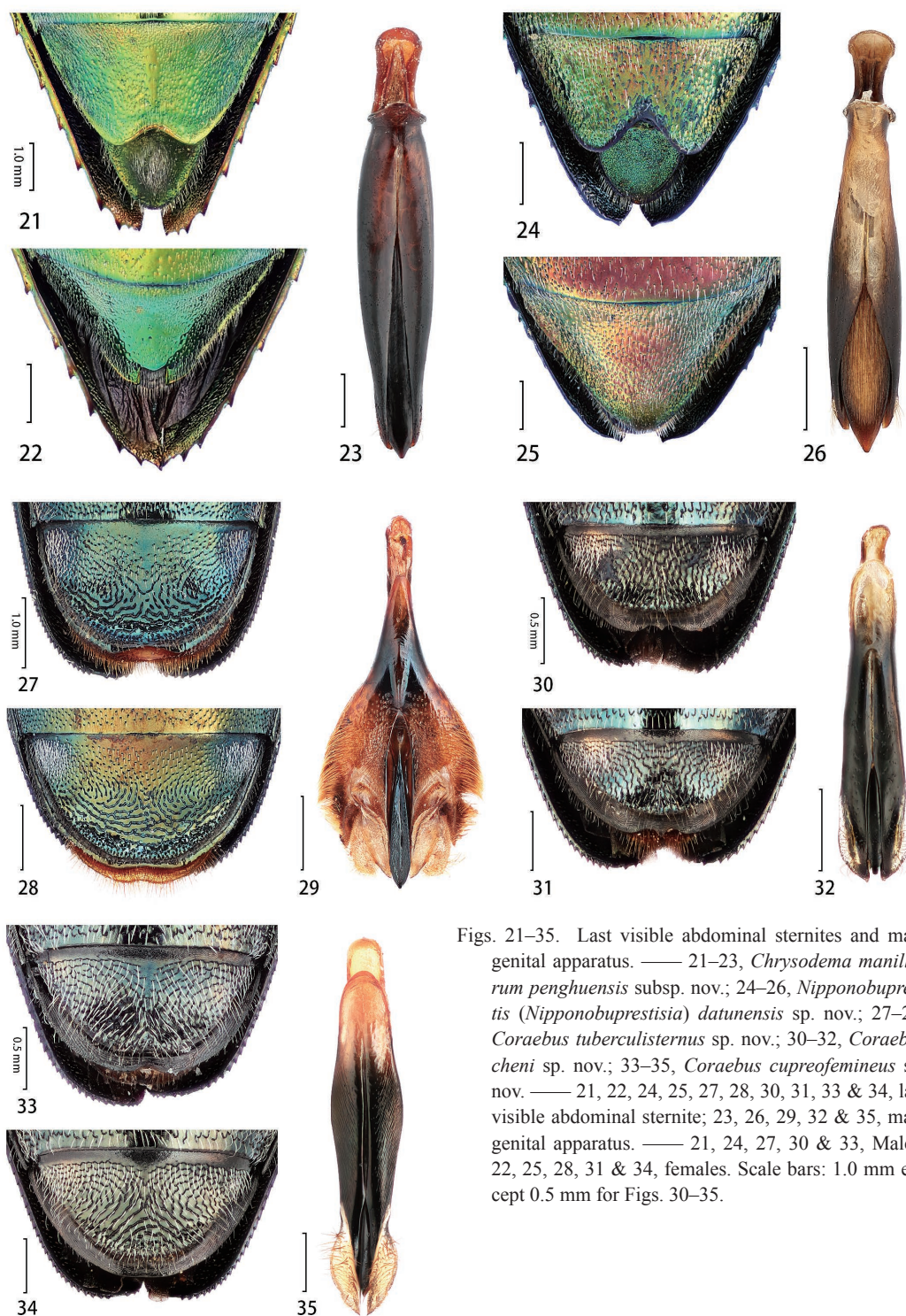
Distribution. Taiwan.

Etymology. The specific name was given for this unique new species restricted to a special geographical district of Mt. Datun which is in an old volcanic mountain area. *Lucanus datunensis* HASHIMOTO, 1984 (Coleoptera, Lucanidae) also inhabits and endemic to this area.

Remarks. This new species was placed in the subgenus *Nipponobuprestisia* PENG, 1995, because it has the following diagnostic features as compared to the type species *Nipponobuprestis* (*Nipponobuprestis*) *amabilis* (SNELLEN VAN VOLLENHOVEN, 1864) of the subgenus *Nipponobuprestis* OBENBERGER, 1942 from Japan and China: 1) pronotum with lateral margins arcuate, while in *Nipponobuprestis*, margins straight or inwardly arcuate; 2) pronotum with a longitudinal shallow depression on median broad costa, while in *Nipponobuprestis*, with a longitudinal groove on the median costa; 3) elytral costae broadly convex, while in *Nipponobuprestis*, narrowly and sharply ridged; 4) prosternal process planate with deep punctures on median line, which are coarsely, longitudinally and confluent with each other, while in *Nipponobuprestis*, prosternal process broadly and shallowly sulcate on the median line with obsolete and confluent punctures which are surrounded by irregular reticulation. In addition, the probable host plant of this new species is *Celtis sinensis* (Cannabaceae) allied to *Ce. sinensis* var. *japonica* which is the host of *N. (Nipponobuprestisia) querceti* (SAUNDERS, 1873), the type species of the subgenus in Japan, while *N. (Nipponobuprestis) amabilis* is associated with *Ilex routunda* (Aquifoliaceae), etc. (AKIYAMA & OHMOMO, 1997).

In “Key to subgenera and species” provided by PENG (1995), the two subgenera in the genus *Nipponobuprestis* are described as follows: “Pronotum subtrapezoid, about 1.4 times wider than long, sides obliquely straight, slender segments of antenna metallic green, serrate segments black (Subgen. *Nipponobuprestis* s. str.)” and “Pronotum subquadrate, about 1.2 times wider as long, sides arcuate from base to front, antenna entirely black (*Nipponobuprestisia* subgen. nov.)”. However, the new species in *Nipponobuprestisia* has the following features: pronotum subtrapezoid, about 1.4 times as wide as long; sides nearly arcuate from the base to anterior angles; antennae black with greenish tinges on

1) This term is based on the description of *Buprestis (Akiyamaia) samanthae* HATTORI and TANAKA (2007).



Figs. 21–35. Last visible abdominal sternites and male genital apparatus. — 21–23, *Chrysodema manillarum penghuensis* subsp. nov.; 24–26, *Nipponobuprestis* (*Nipponobuprestisia*) *datunensis* sp. nov.; 27–29, *Coraebus tuberculisternus* sp. nov.; 30–32, *Coraebus cheni* sp. nov.; 33–35, *Coraebus cupreofemineus* sp. nov. — 21, 22, 24, 25, 27, 28, 30, 31, 33 & 34, last visible abdominal sternite; 23, 26, 29, 32 & 35, male genital apparatus. — 21, 24, 27, 30 & 33, Males; 22, 25, 28, 31 & 34, females. Scale bars: 1.0 mm except 0.5 mm for Figs. 30–35.

1st segments which are slender.

Because it seems that the aspect ratio of pronotum and the coloration of antennae are not reliable characters for separating these two subgenera, the authors recommend to use the aforementioned diagnostic features 1) to 4) for reliable differentiation of the two subgenera, between which differences may be slight.

This new species has the following diagnostic features as compared with *Nipponobuprestis* (*Nipponobuprestisia*) *bilyi* PENG, 1995 from Jiangxi Province, China (Fig. 39): 1) pronotum widest just behind basal 1/3, while in the later, widest at the middle; 2) each elytron with two obsolete shallow depressions ranged longitudinally, while the latter lacks these depressions; 3) elytral surface densely scattered with depressed each spot concentrated with obsolete punctures, and the each spot being among reticulations and each puncture bearing a short recumbent whitish seta, while in the latter, the surface moderately scattered with the spots; 4) lateral margins of elytra serrate from apical 2/5 and the serration becoming denser and more acute toward the apices, while in the latter, densely serrate from apical 1/3 to the apices.

This new species also has the following diagnostic features as compared with *N.* (*Nipponobuprestisia*) *querceti* (Fig. 40): 1) pronotum widest just behind basal 1/3, while in the latter, widest at the base; 2) each elytron with two obsolete shallow depressions ranged longitudinally, while in the latter, these depressions more obsolete and inconspicuous; 3) disc of each elytron with obsolete but rather elevated five costae along suture, while in the later, the costae not so conspicuous as the former and the middle parts of 3rd and 4th costae almost inconspicuous; 4) elytral surface densely scattered with depressed spots concentrated with obsolete punctures, each spot being among reticulations and each puncture bearing a short recumbent whitish seta, while in the later, the surface sparsely scattered with depressed spots, each of them is larger than the former; 5) lateral margins of elytra serrate from apical 2/5 and the serration becoming denser and more acute toward the apices, while in the later, the margins densely serrate from apical 2/5 to the apices.

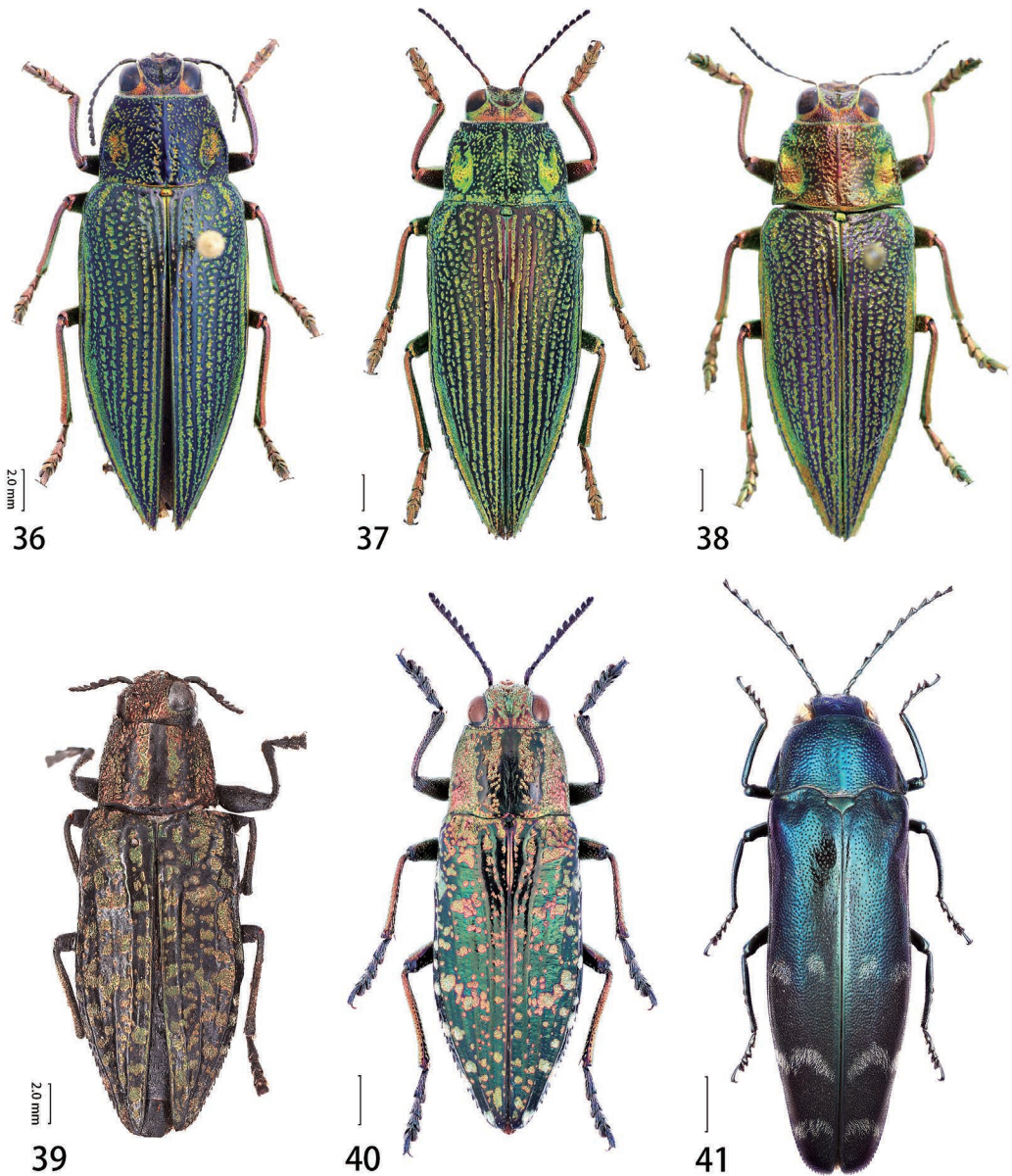
Comparative specimens examined. *Nipponobuprestis* (*Nipponobuprestisia*) *querceti*: [Japan] 1 ♂, Nanjou, Tateyama City, Chiba Prefecture, 10.V.2003, Takaharu HATTORI leg.; 1 ♀, same locality and collector as the previous, 1.VI.2003. *Nipponobuprestis* (*Nipponobuprestis*) *amabilis*: [Japan] 1 ♂, Shiroyama, Tateyama City, Chiba Prefecture, 13–14.VII.1986, H. ISAKAWA leg.; 1 ♀, Shiroyama, Tateyama City, Chiba Prefecture, 9.VII.2000, Takaharu HATTORI leg. *Nipponobuprestis* (*Nipponobuprestisia*) *bilyi*: [China] 1 ♂, Yiyang, Jiangxi Province, China, 7.VI.1990, Jin MA leg. (compared with the color photo of the holotype and its original description).

Coraeus tuberculisternus sp. nov.

(Figs 9–12, 27–29 & 46–50)

M a l e. Body 15.3 mm long, 4.6 mm wide, large, elongate and deplanate along elytral suture; head bluish with aeneo-greenish tinges; clypeus blackish; antennae blackish with aeneo-greenish shimmers; pronotum and scutellum lustrous blue; elytra darkish blue with shimmers, each of which is ornamented with whitish setae as follows: single inconspicuous spot along suture at basal 1/4, and an inconspicuous spot just before basal 1/2 longitudinally sited below the above spot, and an inconspicuous transverse short band on lateral side of the spot at basal 1/2, a sinuously waved transverse band just behind apical 1/4, and a transverse band just before the apex; ventral surface bluish with aeneo-greenish shimmers; prolegs bluish with aeneo-greenish shimmers, and meso- and metalegs dark blue with shimmers; tarsal pads pale brownish.

Head transverse and declivous anteriorly; vertex with a median groove extending to the middle



Figs. 36–41. Habitus. — 36–38, *Chrysodema* (*Pseudochrysodema*) *dalmanni dalmanni*, 36, female from Luzon Is.; 37, male from Taitung County, Taiwan; 38, male from the Ryukyu Archipelago, Japan; 39, *Nipponobuprestis* (*Nipponobuprestisia*) *bilyi* (male) from Jiangxi Province, China; 40, *Nipponobuprestis* (*Nipponobuprestisia*) *querceti* (male) from Chiba Prefecture, Japan; 41, *Coraebus* *torigaii* (male) from Taiwan. Scale bars: 2.0 mm.

of frons; frons depressed like inverted “V”-shape in upper 2/3, and transversal in lower 1/3; clypeal suture transverse; clypeus stepped down from frons and constricted between antennal cavities, depressed, arcuately emarginate at the middle of anterior margin; surface coarsely punctate with whitish

setae and rugose transversely; eyes oval, subparallel in frontal view, reaching anterior margin of pronotum in dorsal view.

Antennae slender, long and reaching just before pronotal base; each segment with brownish long semirecumbent setae on ventral and dorsal sides; 1st segment short, stout, geniculate and obconical; 2nd stout and obconical; 3rd stout, obconical and of the same length as 2nd; 4th to apical 11th long and triangular; sensory pores concentrated in a distinct socket on each apico-inner surface of apical nine segments.

Pronotum transverse, widest at $1/5$ from base, about 1.7 times as wide as long; lateral margins sinuously divergent to the widest part where they are arcuate, then feebly arcuate to anterior angles; prehumeral carinae long and arcuate from posterior angles to just behind the middle; anterior angles acute as right angle in lateral view; marginal carina entire and entirely reflected; crenulation becoming sparser toward anterior angles; anterior margin arcuately produced and 0.8 times as wide as posterior margin which is strongly bisinuate with a median lobe broadly produced and is subtruncate and feebly bisinuate before scutellum; posterior angles obtusely angulate; disc convex; surface uniformly punctate; punctures connected with each other by a furrow, and each of them bearing a brownish seta.

Scutellum transverse, trapezoidal, extended, inwardly and arcuately converging to the apex; surface lustrous, with several punctures in anterior part.

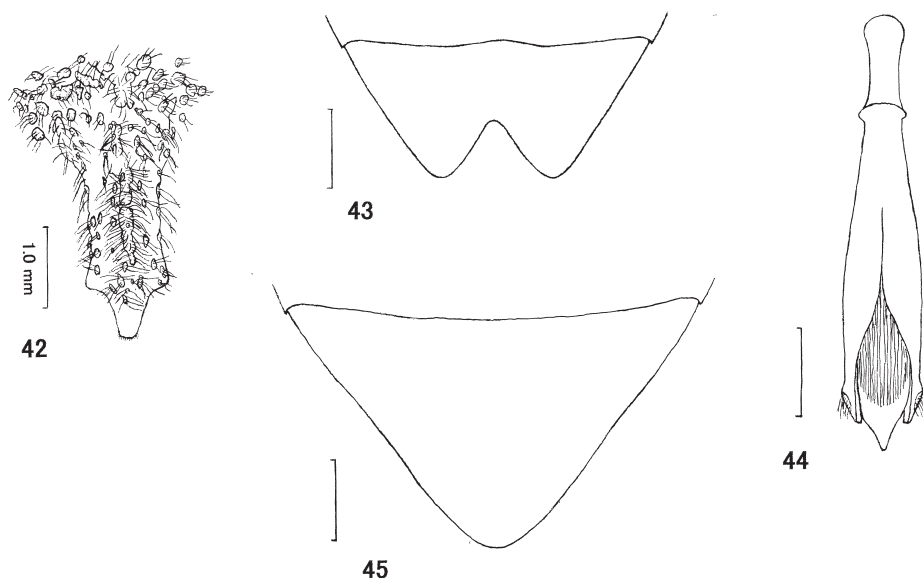
Elytra 4.3 times as long as pronotum, and as wide as pronotum, widest just behind humeral prominences and 2.5 times as long as wide at the widest part; each basal lobe strongly sinuate; each humeral angle forming a right angle and rounded at the corner; sides arcuately expanded to the widest part, then feebly sinuate to just behind the middle, and obliquely convergent to the arcuate apices; lateral margins crenulate behind the middle and finely serrate in apical parts; serration becoming stronger to the apices; disc broadly, longitudinally planate along suture, with a basal depression at the inner side of each humeral prominence; surface transversely rugoso-punctate, and clothed with brownish short setae except on the ornamented markings with whitish setae.

Ventral surface rugoso-punctate, clothed with whitish semirecumbent hairs. Prosternum declivous from the middle to lateral sides; anterior margin arcuately emarginate; prosternal process convex along median line, and bearing longitudinal tubercle at basal $1/3$, with a submarginal groove on each side except apical part, and the sides feebly and arcuately constricted between anterior coxal cavities, then feebly, inwardly and arcuately convergent to the apex which is pointed posteriorly. Mesosternum entirely penetrated by prosternal process. Metasternum with an entire median groove. Abdomen convex; last visible abdominal sternite arcuately emarginate at the middle of apical margin.

Legs long, sparsely clothed with brownish setae; protibiae feebly and outwardly arcuate; each mesotibia outwardly arcuate, with outer margin having a longitudinal short groove at the apex, and with inner margin outwardly arcuate in anterior half and arcuately excavate and crenulate in posterior half; each metatibia straight, with outer margin regularly quadrisinuate and having a shallow longitudinal groove at the apex and dense brownish setae in posterior half, and with inner margin sinuate and crenulate in posterior $2/5$ with brownish setae; all tarsal segments moderately long, slender and nearly equal in length to each other; claws long, 3.3 times as long as the stem parts of the last metatarsal segments.

Male genital apparatus narrow anteriorly and swollen posteriorly; parameres densely covered with pale brownish long setae in apical half, with lateral margins obliquely extended to apical $1/4$ where they are arcuate, then feebly and arcuately convergent to apical $1/5$; apical $1/5$ of each paramere with fine structures bearing a thin film: one socket at the apex being divided by a horizontal median film into dorsal and ventral parts; aedeagus sinuously convergent to the apex.

F e m a l e. Body 13.3–17.7 mm (mean 16.0 mm) long, 4.5–5.7 mm (mean 5.2 mm) wide; color-



Figs. 42–45. Prosternal process, last visible abdominal sternite and male genital apparatus. — 42–44, *Nipponobuprestis* (*Nipponobuprestisia*) *datunensis* sp. nov., male; 45, ditto, female. — 42, Prosternal process; 43 & 45, last visible abdominal sternite; 44, male genital apparatus. Scale bars: 1.0 mm.

ation varied individually from greenish blue to purplish in dorsal view. In greenish blue individual, head dark blue with dull aeneous shimmers; pronotum dark blue with dull aeneous shimmers in anterior half; scutellum dark blue; elytra greenish blue with dull aeneous shimmers; ventral surface and legs same as the elytra in coloration. Whereas in purplish one, head, pronotum and scutellum bluish purple with purplish shimmers; elytra dark purple with aeneous shimmers; ventral surface blue with bluish shimmers; legs dark blue with bluish shimmers; ventral surface same as in male; prosternal process convex on median line, though without tubercule at basal 1/3 in male. Abdomen convex as in male, but the last visible abdominal sternite shallowly and arcuately emarginate at the apex, and the angle at each corner rounded; legs with meso- and metatibiae without crenulation on inner margins.

Type series. Holotype: ♂, Dahanshan, Pingtung County, Taiwan, 17.VI.2013, Jiafong CHEN leg. Paratypes: [Taiwan] 1 ♀, same locality and date as the holotype, Chiamu CHEN leg.; 1 ♀, Yinziling, New Taipei City, Taiwan, 27.VI.2009, Huangyu KU leg.; 1 ♀, Meixi, Nantou County, Taiwan (N24.012741, E121.070337), 19.V.2016, Yutaka TAMADERA leg. The last female paratype is deposited in NSMT.

Bionomics. All specimens of the type series were taken by sweeping the leaves of Fagaceae trees.

Distribution. Taiwan.

Etymology. The new specific name is derived from the specific character of the tubercule on prosternal process in male.

Remarks. This new species has the following diagnostic features as compared with *Coraebus torigaii* AKIYAMA et OHMOMO, 1993 (Figs. 6–10 in AKIYAMA & OHMOMO, 1993): 1) elytral length 4.3 times as long as pronotum in male, while in *Co. torigaii*, 4.9 times as long as pronotum in male; 2) elytra ornamented with inconspicuous whitish spots at the middle, while in *Co. torigaii*, with large con-

spicuous whitish spots at the middle in male; 3) prosternal process with longitudinal tubercule at basal 1/3, and the sub-margins without sulcation in basal part in male, while in *Co. torigaii*, without tubercule at the base, and the sub-margins with longitudinal sulcation in basal part in male (HATTORI & ONG, 2018); 4) apex of each paramere in male genital apparatus with one socket divided into dorsal and ventral parts, while in *Co. torigaii*, with one shallow simple socket not divided into two.

Comparative specimens examined. *Coraebus torigaii*: 1 ♂, Songgang, Nantou County, Taiwan, 14.VII.1982, Chinchu LUO leg.

***Coraebus cheni* sp. nov.**

(Figs 13–16, 30–32 & 51–56)

M a l e. Body 8.5–9.1 mm (mean 8.9 mm) long, 2.8–3.0 mm (mean 2.9 mm) wide, semi-long and deplanate along elytral suture; head greenish blue with aeneous shimmers; clypeus blackish; antennae blackish with aeneous shimmers; pronotum, scutellum and elytra dark blue with dull shimmer; each elytron ornamented with whitish semirecumbent setae as follows: setae sparsely distributed behind anterior margin; 1st spot with several setae at anterior 1/4 and lateral 1/3 from suture; 2nd spot with a few setae at anterior 1/3 and lateral 3/4 from suture; 3rd spot with several setae at anterior 1/2 and lateral 1/3; sinuous band just before apical 1/4; posteriorly arcuate band just before the apex; ventral surface greenish blue with aeneous shimmers; legs dark blue with dull aeneous shimmers.

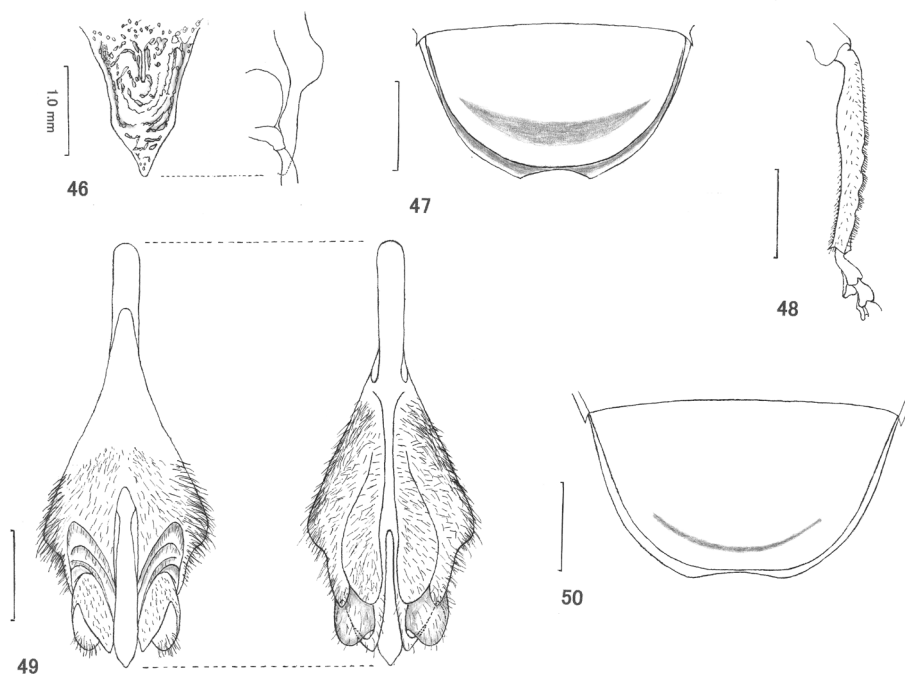
Head transverse and declivous anteriorly; vertex with a median groove extending to the top of the depression on frons; frons depressed spherically in the center; clypeal suture bisinuate; clypeus stepped down from frons and constricted between antennal cavities, depressed, arcuately emarginate at the middle of anterior margin; surface coarsely punctate with pale brownish setae; eyes oval, sub-parallel in frontal view, reaching or falling into anterior margin of pronotum in dorsal view.

Antennae stout, short and reaching just behind anterior margin of pronotum; each segment sparsely clothed with whitish setae on ventral and dorsal sides; 1st segment short, geniculate and obconical; 2nd obconical; 3rd stout, obconical and 0.7 times as long as 2nd; 4th to apical 11th long and triangular; apex of 11th truncate; sensory pores concentrated in a distinct socket on each apico-inner surface of apical nine segments.

Pronotum transverse, widest at 2/5 from base, about 1.4 times as wide as long; lateral margins feebly arcuate from the base to widest part where they are arcuate, then arcuate to anterior angles; prehumeral carinae short and arcuate from basal 1/4 to just before basal 2/5; anterior angles obtusely angulate in lateral view, and being just under eyes; marginal carina entire, conspicuously and entirely crenulate; anterior margin feebly bisinuate with median lobe, and 0.7 times as wide as posterior margin; posterior margin strongly bisinuate with a median lobe broadly and arcuately produced, and obtusely emarginate at elytral basal production on each side; each posterior angle forming a nearly right angle; disc spherically convex, depressed on the inner sides of posterior margin to lateral margins; surface with uniform punctures which are connected each other with a furrow, clothed with brownish setae all over and whitish setae sparsely distributed on each side; furrows ranged concentrically in the center of anterior margin.

Scutellum transverse and cordiform; surface even and lustrous.

Elytra 4.0 times as long as pronotum, and 1.2 times as wide as pronotum, widest just before the middle and 2.4 times as long as wide at the widest part; each basal lobe produced anteriorly and obtusely angulate; humeral angles obtusely angulate; sides feebly and arcuately swollen at humeri, then sinuate to the widest part, and obliquely convergent to the arcuate apices; sutural angles dehiscent; lateral margins crenulate humeri to the widest part, and finely serrate from the widest part to the apices, and the serration becoming stronger toward the apices; disc broadly, longitudinally depressed along



Figs. 46–50. Prosternal processes, last visible abdominal sternites, metatibia and male genital apparatus. — 46–49, *Coraebus tuberculisternus* sp. nov., male; 50, ditto, female; 46, prosternal process (left: ventral view, right: lateral view); 47 & 50, last visible abdominal sternite; 48, metatibia; 49 (left: dorsal view, right: ventral view), male genital apparatus. Dotted lines denote estimated lines. Shadowing denotes shaded area in each part, though in the right hand figure of Fig. 49 shadowing denotes the ventral surface of film being simply continuous on each apical socket. Scale bars: 1.0 mm.

suture, and strongly depressed just behind each basal production; surface transversely rugoso-punctate, clothed with brownish short setae except on the ornamented markings with whitish setae.

Ventral surface with dense punctures which are connected each other with a furrow, clothed with whitish semirecumbent hairs. Prosternum declivous from the middle to lateral sides; anterior margin arcuately emarginate; prosternal process convex and declivous toward the apex, with sides feebly and arcuately constricted between coxal cavities, then outwardly and arcuately convergent to the apex which is conjoined to the lobe under the surface of the process, blackish and extended from the basal part to apex. Mesosternum entirely penetrated by prosternal process. Metasternum with an entire median groove. Abdomen convex; last visible abdominal sternite shallowly and bisinuously emarginate with a median projection at the middle of apical margin.

Legs moderately long, clothed with pale brownish setae; each protibia straight; each mesotibia feebly and outwardly arcuate, with outer margin arcuate and having a short longitudinal groove at the apex, and with inner margin which is arcuately excavate in apical half and bears a few teeth at the apex; each metatibia straight, with outer margin which is feebly arcuate, clothed with brownish setae in posterior 2/3 and has a short longitudinal groove at the apex, and with inner margin which is outwardly arcuate in anterior half, arcuately excavate in posterior half and crenulate in apical 1/3; all tarsal segments moderately short, stout and nearly equal in length to each other; claws slightly long, 1.9 times as long as the stem parts of the last metatarsal segments.

Male genital apparatus slender and flattened; parameres with lateral margins feebly and arcuately convergent to the middle where they are arcuate, then subparallel to apical 1/4 that is swollen outwardly toward the apices with a thin film on each side; apices acute; aedeagus straightly convergent to the truncate apex.

Female. Body 8.5–10.4 mm (mean 9.6 mm) long, 2.8–3.3 mm (mean 3.1 mm) wide; coloration of dorsal surface same as in male; elytral ornamentation of whitish setae denser than in male; coloration on ventral surface more bluish than in male. Abdomen convex as in male; last visible abdominal sternite with a feeble, bisinuous emargination which is shallower than in male, with a median projection at the middle of apical margin, and usually round at the tip of the median projection; tibiae without teeth on meso- and metalegs; mesotibiae outwardly arcuate, without excavation on inner margins.

Type series. Holotype: ♂, Kinchenshan, Taitung County, Taiwan, 22.VI.2019, Chiamu CHEN leg. Paratypes: [Taiwan] 1 ♂, 2 ♀♀, same data as the holotype; 6 ♂♂, 2 ♀♀, same locality and collector as the holotype, 20.VI.2019; 2 ♀♀, same locality and collector as the holotype, 26.VII.2019; 4 ♂♂, 2 ♀♀, same locality and collector as the holotype, 27.VI.2019; 1 ♂, same locality as the holotype, 28.VI.2019, Jiafong CHEN leg.; 2 ♂♂, 1 ♀, same locality and collector as the holotype, 28.VI.2019; 2 ♂♂, 1 ♀, same locality as the holotype, 30.VI.2019, Jiafong CHEN leg.; 2 ♂♂, 1 ♀, same locality and collector as the holotype, 2.VIII.2019; 1 ♂, 1 ♀, same locality and collector as the holotype, 17.VII.2018; 3 ♂♂, 2 ♀♀, same locality and collector as the holotype, 27.VI.2018; 3 ♂♂, 1 ♀, same locality as the holotype, 18.VII.2018, Jiafong CHEN leg.; 1 ♂, 7 ♀♀, same locality and collector as the holotype, 24.VII.2018; 2 ♂♂, same locality and collector as the holotype, 27.VII.2018. A few male and female paratypes are deposited in NSMT.

Bionomics. All specimens of the type series were taken by sweeping the leaves of *Simplocos stellaris* trees (Symplocaceae).

Distribution. Taiwan.

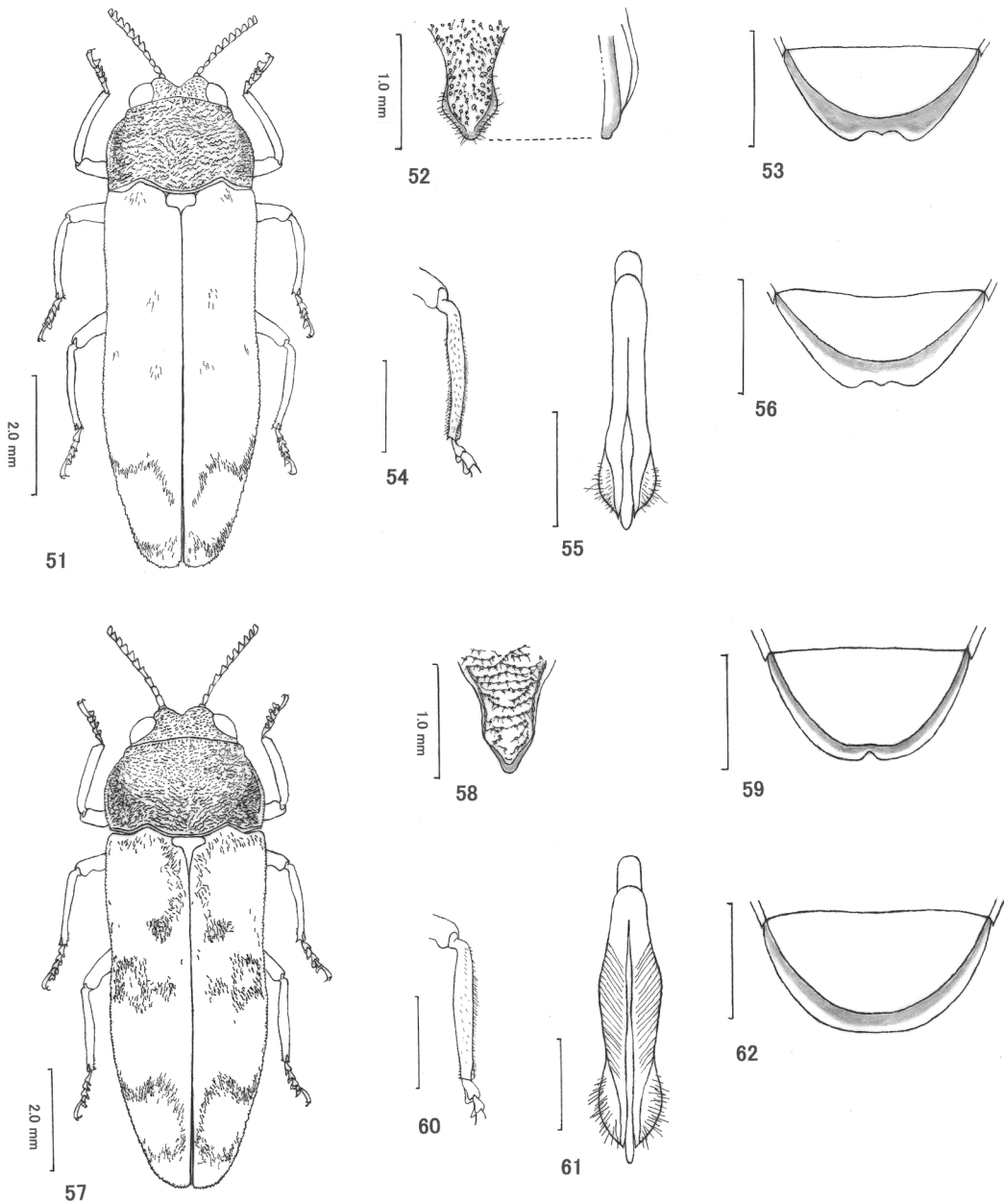
Etymology. The new specific name was dedicated to Messrs Chiamu CHEN and Jiafong CHEN who provided the type series and biological information to the authors.

Remarks. This new species has the following diagnostic features as compared with *Coraebus annamensis* DESCARPENTRIES et VILLERS, 1967 and *Coraebus blankae* KUBÁŇ, 1995 which is a junior synonym of the former in the Indochina Peninsula (KUBÁŇ, 1997): 1) each elytron with three spots of whitish setae in the middle and two transverse bands near the apex, while in *Co. annamensis*, “Bleu verdâtre sombre, les élytres avec deux fascies préapicales de pubescence blanche” (DESCARPENTRIES & VILLERS, 1967) (Fig. 3 in KUBÁŇ, 1995 a and Fig. 1541 in AKIYAMA & OHMOMO, 2000); 2) last visible abdominal sternite in male bisinuously emarginate with a small median projection on apical margin, while in *Co. annamensis*, “Sternite 5 angularly and shallowly emarginate” (KUBÁŇ, 1995 a); 3) each mesotibia feebly and outwardly arcuate, whose outer margin is arcuate, and inner margin is arcuately excavate in apical half and bears a few teeth at the apex; 4) each metatibia straight, whose outer margin is feebly arcuate and inner margin outwardly arcuate in anterior half, arcuately excavate in posterior half and crenulate in apical 1/3, while in *Co. annamensis*, “Mid- and hindtibiae slender, almost straight, their inner margins with two preapical spinules” (KUBÁŇ, 1995 a); 5) male genital apparatus slender and flattened (Fig. 56), while in *Co. annamensis*, transversely wide, rectangular (Fig. 25 in KUBÁŇ, 1995 a).

Coraebus cuprefemineus sp. nov.

(Figs 17–20, 33–35 & 57–62)

Male. Body 8.9–9.8 mm (mean 9.3 mm) long, 3.0–3.3 mm (mean 3.1 mm) wide, semi-long and deplanate along elytral suture; head lustrous blue; clypeus blackish; antennae blackish with ae-



Figs. 51–62. Dorsal views, prosternal processes, last visible abdominal sternites, metatibiae and male genital apparatus. — 51–55, *Coraebus cheni* sp. nov., male; 56, ditto, female; 57–61, *Coraebus cupreofemineus* sp. nov., male; 62, ditto, female. — 51, 57, Dorsal view; 52 & 58, prosternal process (left: ventral view, right: lateral view in 52); 53, 56, 59 & 62, last visible abdominal sternite; 54 & 60, metatibia; 55 & 61, male genital apparatus. Shadowing denotes shaded area in each part. Scale bars: 1.0 mm except 2.0 mm for Figs. 51 and 57.

neo-greenish shimmers; pronotum, scutellum lustrous dark blue; elytra lustrous dark blue in anterior half and lustrous dark purplish blue in posterior half; pronotum sparsely clothed with whitish setae on each side and around each posterior corner; each elytron ornamented with whitish semirecumbent setae as follows: setae sparsely distributed from behind anterior margin to basal 1/4 along suture, and 1st spot at anterior 1/3 and lateral 1/3 from suture, and 2nd spot at anterior 1/2 and lateral 1/3 from suture, ring-like marking on lateral side of the 2nd spot, transverse band between the ring-like marking to lateral margin, and transverse sinuous band at apical 1/4, which is arcuately connected along suture to apical oblique band; ventral surface of head and prosternum blackish with dull blackish shimmers, meso- and metasterna and abdomen dark blue with dull greenish blue shimmers; legs dark blue with aeneo-greenish shimmers.

Head transverse and declivous anteriorly; vertex with a median groove extending to the top of the depression on frons which is depressed elliptically along median line; clypeal suture almost straight; clypeus stepped down from frons and constricted between antennal cavities, depressed, arcuately and shallowly emarginate at the middle of anterior margin; surface punctate, clothed with pale brownish setae; eyes oval, subparallel in frontal view, reaching anterior margin of pronotum in dorsal view.

Antennae stout, short, reaching anterior 2/5 of pronotum; each segment sparsely clothed with whitish setae on ventral and dorsal sides; 1st segment semi-long, geniculate and obconical; 2nd semi-long, obconical; 3rd obconical and 0.6 times as long as 2nd; 4th to apical 11th short and triangular; 11th truncate at the apex; sensory pores concentrated in a distinct socket on each apico-inner surface of apical nine segments.

Pronotum transverse, widest just before basal 1/3, about 1.6 times as wide as long; lateral margins feebly arcuate from the base to widest part where they are arcuate, then feebly arcuate to anterior angles; prehumeral carinae short and feebly arcuate from just behind basal 1/3 to just behind the middle; anterior angles obtusely angulate in lateral view; marginal carina entire and entirely crenulate; anterior margin obtusely angulate at the middle, and 0.7 times as wide as posterior margin; posterior margin strongly bisinuate with median lobe broadly and arcuately produced, flattened at the bottom, and arcuately emarginate at elytral basal production on each side; posterior angles obtuse; disc spherically convex, feebly convex on median line in anterior 2/3, and depressed on the parts from the inner sides of posterior margin to lateral margins; surface with uniform punctures which are connected each other with a furrow, clothed with brownish setae throughout and sparsely scattered with whitish setae on each side; furrows ranged concentrically in the center of anterior margin.

Scutellum cordiform, depressed in the middle; surface shagreened.

Elytra 3.8 times as long as pronotum, as wide as pronotum, widest just before the middle and 2.3 times as long as wide at the widest part; each basal lobe produced anteriorly and obtusely angulate; each humeral angle just larger than a right angle; sides feebly and arcuately swollen at humeri, then feebly sinuate to the widest part, and obliquely convergent to the arcuate apices; sutural angles dehiscent; lateral margins crenulate from humeri to apical 1/4, then finely serrate to the apices, and the serration becoming stronger toward the apices; disc longitudinally depressed along suture, and spherically depressed just behind each basal production; surface transversely rugoso-punctate, clothed with brownish short setae except on the ornamented markings of whitish setae.

Ventral surface with dense punctures which are connected each other with a furrow, clothed with whitish semirecumbent hairs. Prosternum declivous from the middle to lateral sides; anterior margin arcuately emarginate; prosternal process convex along median line, with submarginal groove on each side except apical part; sides feebly and arcuately constricted between anterior coxal cavities, then arcuately and inwardly convergent to the arcuate apex; apical part bearing a blackish lobe along the



Fig. 63. The possible host plant *Celtis sinensis* from which *Nipponobuprestis* (*Nipponobuprestis*) *datunensis* sp. nov. was captured in the field.

apex under the surface of the process. Mesosternum entirely penetrated by prosternal process. Metasternum with an entire median groove. Abdomen convex; last visible abdominal sternite simply arcuate with a notch at the middle of apical margin.

Legs moderately long, clothed with pale brownish setae; each protibia feebly arcuate outwardly; each mesotibia feebly and exteriorly arcuate, with outer margin which is outwardly arcuate and has a short longitudinal groove at the apex, and with inner margin which is arcuately excavate in apical half and bearing several teeth at the apex; each metatibia straight, with outer margin having a short longitudinal groove at the apex, and with inner margin which is outwardly arcuate in anterior half, then straightly converging to the apex and bearing a few teeth at the apices; all tarsal segments moderately short, stout and nearly equal in length to each other; claws long, 3.8 times as long as the stem parts of the last metatarsal segments.

Male genital apparatus elongate and deplanate; parameres with lateral margins arcuately swollen to just before the middle where they are arcuate, then straightly convergent to apical 2/7 that is arcuately and outwardly swollen with a thin film on each side; film clothed with long pale brownish hairs on dorsal and ventral sides; dorsal surface of the stem part of parameres covered with densely aligned grooves which are oblique toward the acute apices; aedeagus obliquely convergent to the apex.

F e m a l e. Body 10.0–11.5 mm (mean 10.9 mm) long, 3.7–3.9 mm (mean 3.8 mm) wide; head lustrous reddish cupreous; antennae blackish with dull shimmers; pronotum lustrous reddish cupreous on convex disc but lustrous aeneous on the surrounding convex area; elytra brownish cupreous except for a lustrous aeneous transverse band at the middle, and aeneous shimmers just behind basal productions and in posterior half of both sides of suture; elytra ornamented with markings of whitish setae denser and wider than those of male, and with broadly scattered ocherous setae on both sides of suture; ventral surface greenish blue with dull shimmers, and clothed with whitish hairs. Abdomen with last visible abdominal sternite simply arcuate at the apex. Mesotibiae arcuate without excavation and teeth on inner margins. Metatibiae without teeth on inner margins.

Type series. Holotype: ♂, Kinchenshan, Taitung County, Taiwan, 8.VII.2019, Chiamu CHEN leg. Paratypes: [Taiwan] 1 ♂, 1 ♀, same locality as the holotype, 17.VII.2018, Jiafong CHEN leg.; 1 ♂, same data as the holotype; 1 ♂, same locality as the holotype, 18.VII.2019, Jiafong CHEN leg.; 1 ♂, same locality and collector as the holotype, 28.VI.2019; 1 ♀, same locality as the holotype, 28.VI.2019, Jiafong CHEN leg.; 1 ♀, same locality as the holotype, 30.VI.2019, Jiafong CHEN leg.; 4 ♂♂, 2 ♀♀, same locality as the holotype, 18.VII.2018, Jiafong CHEN leg.; 1 ♀, same locality and collector as the holotype, 24.VII.2018; 2 ♂♂, same locality and collector as the holotype, 26.VII.2018. A few male and female paratypes are deposited in NSMT.

Bionomics. All specimens of the type series were taken by sweeping the leaves of *Castanopsis carlesii* trees (Fagaceae).

Distribution. Taiwan.

Etymology. The new specific name is derived from the characteristic cupreous coloration in female different from bluish coloration in male.

Remarks. In having the dark bluish coloration and whitish markings on elytra, this new species is similar to *Coraebus vicarius* KUBÁŇ, 1995 occurring in central Yunnan Province of China and northern Vietnam (KUBÁŇ, 1995 b), which was described based only on male specimens, though it can be distinguished from the latter by the following diagnostic features: 1) each elytron with a whitish sinuous band at apical 1/4, which is arcuately connected along suture to apical oblique band just before the apex, while in *Co. vicarius*, the two sinuous whitish bands not connected along suture (Fig. 22 in KUBÁŇ, 1995 b); 2) prosternal process with sides feebly and arcuately constricted between anterior coxal cavities, while in *Co. vicarius*, “subparallel between coxae, widened forwards” (KUBÁŇ, 1995 b); 3) in male, each mesotibia feebly and exteriorly arcuate, whose outer margin is outwardly arcuate and has a short longitudinal groove at the apex and inner margin is arcuately excavate in apical half and bearing several teeth at the apex, while in *Co. vicarius*, “Midtibiae slender, straight, parallel-sided, hind 1/3 of innerside finely toothed, with distal long, sharp, obliquely inwards directed spine” (KUBÁŇ, 1995 b); 4) in male, each metatibia straight, whose outer margin has a short longitudinal groove at the apex and inner margin is inwardly arcuate in anterior half, then straightly converging to the apex and bears a few teeth at apices, while in *Co. vicarius*, “Hindtibiae flattened, slightly widened. Outer margin uneven, inner one slightly narrowed along distal 1/3, here finely toothed” (KUBÁŇ, 1995 b); 5) in male genital apparatus, the stem part of parameres dorsally covered with densely aligned grooves which are oblique toward the apices, while in *Co. vicarius*, it without the grooves (Fig. 5 in KUBÁŇ, 1995 b).

The markings of whitish setae on male elytra of this new species are very similar to those on female elytra of *Coraebus aldo* KUBÁŇ, 1996 from northern Vietnam, which was described based only on a female specimen, though this new species is also distinguished from the latter by the following diagnostic features: 1) coloration of dorsal aspect of female: head lustrous reddish cupreous; pronotum lustrous reddish cupreous on convex disc but lustrous aeneous on the surrounding convex area; elytra brownish cupreous except a lustrous aeneous transverse band at the middle, while in female of *Co. aldo*, “Whole body metallic lustrous; head, pronotum and lateral sides of elytra with violaceous lustre” (KUBÁŇ, 1996 and Fig. 13 in KUBÁŇ, 1996); 2) last visible abdominal sternite simply arcuate at the apex in female, while in female of *Co. aldo*, “Posterior margin of ventrite 5 truncate, with distinct denticle in middle” (KUBÁŇ, 1996).

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要 約

服部宇春・王 惟正：アジアのタマムシの研究（鞘翅目タマムシ科）. 10) 台湾から発見されたムネスジタマムシ属の1新亜種、そしてマダラタマムシ属およびナカボソタマムシ属の4新種。——台湾産のムネスジタマムシ属 *Chrysodema* の *Pseudochrysodema* 亜属に1新亜種を認め、*Chrysodema* (*Pseudochrysodema*) *dalmanni penghuensis* subsp. nov. (台湾名：澎湖粉彩吉丁蟲；和名：アオムネスジタマムシ澎湖島亜種) と命名し、記載した。本亜種は全ての肢が緑色の地色に緑色の光沢を持つが、タイプ産地であるフィリピン、そして日本及び台湾に分布する原名亜種 *Ch. (P.) dalmanni dalmanni* (ESCHSCHOLTZ, 1837) (台湾名：粉彩吉丁蟲；和名：アオムネスジタマムシ) は緑色の地色に赤銅色の光沢を持つことで区別できる。

さらに、台湾産のマダラタマムシ属 *Nipponobuprestis* の *Nipponobuprestisia* 亜属およびナカボソタマムシ属 *Coraebus* にそれぞれ1新種と3新種を認めて命名、記載した。新種 *Nipponobuprestis* (*Nipponobuprestisia*) *daitunensis* sp. nov. (台湾名：大屯綠斑吉丁蟲；和名：ダイトンクロマダラタマムシ) は鞘翅に不明瞭な4つの陥凹紋を持ち、かつ白毛を備える点刻斑は密に散布される。一方、中国江西省から記載されている *N. (Nipponobuprestisia)* *bilyi* PENG, 1995 ではそのような陥凹紋は認められず、更に白毛を備える点刻斑は本新種ほど密でないことから区別できる。また日本から記載されているクロマダラタマムシ *N. (Nipponobuprestisia)* *querceti* (SAUNDERS, 1873) では、鞘翅の4つの陥凹紋は本新種に比べて極めて不明瞭であり、鞘翅の第3・第4隆線は中央部でその隆起は不明瞭であり、更に白毛を備える点刻斑は疎であることから区別できる。新種 *Coraebus tuberculisternus* sp. nov. (台湾名：瘤腹細長吉丁蟲；和名：ハラコブナカボソタマムシ) は、雄の前胸腹板突起の中央に瘤を持つが、日本及び台湾から記載されている同属の既知種では瘤がないことで容易に区別できる。新種 *Coraebus cheni* sp. nov. (台湾名：陳氏細長吉丁蟲；和名：チンナカボソタマムシ) は、各鞘翅の基部に1つ、各鞘翅前半部に3つの白い毛斑を持つが、インドシナ半島から知られている *Co. annamensis* DESCARPENTRIES et VILLERS, 1967 は鞘翅前半部の3つの白い毛斑を欠き、本新種同様に鞘翅端に2本の白帯を持つだけである。新種 *Coraebus cupreofemineus* sp. nov. (台湾名：雌紅細長吉丁蟲；和名：メスアカナカボソタマムシ) は、背面の色彩が雄では青藍色であるのに雌では赤銅色である。本新種では鞘翅の2本の白い横帯は会合線に沿って翅端で弧状に繋がるが、中国雲南省及びインドシナ半島から知られている *Co. vicarius* KUBÁŇ, 1995 (雌は未知) は、その背面が青藍色であることとその背面の白紋は本種によく似ているが、翅端の2本の白い横帯が会合線に沿って繋がらないことから区別できる。また、ベトナム北部から知られている *Co. aldo* KUBÁŇ, 1996 (雄は未知) は、その背面の白紋は本種に似ているが、その背面が青藍色であることから区別できる。

References

- AKIYAMA, K., & S. OHMOMO, 1993. Notes on the Taiwanese Buprestidae (IV) (Coleoptera). Descriptions of four new species of the genus *Coroebus* [sic]. *Entomological Review of Japan, Osaka*, **48**: 57–66.

- AKIYAMA, K., & S. OHMOMO, 1997. A checklist of the Japanese Buprestidae. *Gekkan-Mushi, Tokyo*, (supplement 1): 1–67.
- AKIYAMA, K., & S. OHMOMO, 2000. The Buprestid Beetles of the World. In FUJITA, H. (ed.), *Mushi-Sha's Iconographic Series of Insects*, **4**. 341 pp. Mushi-Sha, Tokyo.
- DESCARPENTRIES, A., & A. VILLERS, 1967. Catalogue raisonné des Buprestidae d'Indochine XIII, Coraebini (3^e partie). *Annales de la Société entomologique de France, Paris*, (n. ser.), **3**: 471–492.
- HATTORI, T., & U. ONG, 2018. Studies on the Buprestidae (Coleoptera) of Asia. 9) Four new species of the genera *Lamprodila*, *Melobasis* and *Coraebus* from Taiwan. *Elytra, Tokyo*, (n. ser.), **8**: 159–172.
- HATTORI, T., & M. TANAKA, 2007. Studies on the Buprestidae (Coleoptera) of Asia. 7) A new species of the genus *Akiyamaia* from Myanmar. *Elytra, Tokyo*, **35**: 325–334.
- KUBÁŇ, V., 1995 a. Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae) Part I. *Entomological Problems, Bratislava*, **26**: 1–37.
- KUBÁŇ, V., 1995 b. Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae) Part II. *Entomological Problems, Bratislava*, **26**: 93–109.
- KUBÁŇ, V., 1996. Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae) Part III. *Entomological Problems, Bratislava*, **27**: 1–29.
- KUBÁŇ, V., 1997. Palaearctic and Oriental Coraebini (Coleoptera: Buprestidae) Part IV. *Entomological Problems, Bratislava*, **28**: 25–50.
- KUBÁŇ, V., 2016. Family Buprestidae. 432–574 pp. In LÖBL, I., & D. LÖBL (eds.), *Catalogue of Palaearctic Coleoptera*, **3**. Revised and updated edition. Scarabaeoidea, Scirtoidea, Dascilloidea, Buprestoidea and Byrrhoidea. 983 pp. Brill, Leiden / Boston.
- KUROSAWA, Y., 1969. [Review of the Japanese species of the family Buprestidae (4)]. *Coleopterists' News, Tokyo*, (5): 1–3. (In Japanese.)
- KUROSAWA, Y., 1985. Buprestidae (except the genus *Agrilus*), Pp. 2–20 & 32–37 [incl. pls. 1–4 & 6–7]. In KUROSAWA Y., S. HISAMATSU & H. SASAJI (eds.). *The Coleoptera of Japan in Color*, **3**. First edition. 500 pp. incl. 72 pls. Hoikusha, Osaka. (In Japanese, with English book title.)
- MANNERHEIM, C. G. von, 1837. Enumération des Buprestides, et description de quelques nouvelles espèces de cette tribu de la famille des Sternoxes, de la collection de M. Le Comte MANNERHEIM. *Bulletin de la Société Impériale des Naturalistes des Moscou*, **8**: 1–126
- PENG, Z., 1995. A study on the genus *Nipponobuprestis* OBERBERGER (Coleoptera: Buprestidae). *Entomologia Sinica, Beijing*, **2** (2): 95–103.
- THOMSON, J., 1879. Typi Buprestidarum Musaei Thomsoniani. Appendix 1a. 87 pp. E. Deyrolle, Paris.

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