

## Studies on the Cerambycidae of Taiwan and Adjacent Regions

### I. Two New Lepturine Species of the Genus *Pidonia* MULSANT (Coleoptera, Cerambycidae) from Central Taiwan

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**Abstract** Two new species, both belonging to the subgenus *Cryptopidonia* of the lepturine genus *Pidonia*, are described from central Taiwan. One of them is related to *P. (C.) chiaomui* KUBOKI, and is named *P. (C.) chui*, whereas the other is similar to *P. (C.) anmashana* KUBOKI, and named *P. (C.) hohuanshana*. SEM illustrations are provided of morphological structures including head, pronotum, scutellum and terminal setae of the 3rd tarsal segment from male adults.

There are 30 *Pidonia* species recorded from Taiwan; 13 belong to the subgenus *Pidonia*, 8 to *Mumon* and 9 to *Cryptopidonia*. In this paper, we are going to add 2 new species, both belonging to the subgenus *Cryptopidonia*. Both the species occur at high altitude of central Taiwan; one was found in coniferous and broadleaved mixed forest at Tayulin, Hualien Hsien, approximately 2,500 m above sea-level, and Sungchuan-kang, Nantou Hsien, about 2,400 m in altitude, and is named *Pidonia (Cryptopidonia) chui*; the other species was found in coniferous forest at Yuenfeng, Nantou Hsien, near Mt. Hohuanshan, about 2,800–3,000 m in altitude, and is named *Pidonia (Cryptopidonia) hohuanshana*.

### Depositories

- NTU National Taiwan University (R. O. C., Taipei)  
NMNS National Museum of Natural Science (R. O. C., Taichung)  
TARI Taiwan Agricultural Research Institute (R. O. C., Taichung)  
NSMT National Science Museum (Nat. Hist.) (Japan, Tokyo)

### *Pidonia (Cryptopidonia) chui* CHOU, sp. nov.

(Figs. 1–12)

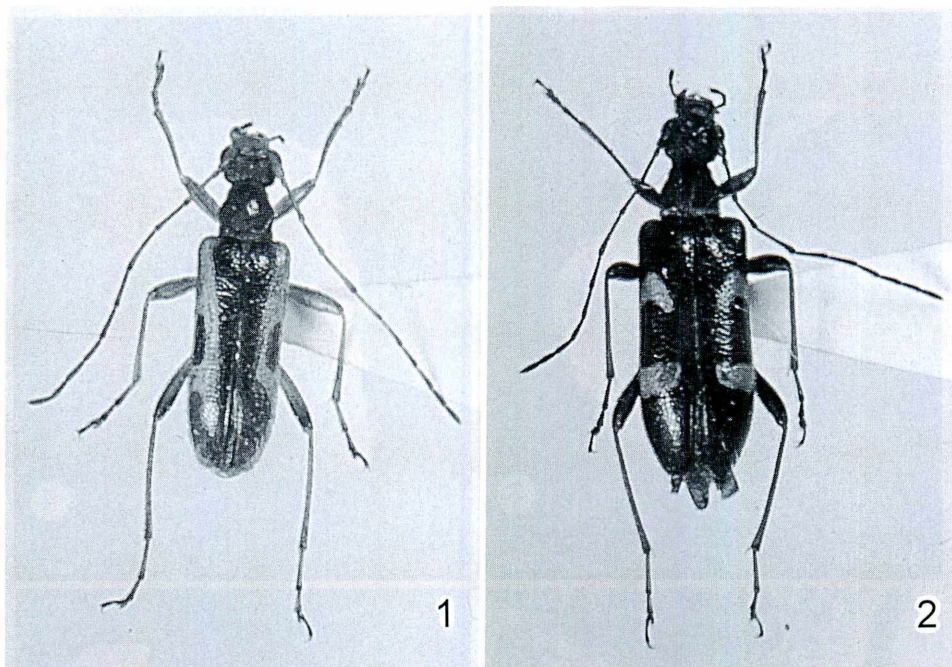
Body small, relatively round, slightly tapered apicad (male) or robust (female) and furnished with pale fulvous pubescence.

Length: 7.5–6.1 mm (male), 7.8–5.6 mm (female); width: 2.1–1.7 mm (male), 2.2–1.5 mm (female).

*Color.* Male:— Body yellowish fulvous to black; head black; mouthparts brown except for black apex of each mandible; eyes black; pronotum black; antenna fulvous, except for dark brown apex of each segment after 3rd segment, 10th–11th segments black; pronotum black; scutellum brown; coxae, trochanters, femora, tibiae and tarsi brown; claws black. Elytra yellowish fulvous with black markings. Sutural marking large, broadened basally, gradually narrowed apically; basal marking absent; latero-basal marking frequently absent, obscure if present; latero-median marking prominently well developed, oblong; latero-posterior marking absent; apical band generally present, sometimes absent. Ventral surface:— Head and prosternum brown, meso- and metasterna black; 1st and 2nd abdominal segments black, 3rd–5th segments brown.

Female:— Body coloration and markings much more prominent in female than in male; mouthparts black; antenna black, but 2nd segment and bases of 3rd–5th segments brown; scutellum black; coxae black; trochanters brown; femora black; tibiae dark brown; tarsi and claws black. Elytra dull metallic black with two pairs of arcuate, whitish yellow markings. Ventral surface:— Head, prosternum, and meso- and metasterna black; abdomen dark brown.

*Structure.* Head with width across eyes broader than basal width of prothroax (male, 1.10 : 1; female, 1.01 : 1), narrowed posteriorly and abruptly constricted at neck; terminal segment of maxillary palpus broadened apically with convex outer margin (male) or tapering toward apex (female); tempora well developed, surface nearly smooth and densely clothed with setae; frons subvertical and transverse, finely punctate; vertex weakly convex above, densely punctured with fine sculptures and densely clothed with fine pubescence; gula shining, sparsely covered with short pubescence. Eyes relatively prominent, moderately faceted, shallowly emarginate at middle of internal margins. Antenna long and slender, inserted just behind the level across frontal margins of eyes, slightly longer (male) or shorter (female) than body; first segment distinctly dilated towards apex, sparsely covered with fine erect pubescence; last segment of antenna 3.93 times (male) or 2.80 times (female) as long as breadth. Comparative

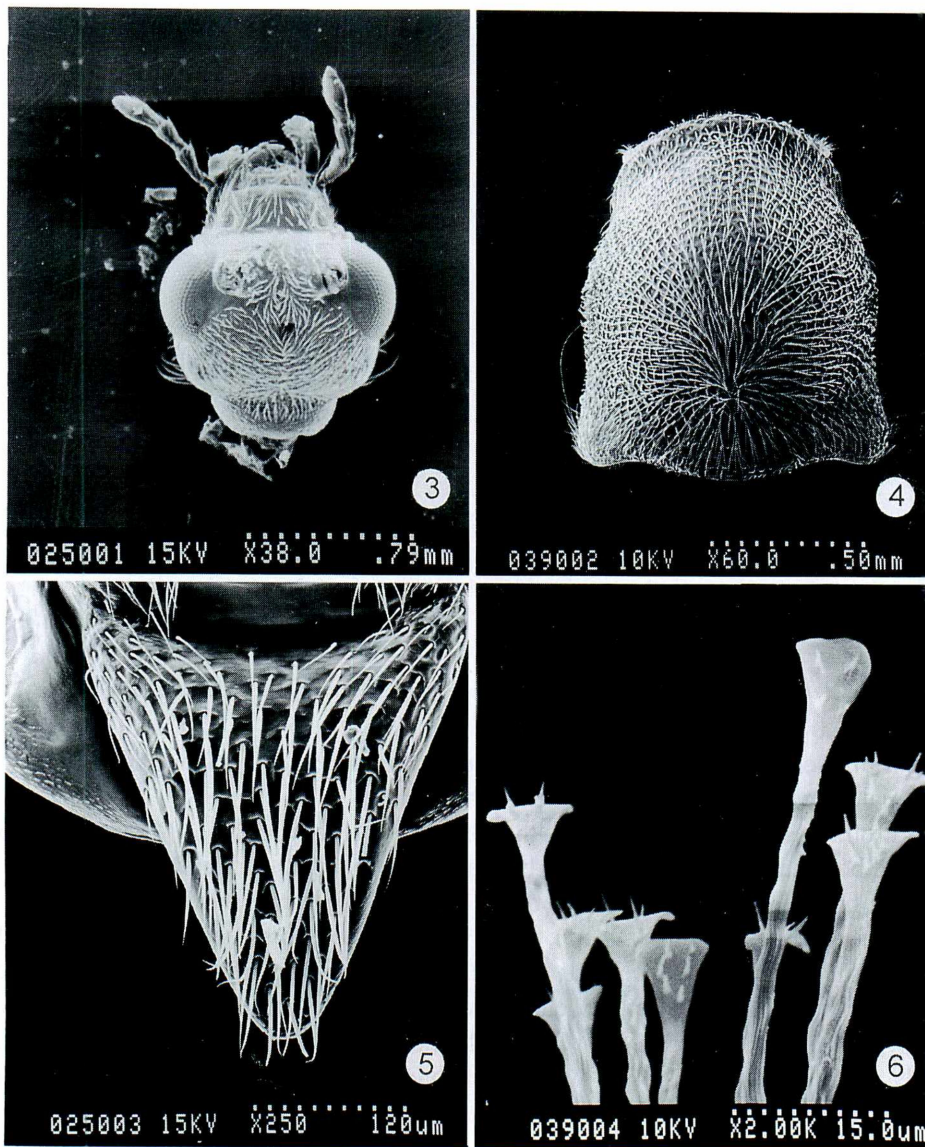


Figs. 1–2. *Pidonia (Cryptopidonia) chui* CHOU, sp. nov., male holotype (1), and female paratype (2).

length of each antennal segment formulated as follows:— 5th > 1st + 2nd > 3rd > 4th > 6th (male) or 1st + 2nd > 5th > 3rd > 4th > 6th (female).

Prothorax longer than basal width (male, 1.10 : 1; female, 1.01 : 1), shallowly constricted both behind apex and before base and roundly expanded laterad just before the middle; breadth across expanded portions slightly longer than base (male, 1.01 : 1) or shorter than base (female, 0.98 : 1); basal margin weakly bisinuate, distinctly broader than apical margin (male, 1.31 : 1; female, 1.54 : 1); disc of pronotum convex, finely and closely punctate and densely clothed with fine pubescence; posterior lateral setae long; prosternum scatteredly covered with short pubescence; meso- and metasterna finely punctate, densely clothed with fine, appressed pubescence. Scutellum small and triangular, slightly longer than breadth (1.10 : 1), bearing relatively thick setae on the surface. Elytra 2.64 times (male) or 2.40 times (female) basal width, gradually narrowed posteriad (male) or almost parallel along sides (female) and conjointly (male) or separately (female) rounded at apices; surface sparsely and finely punctate, scatteredly clothed with suberect pubescence; diameter of each puncture larger than distance between punctures.

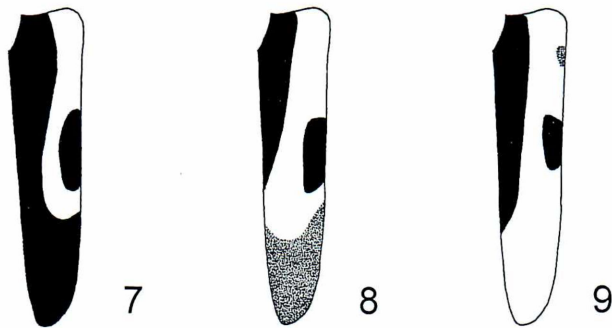
Legs relatively slender, finely punctate and clothed with short pubescence; femora not reaching elytral apex in both sexes; tibiae linear, with suberect pubescence; tarsi densely clothed with short pubescence on under surface, 1st segment of metatarsus shorter than the following two combined together; 3rd segment strongly dilated apicad



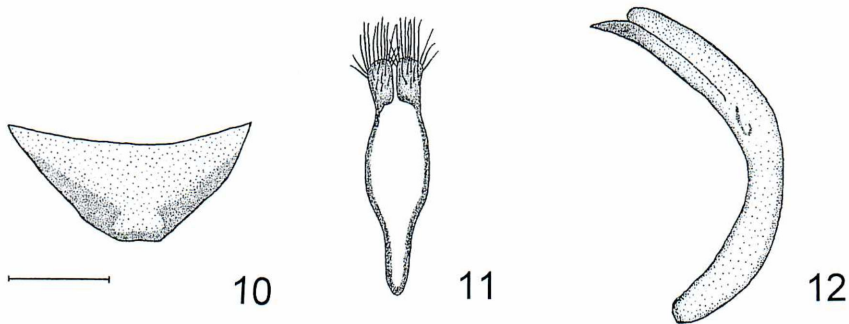
Figs. 3–6. Morphological structure observed by SEM of *Pidonia (Cryptopidonia) chui* CHOU, sp. nov., male; 3, head; 4, pronotum; 5, scutellum; 6, terminal setae of 3rd tarsal segment.

and deeply emarginate at middle of apex.

Abdomen elongate and gradually narrowed toward apex; surface of each sternite densely covered with extremely fine pubescence; in both sexes, apex of last sternite round and shallowly emarginate at middle, and of last tergite round; 3rd tarsal segment with 4–6 aciculate sensory pubescence at apex.



Figs. 7-9. Variations of elytral markings in *Pidonia (Cryptopidonia) chui* CHOU, sp. nov., male.



Figs. 10-12. *Pidonia (Cryptopidonia) chui* CHOU, sp. nov., male; 10, last sternite, dorsal view; 11, lateral lobe, dorsal view; 12, median lobe, lateral view. Scale: 0.5 mm

Male genitalia:— Median lobe long, relatively slender, gradually sclerotized toward apex, strongly curved at middle and acutely pointed at apex. Ventral plate of median lobe weakly curved ventrad at apex; lateral lobes shorter than median lobe; each apex relatively long; apex of each lobe rectangular and densely furnished with long terminal hairs. Endophallus long, furnished with a pair of falcate sclerites; diverticulum long and relatively slender.

Female genitalia:— Spermatheca minutely striated, lightly sclerotized, somewhat swollen, strongly curved at middle, widest near the middle, abruptly narrowed apically; the part connecting to spermathecal duct funnel-shaped without transverse crease; spermathecal gland located at lateral wall; vagina enlarged basally; valvifer narrowed apically; apical segment of coxite furnished with sensory pubescence; stylus sclerotized, ovate, enlarged apically with long sparse hairs in the terminal area.

*Type series.* Holotype: ♂, Tayulin, 2,500 m alt., Hualien Hsien, 28-V-1995, W. I. CHOU leg. (NTU). Paratypes: 14 ♂♂, 14 ♀♀, same locality as for the holotype, 28~29-V-1995, W. I. CHOU leg.; 1 ♂, 2 ♀♀, Sungchuankang, Nantou Hsien, 17-VII-

1997, W. I. CHOU leg. (NTU; NMNS; TARI; NSMT and in the authors' coll.).

*Distribution.* Central Taiwan.

*Flight period.* May to July.

*Flower-visiting records.* Caprifoliaceae: *Viburnum parvifolium* HAYATA.

*Remarks.* This new species is closely allied to *Pidonia* (*Cryptopidonia*) *chiaomui* KUBOKI, but can be distinguished from the latter by the following key:

- 1 (2) Last sternite in male emarginate on both sides in 1/3 near apex; apex of each lateral lobe in male genitalia round, both sides gradually tapering at the base; femora brownish yellow in female. . . . . *P. chiaomui* KUBOKI.  
 2 (1) Last sternite in male straight on both sides; apex of each lateral lobe in male genitalia rectangular, both sides distinctly constricted at 1/4 near base; femora black in female . . . . . *P. chui* CHOU, sp. nov.

*Etymology.* The specific name is given after Prof. Yau-I CHU, who is the most outstanding entomologist in the field biological control of Taiwan.

***Pidonia* (*Cryptopidonia*) *hohuanshana* CHOU, sp. nov.**

(Figs. 13–24)

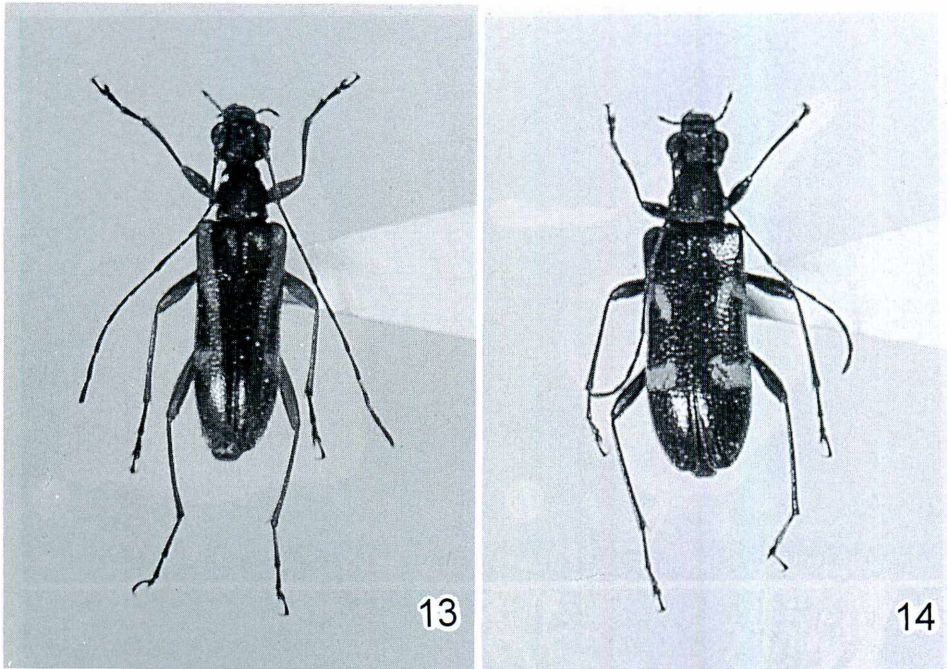
Body small, relatively round, slightly tapering apicad (male) or more robust (female), and furnished with pale fulvous pubescence.

Length: 7.1–6.4 mm (male), 6.9–6.6 mm (female); width: 2.1–1.8 mm (male), 1.9–1.7 mm (female).

*Color.* Male:— Body reddish brown to black; head black; mouthparts brown except for black apex of each mandible; eyes black; pronotum black; antenna black, except for dark brown 3rd and 4th segments; pronotum black; scutellum brown; coxae, trochanters and femora brown; tibiae brown with dark brown apices; tarsi dark brown; claws yellowish fulvous. Elytra reddish brown with black markings. Sutural marking large, broadened basally, gradually narrowed toward apex after 1/3 distal length; basal marking absent; latero-basal marking absent, obscure if present; latero-median marking oblong, sometimes absent; latero-posterior marking absent; apical band frequently present, sometimes lacking. Ventral surface:— Head and prosternum black, mesosternum with basal part brown and posterior part black; metasternum black; 1st and 2nd abdominal segments black, 3rd–5th segments brown.

Female:— Body coloration and markings much more prominent in female than in male; mouthparts dark fulvous; antenna black, except for 2nd segment dark fulvous; scutellum black; coxae black; trochanters yellowish fulvous; femora dark fulvous at basal part and black at posterior part; tibiae fulvous with black apices; tarsi black; claws yellowish fulvous. Elytra dull metallic black with two pairs of arcuate whitish yellow markings. Ventral surface:— Head, prosternum, and meso- and metasterna black; abdomen with 1st and 2nd segments black and 3rd–5th segments dark fulvous.

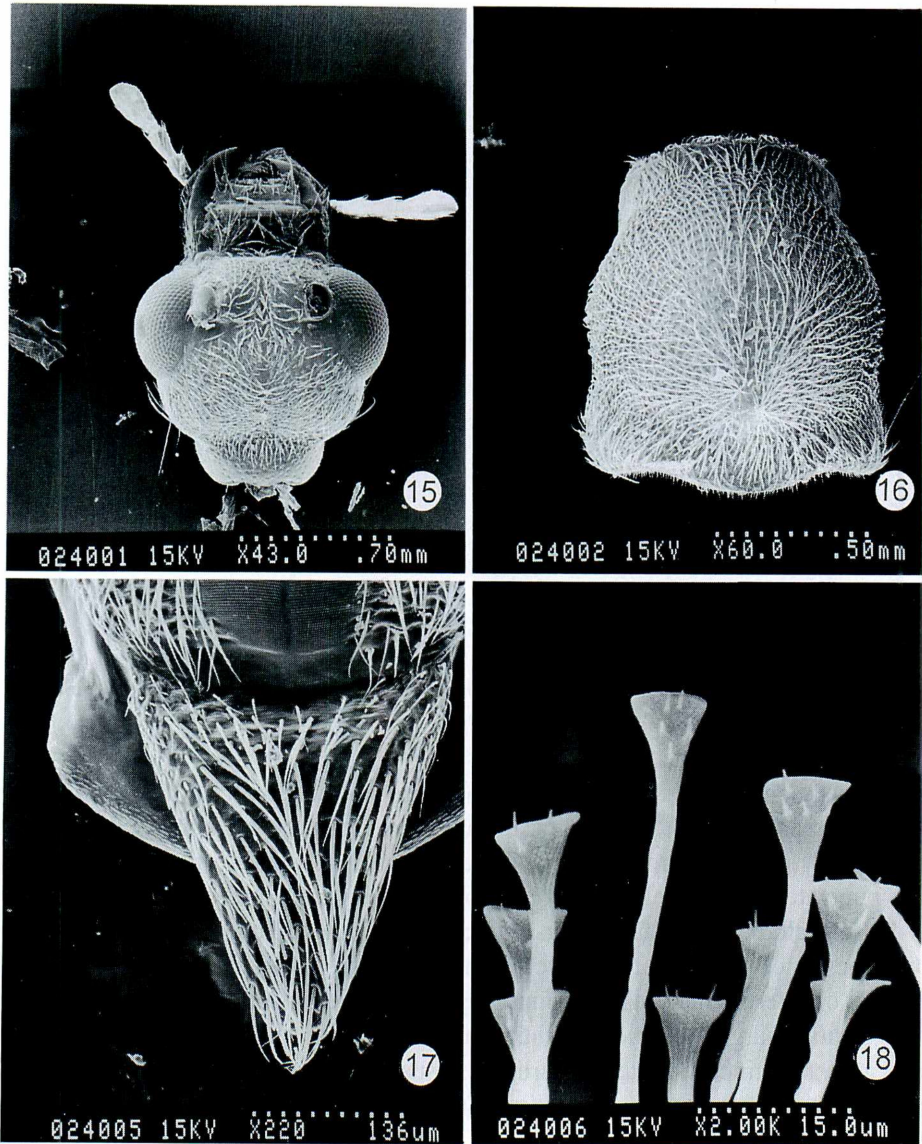
*Structure.* Head with width across eyes broader than basal width of prothorax (male, 1.14 : 1; female, 0.99 : 1), narrowed posteriorly and abruptly constricted at neck;



Figs. 13–14. *Pidonia* (*Cryptopidonia*) *hohuanshana* CHOU, sp. nov., male holotype (13), and female paratype (14).

terminal segment of maxillary palpus broadened apically with convex outer margin and truncate apex (male) or tapering toward apex (female); tempora well developed; surface finely punctate and clothed with dense setae; frons subvertical and transverse, finely punctate; vertex weakly convex above, densely punctured with fine sculptures and densely clothed with fine pubescence; gula shining, sparsely covered with some short pubescence. Eyes relatively prominent, moderately faceted, shallowly emarginate at middle of internal margins. Antenna long and slender, inserted just behind the level across frontal margins of eyes, slightly longer (male) or shorter (female) than body; first segment distinctly dilated toward apex, sparsely covered with fine, erect pubescence; last segment of antenna 4.34 times (male) or 4.16 times (female) breadth. Comparative length of each antennal segment formulated as follows:— 5th > 1st + 2nd > 3rd = 4th = 6th (male) or 1st + 2nd > 5th > 3rd > 4th = 6th (female).

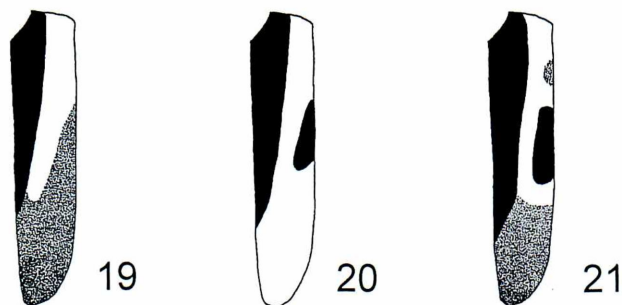
Prothorax with length less than basal width (male, 0.9 : 1; female, 0.95 : 1), shallowly constricted both behind apex and in front of base and expanded laterally into round margins just before the middle breadth, expanded portions slightly shorter than base (male, 0.95 : 1) or equal to base (female, 1 : 1); basal margin weakly bisinuate, distinctly broader than apical margin (male, 1.25 : 1; female, 1.27 : 1); disc of pronotum convex above, finely punctate and densely clothed with fine pubescence; posterior lateral setae long; prosternum sparsely covered with very short pubescence; meso- and



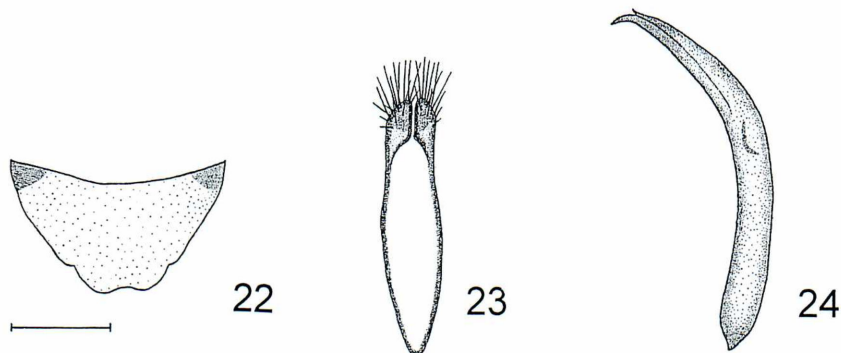
Figs. 15–18. Morphological structure observed by SEM of *Pidonia* (*Cryptopidonia*) *hohuanshana* CHOU, sp. nov., male; 15, head; 16, pronotum; 17, scutellum; 18, terminal setae of 3rd tarsal segment.

metasterna finely punctate, densely clothed with fine appressed pubescence. Scutellum small and triangular, length less than breadth (0.94: 1) and bearing relatively thick setae on the surface. Elytra 2.35 times (male) or 2.32 times (female) basal width, gradually narrowed posteriad (male) or almost parallel-sided (female) and separately rounded at apices; surface sparsely and coarsely punctate, and sparsely clothed with





Figs. 19–21. Variations of elytral markings in *Pidonia* (*Cryptopidonia*) *hohuanshana* CHOU, sp. nov., male.



Figs. 22–24. *Pidonia* (*Cryptopidonia*) *hohuanshana* CHOU, sp. nov., male; 22, last sternite, dorsal view; 23, lateral lobe, dorsal view; 24, median lobe, lateral view. Scale: 0.5 mm.

suberect pubescence; diameter of each puncture larger than distance between punctures.

Legs relatively slender, finely punctate and clothed with short pubescence; femora not reaching elytral apex in both sexes; tibiae linear, with suberect pubescence; tarsi densely clothed with short pubescence on under surface, 1st segment of metatarsus longer than the following two combined together; 3rd tarsal segment strongly dilated apicad and deeply emarginate at middle of apex; terminus of 3rd tarsal segment with 3–6 aciculate sensory pubescence.

Abdomen elongate and gradually narrowed toward apex; surface of each sternite densely covered with extremely fine pubescence; both sexes with apex of last sternite round and shallowly emarginate at middle, apex of last tergite round.

Male genitalia:—Median lobe long, relatively slender, gradually sclerotized toward apex, strongly curved at middle and acutely pointed at apex. Ventral plate of median lobe weakly bent ventrad at apex; lateral lobes shorter than median lobe; each apex relatively long; apex of each lobe parallelogrammatic and densely furnished with long terminal hairs. Endophallus long and furnished with a pair of falcate sclerites; di-



新種を中部台湾から記載し、それぞれ *Pidonia* (*Cryptopidonia*) *chui* CHOU および *P. (C.) hohuan-shana* CHOU と命名した。これらは、窪木によって記載された *P. chiaomui* および *P. anmashana* に近いが、雄の末端腹節の形状、雄交尾器側片の形状、雌の腹部あるいは腿節の色彩などの差異によって識別できる。

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*Elytra, Tokyo*, **26** (2): 443–444, November 15, 1998

## Edible Insects from Northern Thailand

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For several years, we are observing insect-eating habit of the local people in northern Thailand and collecting the specimens which are actually served for food material. Succeeding to our previous paper, “Beetles as food material observed in northern Thailand” (1997), we are going to make a list of edible insects, especially of scarabaeid beetles. All the materials were