

**New Species of the Genus *Nobuosciades*  
(Coleoptera, Cerambycidae, Lamiinae) from  
the Ogasawara Islands, Japan, with Description of a New Subgenus**

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**Abstract** A new lamiine species belonging to the genus *Nobuosciades* M. HASEGAWA is described from Ani-jima Is. and Otôto-jima Is. of the Ogasawara Islands, Japan. A new subgenus *Palmisciades* subgen. nov. is established for the new species in view of its morphological peculiarity. Larva of the new species is also described with biological notes.

### Introduction

In 2008, KARUBE made an investigation for the invasive alien weevil *Rhabdoscelus obscurus* (BOISDUVAL, 1890), attacking the endemic palm tree *Clinostigma savoryana* in Ani-jima Is. and Otôto-jima Is. of the Ogasawara Islands. In this survey, he noticed small longicorn larvae feeding in the thickened part of dead palm leaves, and took them back to his laboratory at Odawara City in Kanagawa Prefecture. After some months, a peculiar acanthocine species emerged from those palm leaves. It was easy to distinguish it from other Ogasawara members of *Nobuosciades* in view of its developed tarsi which appear to be a peculiar character. It was submitted to HASEGAWA and TAKEDA for taxonomic study.

After a careful examination, we have come to the conclusion that the acanthocine species in question belongs to a new subgenus of the genus *Nobuosciades* and is new to science.

The genus *Nobuosciades* M. HASEGAWA is one of the small genera in the tribe Acanthocinini, and endemic to the Northern Micronesia (HASEGAWA, 2009). Three species of this genus have so far been known, viz., *N. bioculatus* (MATSUMURA et MATSUSHITA, 1933) and *N. lanatus* (N. OHBAYASHI, 1976) both from the Ogasawara Islands and the Kazan-rettô (Volcano Islands), and *N. meridianus* (OHAYASHI, 1941) from the Mariana Islands (GRESSITT, 1956; N. OHBAYASHI, 1976; HASEGAWA, *op. cit.*). As the host plants of *Nobuosciades bioculatus*, 16 species under 11 families have so far been known, and *N. lanatus* and *N. meridianus* feed various plants, mainly broadleaved trees (HASEGAWA, *op. cit.*), though the host plants of these two species are unknown. Therefore these three species are considered polyphagous. The present discovery is very interesting, since it is not only the fourth species of the genus *Nobuosciades* but also the occurrence of monophagous species of the genus, the host plant of which may be limited to *Clinostigma savoryana*.

In this paper, we are going to describe this interesting new species under the name of *Nobuosciades clinostigmai*. We will also erect a new subgenus, *Palmisciades* for it.

The abbreviations used in the measurements are as follows; IEL: length of inferior eye lobe

measured in lateral or sub-lateral view; GL: length of gena, measured in lateral or sub-lateral view; PL: length of pronotum; PW: maximal width of pronotum; PB: basal width of pronotum; EL: length of elytra; EW: width of elytra across humeri; TL: total length of body, from tip of head to elytral apices.

Subgenus *Palmisciades* HASEGAWA, TAKEDA et KARUBE, subgen. nov.

[Japanese name: Yashi-keshi-kamikiri-azoku]

Type species: *Nobuosciades (Palmisciades) clinostigmai* subgen. et sp. nov.

This new subgenus is distinguished from the nominotypical subgenus (HASEGAWA, 2009, p. 344) by the following characteristics: Body elongate and slender; as in the other members of the genus, pubescence not forming variable markings on pronotum and elytra; head voluminous; pronotum slightly shorter than the basal width, usually without lateral spines (sometimes with a pair of vestigial spines at basal fourth of sides); elytra distinctly long, 2.2–2.4 times as long as wide; tarsi strongly dilated apicad; lateral lobes of male genitalia considerably large, densely provided with long setae on ventral side of apical halves of lobes.

*Etymology.* The new subgeneric name is formed by a combination of *Palma* and *Sciades*.

*Nobuosciades (Palmisciades) clinostigmai*

HASEGAWA, TAKEDA et KARUBE, sp. nov.

[Japanese name: Noyashi-keshi-kamikiri]

(Figs. 1–3)

*Adult.* Male. Length (from tip of head to elytral apices) 6.8–9.3 mm (M=7.7 mm). Width (width of elytra across humeri) 2.2–3.0 mm (M=2.4 mm).

Body moderately flattened. Color light yellowish brown, apex of each segment of antennae, femora, tibiae, tarsi and claws reddish amber-colored.

Body densely clothed with whitish buff pubescence, forming broad whitish bands at sides of pronotum and four longitudinal whitish stripes on each elytron; elytra with many small black spots formed by black pubescence.

Head relatively large, distinctly punctured; vertex shallowly concave; frons transverse, about 0.6 times as long as wide, provided with long setae as follows: a pair of black setae approximate at the innerside of inferior eye lobe, 5 to 6 relatively long golden setae arranged in a transverse row at apical margin, and many golden setae on genae; eyes oval, considerably large, with inferior eye lobe slightly longer than gena, IEL/GL=1.05–1.23 (M=1.14). Antennae somewhat long and stout, exceeding elytral apices at base or middle of 9th segment; 1st to 8th segments somewhat densely provided with erect setae beneath; 1st segment about 0.63 times as long as 3rd; combined lengths of 3rd and 4th segments attaining to about 37% of the entire length of antenna; apex of last segment roundly pointed; relative lengths of segments as follows: 4.7 : 1.0 : 7.5 : 6.5 : 3.2 : 2.9 : 2.8 : 2.6 : 2.4 : 2.2 : 2.1.

Pronotum large and relatively long, strongly constricted at base, distinctly punctured throughout; PL/PB=0.90–0.96 (M=0.94), PL/PW=0.78–0.83 (M=0.82), EW/PB=1.43–1.61 (M=1.53); sides weakly arcuate, widest behind middle, usually without lateral spines though sometimes with a pair of considerably vestigial spines at basal fourth of sides; disc flattened, with a wide U-shaped shallow depression on apical fourth.

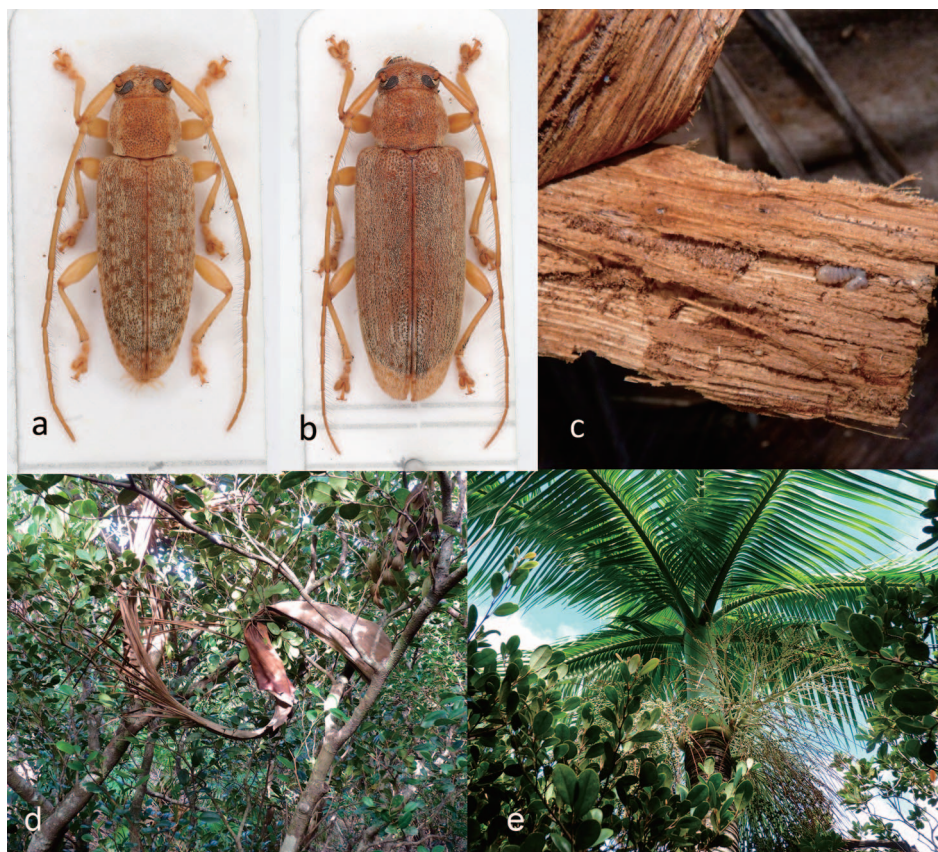


Fig. 1. *Nobuosciades (Palmisciades) clinostigmai* subgen. et sp. nov. and the host plant — a, ♂ (holotype); b, ♀ (paratype); c, larva and larval work in a dead leafstalk of *Clinostigma savoryana* (REHD. et WILS.) MOORE et FASBERG; d, dead leaves of *C. savoryana*; e, *C. savoryana* in Otôto-jima Is.

Elytra considerably long,  $EL/EW = 2.19-2.32$  ( $M = 2.24$ ),  $EL/PL = 3.42-3.82$  ( $M = 3.64$ ),  $EL/TL = 0.70-0.72$  ( $M = 0.71$ ); sides parallel in basal third, then gently roundly attenuated towards rounded apices; basal callosities and oblique depression feeble and shallow; each elytron with about 20 sub-regular rows of punctures, and with three feeble carinae.

Legs moderate in length; femora weakly swollen, provided with long silky hairs on each basal half or third; tibiae almost equal in length to femora, only provided with sub-erect setae in apical halves; tarsi strongly dilated toward apex; 1st segment of hind tarsus about 1.6 times as long as 2nd.

Eighth tergite (Fig. 2 a) roundly attenuated in basal half of sides, thence rapidly convergent toward apex; apical margin truncated, notched at middle.

Male genitalia (Figs. 2 b-e). Median lobe slender, about 0.6 times as long as abdominal length, strongly curved in profile; median struts accounts for 1/3 of the entire length of median

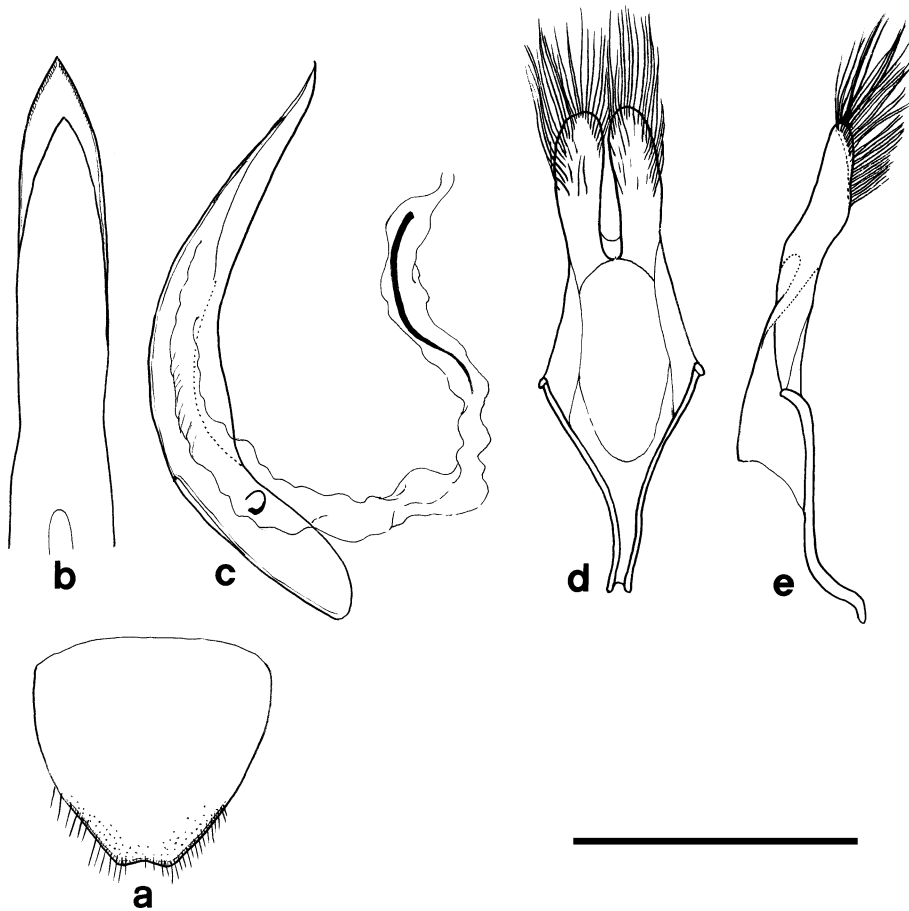


Fig. 2. Male genitalia and 8th abdominal tergite of *Nobuosciades (Palmisciades) clinostigmai* subgen. et sp. nov. — a, Eighth abdominal tergite, dorsal view; b, apex of median lobe, dorsal view; c, median lobe, lateral view; d, tegmen, dorsal view; e, tegmen, lateral view. Scale 1.0 mm.

lobe; median foramen located in basal 2/5; apical half of median lobe strongly narrowed towards pointed apex and weakly curved again near apex in lateral view (Fig. 2 c); ventral plate distinctly longer than dorsal plate, parallel-sided near apex, thence rapidly attenuated toward pointed apex in dorsal view; dorsal plate narrowly rounded or bluntly pointed at apex (Fig. 2 b). Endophallus about 1.8 times as long as median lobe; rod-like sclerites long and thick, about 0.3 times as long as median lobe. Tegmen a little shorter than median lobe; lateral lobes long and broad, about 1/3 of the entire length of tegmen, widely rounded at apex, densely provided with long setae on ventral side of apical half of each lobe (Fig. 2 d).

**F e m a l e.** Length (from tip of head to elytral apices) 7.3–9.7 mm (M=8.4 mm). Width (width of elytra across humeri) 2.2–2.9 mm (M=2.6 mm).

Almost identical in general appearance to male, but differing from it in the following characters: head and pronotum somewhat small in contrast to well expanded body; antenna

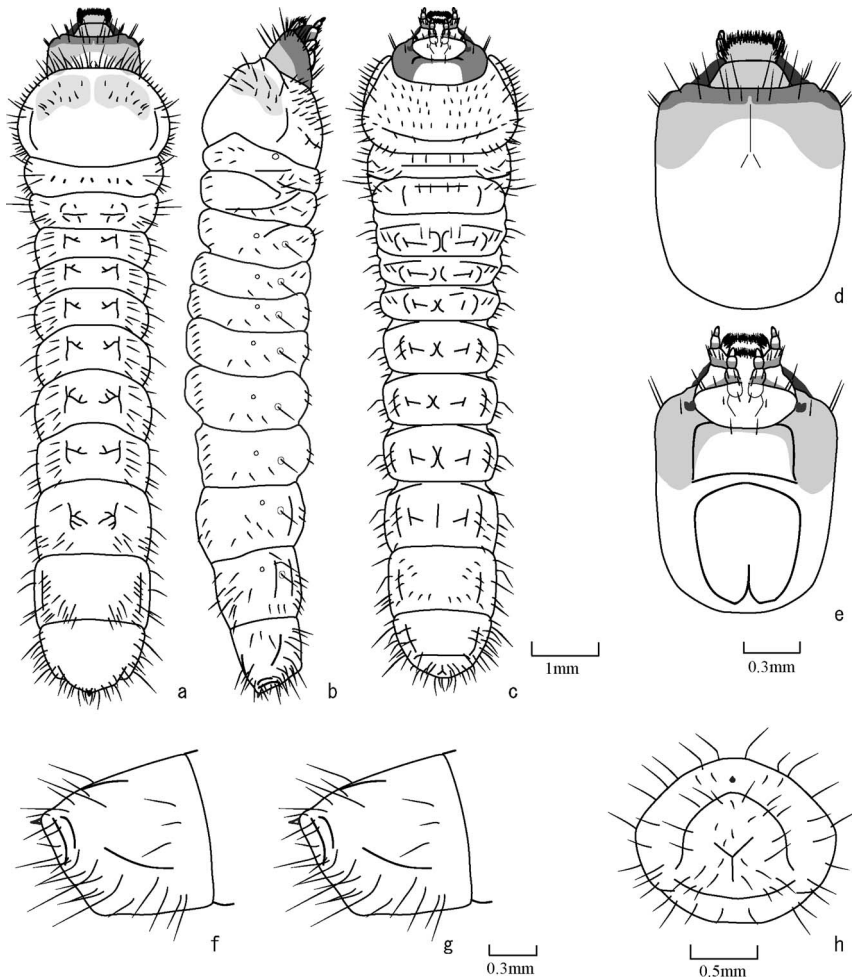


Fig. 3. Larvae of *Nobuosciades* (*Palmisciades*) *clinostigmai* subgen. et sp. nov. (a-f, h) and *N. (Nobuosciades) bioculata* (MATSUMURA et MATSUSHITA, 1933) (g). — a, Habitus, dorsal view; b, ditto, lateral view; c, ditto ventral view; d, head, dorsal view; e, ditto, ventral view; f, g, tip of abdomen, lateral view; h, tip of abdomen, posterior view.

somewhat slender and shorter, exceeding elytral apex at middle or at apex of 9th segment; legs short and slender.

The ratio of body parts: IEL/GL 1.05–1.23 ( $M=1.11$ ), PL/PB 0.88–0.93 ( $M=0.90$ ), PL/PW 0.78–0.82 ( $M=0.80$ ), EW/PB 1.48–1.64 ( $M=1.56$ ), EL/PL 3.81–4.24 ( $M=4.05$ ), EL/EW 2.19–2.43 ( $M=2.34$ ), EL/TL 0.71–0.73 ( $M=0.72$ ).

*Mature larva.* (Figs. 3 a–f, h) Body elongate, cylindrical, sparsely provided with ferruginous setae throughout.

Head retracted into prothorax for more than basal half. Cranium elongate, 0.8 times as wide as long, slightly tapering posteriad, widest anteriad, depressed, with anterior area more heavily

sclerotized. Three pairs of epistomal setae present. Occipital foramen oval. Frons almost smooth, flattened along anterior margin with several long setae. Frontal lines almost indiscernible. Medial frontal line almost distinct, brown. Gena provided with a few long setae, with a pair of stemmata. Mouth parts 0.3–0.4 times as long as cranium.

Ventral sclerite oblong, 1.5 times as wide as long, slightly concave along frontal margin. Hypostoma yellowish white though sclerotized along anterior and lateral margins, almost smooth, with a pair of long setae along anterior margin; hypostomal lines brown, complete and slightly arcuate. Gula not raised, white; gular lines indistinct.

Clypeus trapezoidal, wider than long, slightly pigmented. Labrum semicircular, slightly pigmented, provided with numerous setae along anterior and lateral margins. Antennae very short, more or less projected. Mandibles elongate.

Submentum almost fused with connecting lobe, approximately depigmented, without setae. Connecting lobe almost fused with cardo, likewise very weakly pigmented, with a pair of setae in anterior part. Stipes provided with several setae in basal area arranged in transverse lines, pigmented basally. Maxillary palpiger pigmented in basal half, provided with a few setae at the base of depigmented area arranged in transverse lines. Mala pigmented, densely covered with numerous setae. Maxillary palpus three-segmented, exceeding a level of mala; first segment longer than wide, pigmented in basal half; second segment conical, longer than wide, pigmented in basal half, provided with a pair of setae at sides near apex; third segment very short. Mentum oblong, white, provided with a pair of basal setae. Labial palpiger fused with prementum, pigmented, provided with several pairs of setae. Labial palpus two-segmented; first segment longer than wide, pigmented in basal half; second segment as long as first, longer than wide, conical to cylindrical, heavily pigmented. Ligula almost square-shaped, white, densely covered with short setae in frontal area.

Prothorax wider than long, rounded laterally. Pronotum provided with a slightly pigmented band, with a row of setae latero-anteriad, sparsely provided with setae behind frontal row of setae; pronotal shield white, rugose, almost without setae; medial impressed line indiscernible; lateral furrows and sub-lateral impressions along pronotal shield discernible; alar lobe depigmented, provided with sparse setae; ventral side depigmented, provided with stout setae in equal thickness, border lines indistinct.

Meso- and metathoraces sparsely provided with setae; thoracic ambulatory ampullae recognizable on dorsal and ventral sides of meso- and metathoracic sterna; each ampulla without medial impression, with transverse impression except for dorsal side of mesothorax. Mesothoracic spiracle whitish yellow, almost circular. Legs absent.

Abdomen sparsely provided with long ferruginous setae. Abdominal ambulatory ampullae on dorsal and ventral sides of segments 1–7 convex; ampullae with a medial impression, a pair of longitudinal impressions and diagonal impressions, and with a few irregular impressions. Spiracles of first abdominal segment almost 0.8 times as long as those of mesothorax, almost 1.2 times as long as those of other abdominal segments. Pleural discs of first to 8th segments developed, provided with a seta on each disc. Urogomphi of 9th segment developed, blackish brown in more than apical half. Anal segment distinctly separated from ninth segment. Anus triradiate.

*Type series.* Holotype: ♂, Otôto-jima Is., Ogasawara Isls., host plants were collected on 4–X–2008, emerged out in III~VI–2009, H. KARUBE leg. Paratypes: 40 ♂♂, 44 ♀♀, same data as the holotype; 1 ♂, 1 ♀, ditto, but emerged in 30–X~11–XI–2008; 7 ♂♂, 2 ♀♀, ditto, host plants were collected on 15–VI–2009, emerged in VI–2009, H. KARUBE leg.; 3 ♂♂, 1 ♀, Ani-jima Is., Ogasawara Isls., Japan, host plants were collected on 3–X–2008, emerged in 30–X~11–XI–2008,

H. KARUBE leg. 8 exs. (larvae), Otôto-jima Is., Ogasawara Isls., Japan, from *Clinostigma savoryana* (Palmae), 4-X-2008, H. KARUBE leg.

The holotype is preserved in the collection of the Kanagawa Prefectural Museum of Natural History, Odawara, Japan, and the paratypes are also in the collections of Kanagawa Prefectural Museum of Natural History, Toyohashi Museum of Natural History, Toyohashi, and the private collections of the authors.

*Host plants.* *Clinostigma savoryana* (REHD. et WILS.) MOORE et FASBERG (Palmae).

*Distribution.* Japan: Ogasawara Islands (Ani-jima Is. and Otôto-jima Is.).

*Etymology.* The new species is named after *Clinostigma*, the host plant.

*Comparative notes.* Adult: *Nobuosciades* (*Palmisciades*) *clinostigmai* subgen. et sp. nov. is a very peculiar species, and can easily be distinguished from all the other *Nobuosciades* species by the elongate body form and the absence of any pubescent maculation on the elytra except for small black spots.

Larva: Larvae of the genus *Nobuosciades* have so far been known only in *N. (Nobuosciades) bioculata* (KOJIMA, 1971; KOJIMA & NAKAMURA, 1992). *Nobuosciades (Palmisciades) clinostigmai* subgen. et sp. nov. is very similar to *N. (N.) bioculata*, but easily distinguished from the latter by the urogomphi of the 9th abdominal segment blackish brown in more than apical half instead of less than apical half.

*Biological notes.* Though our repeated field surveys have been made on several islands of the Ogasawaras such as Muko-jima Is (Muko-jima Group), Otôto-jima Is., Ani-jima Is. and Chichi-jima Is. (Chichi-jima Group), and Haha-jima Is. and Mukô-jima Is. (Haha-jima Group), any additional record of the new acanthocine in question was not found from these islands after the first discovery in 2008, except for two localities. *Nobuosciades (Palmisciades) clinostigmai* is rather common in the biotopes of Otôto-jima Is. and Ani-jima Is., and it was easy to find the larvae boring in their galleries of the dead leaves of *Clinostigma* palm.

*Nobuosciades (Palmisciades) clinostigmai* may be now in danger of extinction or already extinct in most of the Ogasawara Islands. The biotope in Muko-jima Is. is already destructed, since the *Clinostigma* palm almost disappeared by feeding damage of introduced goat, and only a single individual was recognized by our recent survey. On the other hand, the endemic insects in Chichi-jima Is. have been seriously damaged by an alien predator, green anole, and most of them are in danger of extinction (KARUBE, 2010). *Nobuosciades (P.) clinostigmai* may already become extinct by the feeding damage in Chichi-jima Is. even if it had once lived there. The new acanthocine has not been found so far from Haha-jima Is. and Mukô-jima Is. of the Haha-jima Group. It may become extinct in these islands since green anole's threat is enormous at least in Haha-jima Is. as in the case of Chichi-jima Is.

It has been expected that other endemic palm, *Livistona chinensis* (N. J. JACQ.) R. BR. ex MARTIUS var. *boninensis* BECC. may be another host plant of *N. (P.) clinostigmai*. However, we were unable to find the larvae from *Livistona* palm in Otôto-jima Is. and Ani-jima Is. in spite of repeated surveys. The new acanthocine may be monophagous on *C. savoryana*.

Larvae of *N. (P.) clinostigmai* bore and feed in relatively thick parts of dead leaves (ca. 5 mm in thickness) of *C. savoryana*, but never feed the stem part. It is easy to find the larval longitudinal galleries along leaf veins, when the dead thin surface is torn off. Unfortunately, we were unable to find adult beetles in the field by such various collecting methods as beating, sweeping and light trap around the host plants. Adults emerged from May to October in a laboratory of Odawara City in Kanagawa Prefecture.

Many alien plants have been introduced into the Ogasawara Islands from all over the world

since rather an old period before the World War II. It is usually suggested that several new species to be recently discovered from the islands may be derived from such introduced plants. We also examine palms of foreign origin and tried to find *N. (P.) clinostigmai*, but were unable to find it on them. It had better be considered that *N. (P.) clinostigmai* is endemic to the Ogasawara Islands, since a locality on Ani-jima Is. preserved a higher naturalness in vegetation without any alien plants except for *Casuarina stricta* AIT. and *Pinus luchuensis* MAYR, in addition to the results of our investigations shown above.

### Acknowledgements

We wish to express our thanks to Dr. Tatsuya NIISATO of Bioindicator Co., Ltd., Tokyo, for his kind guidance and encouragement in various ways, and for critically reading the original manuscript. Thanks are also due to Dr. Kouichi MATSUMOTO and Mr. Akira OHZONO for their kind help in the field survey.

### 要 約

長谷川道明・武田雅志・苅部治紀：小笠原諸島から発見されたフタツメケシカミキリ属の1新種と新亜属の記載。——小笠原諸島の兄島および弟島において、小笠原諸島固有植物のノヤシを食害する外来害虫の調査、駆除作業の際、ノヤシの枯葉に穿孔するカミキリムシ科の幼虫が発見された。この幼虫を成虫まで飼育したところ、フタツメケシカミキリ属 *Nobuosciades* に属する未記載種であることが判明したので、*Nobuosciades clinostigmai* sp. nov. (ノヤシケシカミキリ：和名新称) の名を与え、成虫ならびに成熟幼虫の記載を行った。

フタツメケシカミキリ属は、小笠原諸島からマリアナ諸島北部にかけて3種が知られているが、本新種の成虫は、1) 体形が細長、2) 体表は淡黄色の微毛に覆われ、小黑点を散布する以外、他の既知種に見られるような多様な斑紋が形成されない、3) 各付節は先端に向かって強く広がる、4) オス交尾器の側片は大きく発達し、その腹面には長毛が密生する、といった形態的な特異性が認められた。また生態的にも、他の既知種が広葉樹を中心とした広食性と考えられるのに対し、ノヤシの単食性であるという特異性が認められることから、本新種を基準種に新亜属 *Palmisciades* (ヤシケシカミキリ亜属：和名新称) を創設した。

分布については、これまでに寄主植物であるノヤシが分布する聳島、弟島、兄島、父島、母島、向島において、幼虫の食痕をたよりに探索を行ったが、弟島、兄島以外では本種の発見に至っていない。また、小笠原諸島にはノヤシ以外にヤシ科植物として在来のオガサワラビロウが知られ、さらに外来性のヤシ類も存在するため、これらの植物についても調査を行ったが、本種のものと考えられる食痕は確認されなかった。

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Manuscript received 12 April 2011;  
revised and accepted 26 April 2011.