

***Labaninus viburni*, a New Curculionine Weevil (Coleoptera, Curculionidae) from Laos**

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Abstract *Labaninus viburni* sp. nov. is described as the first representative of the genus from Laos. Adult weevils were captured on the fruiting trees of *Viburnum odoratissimum* (Caprifoliaceae), which is used as a hedge plant of rice paddies in the type locality. A key to the related species is provided.

Viburnum odoratissimum is a large evergreen shrub or small tree of Caprifoliaceae, native to Asia and is used as a hedge plant when a tall, thick, impenetrable screen is necessary. In some villages of Houaphan Province, northeast Laos, the shrub is used as a hedge plant of rice paddies (Fig. 5). In that place, a number of black curculionine weevils with white markings, which is one of the typical color patterns of the Curculionini, were captured on the fruiting trees of *V. odoratissimum* (Fig. 6). They were identified as the same species belonging to the genus *Labaninus* MORIMOTO, 1981.

Labaninus was a compact group proposed by combining *Carponinus plicatulus* HELLER, 1925, *Curculio fukienensis* VOSS, 1958 and *C. kimotoi* MORIMOTO, 1960. *Labaninus* is peculiar among the Curculionini in having the widest pronotum at the laterally pointed base and the curved fore femora near the base, and is related to *Shigizo* MORIMOTO, 1981 (MORIMOTO, 1981, 2011; KOJIMA, 2011). After the establishment, *Labaninus tsushimensis* NOTSU, 1987 and *L. confluens* KWON & LEE, 1990 were added to the genus. Recently, PELSUE (2004, 2005) revised *Labaninus* taxonomically, with descriptions of ten new species and a combination of one species from *Curculio* LINNAEUS, 1758. As a result, 16 *Labaninus* species have been known from Japan, Korea, Taiwan, China, Vietnam, Sumatra and India. No biological information is available on this genus, except a few accidental collecting records of adults from *Castanopsis hystrix* (Fagaceae) and *Pyrus betulaefolia* (Rosaceae) (PELSUE, 2004, 2005). Accordingly, *Labaninus* species are very rare in the collection, and most of them were described based on a single or few specimens.

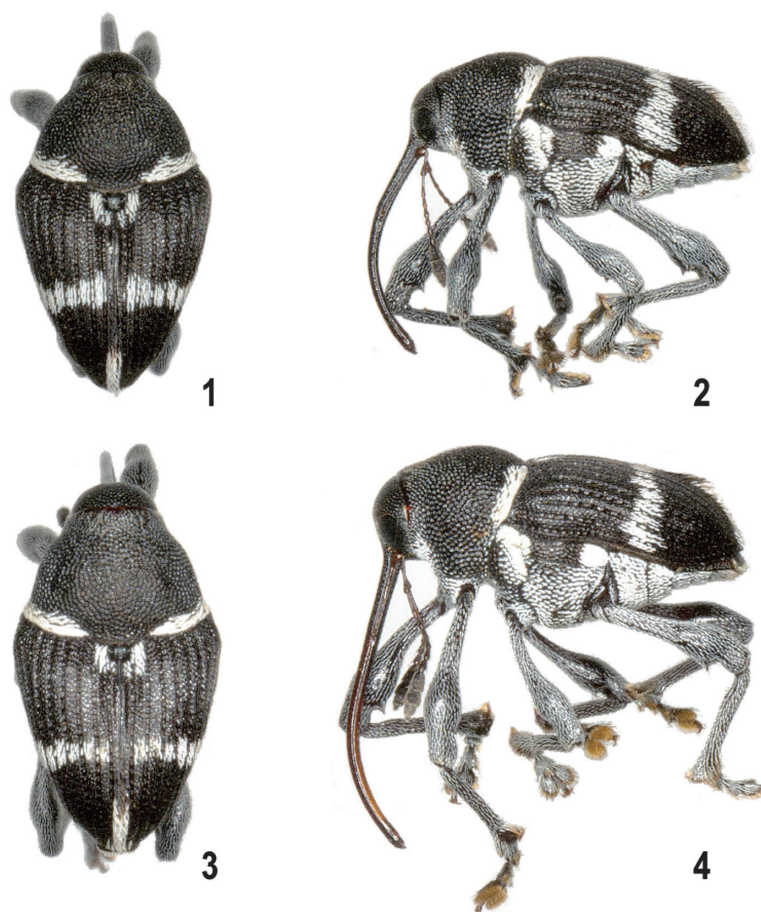
In this paper, a new *Labaninus* species, which were frequently captured on the fruiting *Viburnum odoratissimum*, is described from Laos.

Type materials are preserved in the Laboratory of Entomology, Tokyo University of Agriculture, Atsugi, and partly in Y. NOTSU Collection, Hiratsuka.

***Labaninus* MORIMOTO, 1981**

Labaninus MORIMOTO, 1981, 110 (type-species: *Carponinus plicatulus* HELLER, 1925; Curculioninae); ALONSO-ZARAZAGA & LYAL, 1999, 73 (Curculioninae: Curculionini: Curculionina; catalogue); PELSUE, 2004, 426 (revision); MORIMOTO, 2011, 5 (synopsis of Japanese species); KOJIMA, 2011, 37 (higher classification and phylogeny).

PELSUE (2004, 2005) added ten species in his revision of this genus, however, some species seem not to possess the principal features of *Labaninus* mentioned in the introduction according to his figures and description. It is necessary to reassess their taxonomic position in the future. Though he re-



Figs. 1–4. Habitus photographs of *Labaninus viburni* sp. nov. — 1, 2, Male; 3, 4, female.

corded an Indonesian species, *L. insularis* (HELLER, 1927) and a Japanese species, *L. kimotoi* (MORIMOTO, 1960) from China, his identification is questionable judging from his figures. He recognized two species groups based on the characters whether the hind femora are reaching the apex of elytra (the *confluens* group) or variable (slightly exceeding, reaching or not reaching in the *plicatulus* groups) and the rostrum is abruptly emerging from the frons (the *plicatulus* group) or not (the *confluens* group). However, the former character is not able to distinguish each group when the hind femora reach the elytral apices. In addition, the latter character is sexually dimorphic: rostrum more abruptly emerging from frons in female than in male. Thus, his division is based on the rather ambiguous characters and not applicable practically. He also mentioned in the *plicatulus* group that “mesosternal intercoxal process not visible in lateral view” (PELSUE, 2005), but it is visible at least in *L. plicatulus*, *L. kimotoi* and *L. fukienensis* (VOSS, 1958) as far as we examined. Furthermore, though he recognized the *confluens* group, *L. confluens* KWON & LEE, 1990 is likely to become a synonym of *L. tsushimensis*, which was ignored to compare in the original description of *L. confluens* and not treated in PELSUE (2004).

The dorso-terminal angle of the tarsal groove on the hind tibia is produced into a large hook in males in the type species and used as one of the diagnostic characters of *Labaninus* (MORIMOTO,



Figs. 5, 6. Photographs of habitat and adult collected plant of *Labaninus viburni* sp. nov. — 5, Ban Nasala, Houaphan Prov., NE Laos; 6, a fruiting tree of *Viburnum odoratissimum*.

1981). Within the genus, however, the condition varies from a large hook to a small usual mucro in males.

Distribution. Japan, Korea, Taiwan, China, Vietnam, Laos, Sumatra, India. New to Laos.

Biology. No plausible host information of *Labaninus* was so far available though the related genus *Shigizo* is known to be associated with *Ficus* spp. (*F. microcarpa* and *F. superba*) of Moraceae (MORIMOTO, 2011; KOJIMA, unpublished data). However, Caprifoliaceae is likely one of the probable hosts due to the frequent occurrences of a new *Labaninus* species on *Viburnum odoratissimum* in Laos (present study) and also of an undescribed species in Malaysia (KOJIMA, unpublished data). Caprifoliaceae, particularly *Viburnum* is also served as the host of a particular group of Japanese Curculionini, *Curculio convexus* (ROELOFS, 1874) and its related species, *C. fulvipennis* MORIMOTO, 1960 and *C. miyatakei* MORIMOTO, 1960.

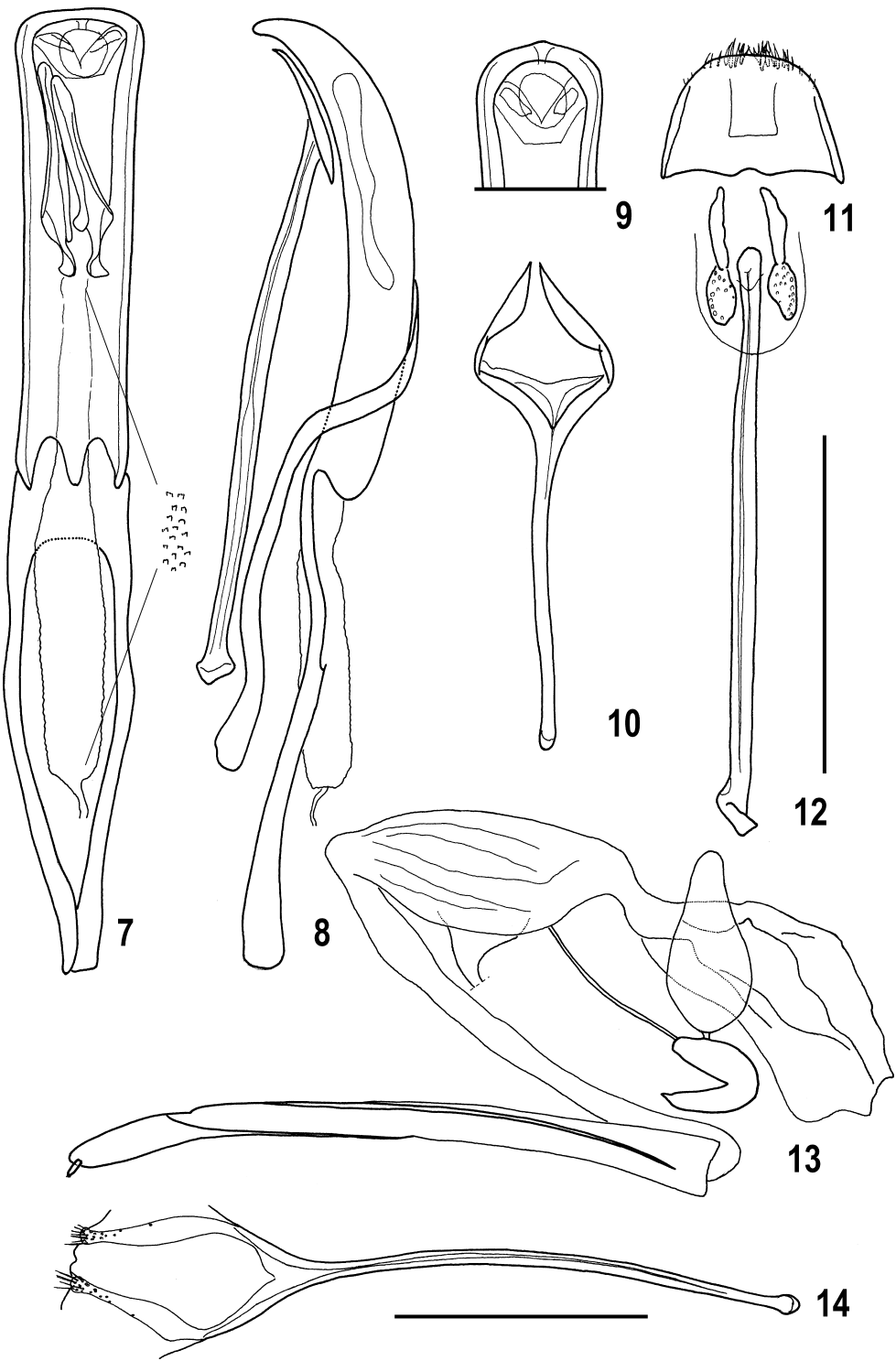
KOJIMA (2011) inferred the phylogenetic relationships among the Oriental and Australian genera of Curculionini. According to his result, *Labaninus* and *Shigizo* constitute a distinctive clade differs from *Curculio* and other genera. Thus, association with Caprifoliaceae might have evolved twice independently among Curculionini: *Labaninus* and *Curculio*.

***Labaninus viburni* sp. nov.**

(Figs. 1–4, 7–14)

M a l e. Length: 2.5–3.7 mm; width: 1.4–2.1 mm.

Derm black, antennal scape and funicle, tibial unci, apical part of 5th tarsus, claws and often apical part of rostrum dark brown to dark reddish brown. Dorsum of body clothed with fuscous scales; pronotum with white transverse narrow band of elongate scales extending along base between 3rd interval and lateral margin; scutellum usually mixed with small white scales; elytra with white scales as those on pronotum on bases of 1st and 2nd intervals, with transverse white band extending from 2nd to 10th intervals just behind middle, the band rarely interrupted on 3rd intervals, with suberect bristly white scales on apical fourth, and with longitudinal row of white narrow scales on median part of 11th interval. Underside covered with white ovate to oblong-ovate scales, which highly increase in width



and density on prosternum before coxae, mesepimera, and extreme anterior and posterior third or less of metepisternum; both sides of basal two ventrites moderately densely covered with white scales, which are smaller and sparser on median depressions, apical half of 5th ventrite and pygidium with yellowish grey hairs. Legs clothed with white hairy scales.

Head with frons slightly narrower than base of rostrum, with three to four rows of fine recumbent white scales on each side. Rostrum as long as elytra, gently curved before antennal insertions, shallowly punctate behind antennal insertions. Antennae inserted slightly behind middle of rostrum; scape nearly as long as basal five funicular segments combined; funicle with length ratio of segments: 13 : 11 : 6 : 5 : 4 : 5 : 5; club about thrice as long as broad.

Prothorax 1.3–1.4 times as wide as long; dorsum finely and reticulately punctured. Scutellum subquadrate, nearly as long as wide. Elytra nearly as long as wide, suture and 1st intervals depressed on basal half. Legs with femora each arms with small triangular tooth, hind pair slightly exceeding apex of elytra; tibiae weakly sinuate on basal fourth, hind tibiae each with small mucro.

Venter with mesosternal process angulate in lateral view, basal two ventrites depressed and flattened in middle, respectively.

Male terminalia as illustrated (Figs. 7–12).

F e m a l e. Length: 2.4–3.9 mm; width: 1.3–2.2 mm. Differs from male in the following points: rostrum paler before antennal insertions; frons as wide as base of rostrum, which is about 1.3 times as long as elytra; antennae inserted at basal third of rostrum, scape nearly as long as basal four segments of funicle combined, funicle with length ratio of segments: 17 : 11 : 6 : 7 : 5 : 6 : 6; 1st ventrite slightly flattened in middle.

Female terminalia as illustrated (Figs. 13, 14).

Type series. Holotype: male. Ban Nasala (N20°12' E103°57', alt. 1327 m), Houaphan Prov., Laos, 15–VI–2009, H. KOJIMA. Paratypes: 1 male, Ban Saleui, 12–VI–2009, H. KOJIMA; 43 males and 23 females, same data as the holotype; 1 female, 14–VI–2009, H. KOJIMA; 24 males and 14 females, nr. Ban Don (N20°16' E104°03', alt. 1111 m), Houaphan Prov., Laos, 16–VI–2009, H. KOJIMA.

Distribution. Laos (Houaphan Prov.).

Etymology. This species is named after the generic name of its probable host plant.

Biological notes. Many adults were captured on the fruiting *Viburnum odoratissimum* planted along rice paddies. Some of them were feeding fruits.

Remarks. This species is very similar to *L. plicatulus* and *L. basofasciatus* PELSUE, 2004 in having the black coloration and white markings on pronotum and elytra, and is also related with *L. tsushimensis*, *L. confluens*, *L. insularis*, *L. kimotoi*, *L. fukienensis* and *L. reticulopunctatus* PELSUE, 2004. However, they are separable by the following key.

- 1(2) Pronotum with complete narrow transverse band of whitish to yellowish brown scales at base. Japan and Korea. *tsushimensis* and *confluens*
- 2(1) Pronotum with incomplete transverse band or macula more or less interrupted before scutellum at base.
- 3(8) Pronotum with narrow transverse band on each side, the band nearly as broad as elytral interval. Derm black, with fuscous hairy scales on pronotum and elytra and white scaly markings.
- 4(7) Antennae inserted a little behind middle of rostrum in male. Elytra with basal macula on 1st

- and 2nd intervals. Hind femora slightly exceeding apex of elytra.
- 5(6) Antennae with basal two funicular segments subequal in length. Pronotum with transverse band on each side between 2nd interval and lateral margin. Metepisternum with dense white scales on posterior half. China (Sichuan). *basofasciatus*
- 6(5) Antennae with 2nd funicular segment shorter than 1st. Pronotum with transverse band on each side between 3rd interval and lateral margin. Metepisternum with dense white scales on posterior third or less. Laos. *viburni*
- 7(4) Antennae inserted at middle of rostrum in male. Pronotum with transverse band on each side extending from 4th interval to lateral margin. Elytra with basal macula usually between 1st and 3rd, rarely 4th intervals. Legs with femora distinctly dentate, length of denticle nearly as wide as tibiae. Hind femora exceeding apex of elytra by distance of dorsal diameter of clavate part. Taiwan. *plicatulus*
- 8(3) Pronotum with transverse band or basal macula on each side, the band or macula much broader than elytral interval. Derm dark reddish brown to blackish brown, with yellowish brown to yellowish white hairy scales on pronotum and elytra and slightly paler scaly markings.
- 9(12) Pronotum with basal transverse band on each side between 2nd or 3rd elytral interval and lateral margin. Elytra with basal macula on 1st and 2nd intervals.
- 10(11) Antennae with 2nd funicular segment shorter than 1st. Derm dark reddish brown. Japan. *kimotoi*
- 11(10) Antennae with basal two funicular segments, subequal in length. Derm blackish brown. China (Fujian). *fukienensis* and *reticulopunctatus*
- 12(9) Pronotum with basal macula on each side between 5th elytral interval and lateral margin. Elytra with basal macula between 1st and 4th intervals. Derm reddish brown. Sumatra. *insularis*

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要 約

小島弘昭・野津 裕：ラオス産ニセヒシガタシギゾウムシ属の1新種(コウチュウ目ゾウムシ科)。—— ラオスからは初記録となるニセヒシガタシギゾウムシ属の1新種が、水田の生け垣として植栽されたスイカズラ科ガマズミ属のサンゴジュよりまとまった数得られたので、*Labaninus viburni*として命名記載するとともに、同属近縁種を含めた検索表を作成した。本属の生態についてはこれまで不明で、成虫の加害植物としては初の確認記録となる。

References

- ALONSO-ZARAZAGA, M. A., & C. H. C. LYAL, 1999. A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera). 315 pp. Entomoplaxis, Barcelona.

- KOJIMA, H., 2011. On the Oriental and Australian Curculionini (Coleoptera, Curculionidae). *Nature and Insects, Tokyo*, **46** (5): 34–38, 1 pl. (In Japanese with English title.)
- MORIMOTO, K., 1981. On some Japanese Curculioninae (Coleoptera: Curculionidae). *Esakia, Fukuoka*, (17): 109–130.
- 2011. Synopsis of the tribe Curculionini in Japan. *Nature and Insects, Tokyo*, **46** (5): 4–15, 3 pls. (In Japanese with English title.)
- PELSUE, Jr., F. W., 2004. Revision of the genus *Labaninus* MORIMOTO of the world Part I: the *L. confluens* KWON & LEE group with descriptions of six new taxa (Coleoptera: Curculionidae). *Koleopt. Rundsch.*, **74**: 423–433.
- 2005. Revision of the genus *Labaninus* MORIMOTO of the world Part II: the *L. plicatulus* (HELLER) group with descriptions of four new species (Coleoptera: Curculionidae). *Ibid.*, **75**: 373–382.

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